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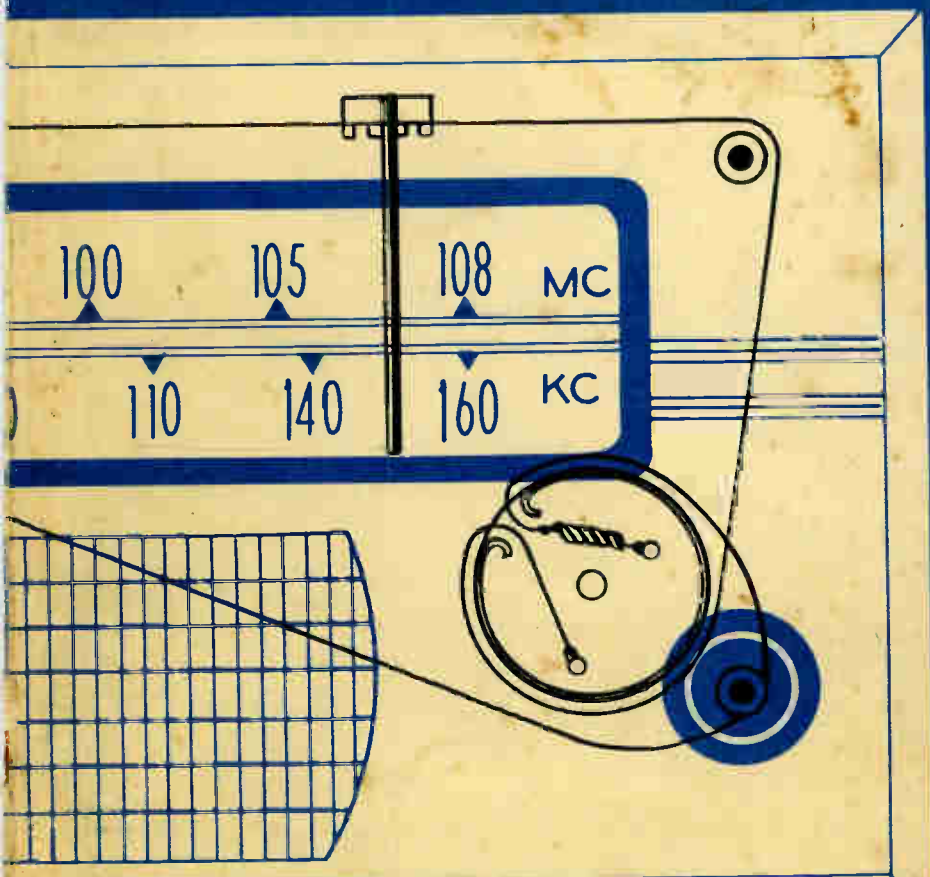
DIAL CORD *Stringing* GUIDE

DIAL CORD DIAGRAMS COVERING MOST 1938 TO 1947 RECEIVERS



A Howard W. Sams PHOTOFACT PUBLICATION

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DIAL CORD DIAGRAMS COVERING MOST 1938 TO 1947 RECEIVERS

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PREFACE

A little over a year and a half ago a group of some thirty of us organized a new company with a new idea and a new purpose. We believed that technical radio data, properly prepared, could became a vital tool for better servicing . . . a tool as indispensable as a soldering iron, meter or a signal generator. We felt that the availability of factual information in a concise, standardized form would do more to help the service technician than any one other factor. Through the pursuit of this idea, PHOTOFACT Folders were born. Now we bring you the DIAL CORD STRINGING GUIDE. We know you will like it.

I give you our pledge. Every PHOTOFACT Book will be practical—not theoretical. Every PHOTOFACT Book will be the result of original research and investigation. Every PHOTOFACT Book must save your time and help you make more money. This DIAL CORD STRINGING GUIDE is such a book. Use it at your work bench. Keep a copy in your tool kit. You will need it time and time again.

October 1, 1947
Indianapolis

INTRODUCTION

One of the features of "PHOTOFACT" service which has elicited favorable comment from the radio service profession is the inclusion of a dial cord stringing diagram in each PHOTOFACT folder covering the servicing data on postwar radio receivers. In many instances such diagrams are not available as a part of the service manual provided by the receiver manufacturer, nor are they furnished universally by any other source of servicing material.

In response to a widespread demand from the servicing profession, the present book brings together in convenient form, not only the dial stringing diagrams of postwar sets but also those of many receivers manufactured since 1938.

In a great number of cases the sole reason for a service call to a customer's home is occasioned by the failure of the dial drive system. The format of this volume has been chosen with this situation in mind. It has been made of such size and shape that it will readily fit in the pocket or tool kit.

Often the service technician finds that the dial cord and spring have come off the pulleys and are a tangled mess in the bottom of the cabinet. This frequently presents an exasperating puzzle, for without a diagram it is difficult to determine how to start. Much precious time can be lost in fruitless trial and error experiment. Such time is hard to justify to the customer. As an example, there are four ways of stringing the average slide rule type dial. In the case of three of these, the pointer will either run the wrong way or will "hang up" in its travel. The remaining method is the correct one.

The present collection of dial cord stringing diagrams have been compiled from original PHOTOFACT data in the case of postwar receivers and from the available service data of receiver manufacturers for prewar sets. Every effort has been made to present as complete a compilation as possible. Some of the manufacturers' service literature did not include dial cord diagrams for certain prewar models.

Approximately 95% of the receiver models built since 1938 have employed dial cord drive systems as contrasted with belt, friction, planetary or gear drives. Only those types of drive systems which employ cord drive have been included in this book. The various manufacturers of drive belts have available authoritative guides and charts for proper belt selection. A universal type of belt has recently been offered by one company which can be cut to the required length and its ends permanently connected by means of an ingenious "zipper-like" device.

Requirements of a Properly Operating Dial Drive Mechanism

In the drive systems covered in this book, a cord of special type is used to connect and control all of the moving parts of the radio tuning and indicating system. Usually the cord is wound several times around a tuning shaft, carried over small pulleys to a larger pulley on the tuning device (condenser or permeability tuner), and thence to a sliding or rotary pointer which indicates on a scale the frequency to which the set is tuned. A tensioning spring is usually fastened to the cord and attached to the large pulley on the tuning unit. The driving force of this system is supplied by the friction between the cord and the tuning shaft.

For proper operation the following points must be observed:

1. All drive members such as shafts, pulleys and pointer slides must be in good alignment and must rotate or slide without undue friction.
2. The cord must have proper tension. Too much or insufficient tension will interfere with proper operation.
3. The cord used must be of the proper size and type.

Causes of Slipping Drive Systems

The greatest source of trouble in cord drive systems is due to slipping. This can be due to any one or a combination of the following causes: insufficient tension, friction of moving parts or excessive smoothness of the surface of the drive cord.

Insufficient tension may readily be corrected by shortening the cord. This can often be accomplished by tying a knot in the cord where it will not interfere with operation. Tension may also be increased by removing turns from the tension spring. This practice is not generally recommended. In many receivers the large pulley to which the spring is attached is provided with a series of holes to allow adjustment of tension.

Excessive friction in the bearings of the variable condenser or permeability tuner may cause the cord to slip. Pulleys which do not rotate freely or pointers which bind instead of sliding easily may be the cause of cord slippage. In these cases adjustment or replacement of the defective parts is indicated. Lubrication should be done sparingly to prevent oil from getting on the cord. An oil for this purpose should have a very light body and contain an oxidation inhibitor to prevent gumming. The manufacturers of dial cords and accessories have special dial oils for this purpose.

Another cause of excessive friction is too much tension on the dial cord, usually caused by high spring tension. In replacing a dial spring, care should be taken to use either a replacement from the receiver manufacturer or a similar spring from the assortments available from dial accessory manufacturers.

Some types of dial cords have a tendency to become smooth and slippery after extended use. This will cause slippage on the tuning drive shaft, making operation of the receiver difficult or impossible. Replacement with a new cord is the best solution of this condition. Roughening of the tuning shaft with a file or coarse sandpaper is not recommended. The abrasive action of the rough shaft will cut the cord in a short period of time causing it to fray and eventually break.

Friction of the cord can often be restored satisfactorily by treating it with friction-producing compounds. These are available in powder, stick or liquid form. The liquid preparation is to be preferred since it not only penetrates and impregnates the entire cord but also has a tendency to shrink the fibres. This serves to tighten the cord and may sometimes remedy a slipping drive without the necessity of removing the set from the cabinet. The liquid can easily be applied with a dropper or applicator.

Properties of Dial Drive Cord

When it becomes necessary to replace a dial cord, this should be done with a cord especially developed for the purpose. Replacement should not be made with fish line, string or thread. The cost of the proper cord is a minor part of the repair job which is mainly labor.

In order to give satisfactory service for a long period of time, a drive cord must have the following mechanical properties:

1. Sufficient breaking strength.
2. Minimum elongation (stretch).
3. High resistance to abrasion.
4. High coefficient of friction.
5. Ability to withstand flexing.

The breaking strength should not be less than 20 pounds in a straight pull test and not less than 12 to 15 pounds when knotted. This allows tying and installing without danger of breaking. A higher tensile strength is of little advantage, as the normal operating tension on the cord, if properly installed, is seldom greater than one pound.

A good dial drive cord should have a minimum elongation or

stretch. Standard specifications of leading receiver manufacturers permit less than ¼" per foot elongation in 48 hours with an applied pull of 5 pounds. Substitute materials such as fish line often used in repair work will not meet this or some of the other requirements.

A dial cord is subject to friction whenever the set is tuned and must therefore possess reasonable resistance to abrasion. Nylon outer braiding performs excellently in this respect and many cords are now made using this material.

A very important property for a dial drive cord is that it have a relatively high coefficient of friction. This requires that the cord should not become smooth or slick during use. The type of thread used for the outer braid, the diameter of the individual strands and the method of braiding, determine its performance and life in this respect.

Small diameter drive shafts and pulleys subject the cord to continual flexing as the set is tuned. Choice of core and braid material determine the flexibility. The cord is chemically impregnated after manufacture to improve its flexibility and keep it soft during life.

Under the impetus of military requirements during the war, great advances were made in the improvement of dial cord performance. At present, various materials are used in the manufacture of cords to meet the foregoing requirements. Most common of these are nylon, silk, linen and fibreglas. Nylon and silk are suitable for outer braid material while linen, fibreglas or special low-stretch nylon are employed for cores.

Selection of the Proper Size Dial Cord

The proper diameter of the cord is of greater importance than is generally realized by most service technicians. The groove radius of the pulleys and the diameter of the drive shaft are generally designed for a certain diameter cord. If a cord of greatly different diameter is substituted either excessive or insufficient friction occurs and early trouble may be expected. A cord of different diameter from the original may also affect the dial calibration.

Fortunately, for general replacement purposes, three sizes of cords will take care of replacement in over 85% of the radio receivers in the field using dial cords. These sizes are:

1. "Special Thin" or "Extra Thin"—diam. .024"-.028".
2. "Thin" or "Standard"—diam. .030"-.034".
3. "Medium" or "Light"—diam. .038"-.042".

In most instances the service technician will have no difficulty in determining the proper replacement, since it is usually possible

to compare the broken cord in the receiver with samples of these sizes. If the cord has previously been replaced and the customer complains of unsatisfactory operation, it may be necessary to consider whether a heavy enough replacement cord was previously installed.

As a general rule, when in doubt as to the proper replacement, it is advisable to use the heavier type (.040"), providing the following requirements are fulfilled:

1. The cord must fit the grooves in pulleys and other parts of the mechanism.
2. When coiled around the tuning shaft with the required number of turns, the cable must not bind against the panel or support bracket, during its entire travel. In many instances the tuning shaft has been reduced in diameter at the section around which the cord is wrapped. In this case a drive cord of excessive diameter will tend to bind at the chamfered ends of the reduced section. This will occur near the end of travel of the system.
3. The cord must not be too large to fit properly in the worm type drive pulleys sometimes used.

The use of the heaviest cord practicable allows for more friction on the drive shaft, thus minimizing slipping and reducing the possibility of stretching.

It is recommended that the service technician carry in his stock a large spool of each of the three sizes of dial drive cords described. While these sizes will handle most of the repair jobs to be encountered, there are many receivers requiring special cords such as phosphor bronze cables, heavier nylon cords, monel metal cables, special thin cables of steel and bronze or belts of bronze and steel. The catalogs of the various drive cord manufacturers should be consulted for these special types. Since the most important factor in servicing operations is time, it will pay to have small quantities of these "specials" on hand.

General Notes on Re-Stringing Dial Drive Systems

It would appear from an inspection of the diagrams of this book that the designers have vied with each other to display their ingenuity in devising intricate and novel arrangements. This situation requires that any instructions which might be given here cannot be specific but must be of a general nature.

There are a number of considerations which apply to all drive cord systems and it is suggested that the following points be used as a check list to assure rapid and satisfactory dial cord replacement.

1. Study the diagram given in this guide and the receiver itself to determine the proper end of rotation of the large pulley on the tuning system, and the position and direction of travel of the pointer, from which to start the stringing procedure. If the stringing indicated does not seem to exactly fit the case in point, it would be wise to study the diagrams of other receivers of the same manufacturer. In the interest of covering as many models as possible in this book, similar diagrams have been combined and consolidated where such combinations will still show the correct method of stringing. In these cases the position and proportion of the various parts of the system may have been altered slightly to produce a universal diagram.
2. All pulleys, drive shafts, tuning mechanisms and sliding indicators should be checked to determine that they rotate or slide freely and have no tendency to bind. All points should be lubricated sparingly. Special light dial oil as provided by the dial accessory manufacturers should be used. Care should be taken to see that none of the lubricant is left on the cord.
3. Before actually stringing the cord around the parts of the system determination should be made that all pulleys and slides are in such position that there will be no sharp bends in the cord and that parts are not subjected to side friction during operation.
4. It is wise to next examine the tension spring or springs. If these show any indication of having had turns removed or of having been permanently stretched, they should be replaced. The new spring should be of the same shape, size and length as the original. The manufacturers of dial accessories provide assortments of springs for this purpose.
5. If it is necessary to cut the cord to length before stringing and the old cord is not available as a guide, be sure to cut enough cord to allow assembly including the tying of knots of the proper size. Since material is relatively inexpensive it is better to have a few inches of waste than to be forced to perform the operation over again.
6. If a number of holes for the fastening of the tension spring have been provided, the spring should be positioned in one of the inner holes. This will allow later adjustment to increase the tension if required.
7. After stringing, the tension should be checked to determine whether it is sufficient for reliable, proper operation. Be certain that the tension has not been made too great. In no case should the cord be as tight as a violin string. A cord which is too tight

will place undue strain on all parts and will prevent the set from tuning easily.

8. The tuning system should be rapidly operated from one end to the other to make certain that no binding is present. At the same time a check should be made that there is no tendency for the cord to climb out of idler pulleys or jam at the end of motion on the drive shaft.
9. Before replacing the set in the cabinet a drop of cement should be placed on the point of fastening of the pointer or indicator and also on the knots of the cord where it is fastened to the tension spring or to the tuning drive pulley, as the case may be. This will prevent any subsequent tendency for the knot to become loose.

We wish to acknowledge the assistance of the General Cement Manufacturing Company and the Walter L. Schott Company (Walsco) in the preparation of this book. These manufacturers of dial cords and accessories provided us with facts gained from their long experience.

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61-D	306
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61-X12	301
61-X13	301
62-A	305
62-B	305
62-E	305
62-F1	312
63-A	305
63-E	305
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65-F12	303
65-F21	309
65-T21	310
65-T21B	310
65-X11	19
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65-X12	19
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65-X13	19
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6-504	6
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561	330
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651	333
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40-715	351
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40-748	349
40-755	349
40-756	349
40-780	349
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41-230	350
41-235	350
41-250	353
41-255	353
41-260	352
41-265	352
41-280	353
41-285	353
41-287	353
41-290	353
41-295	338
41-296	353
41-300	338
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41-316	342
41-608	355
41-609	355
41-610	353
41-611	353
41-616	342
41-629	353
41-712	354
41-713	354
41-714	346
41-722	347
41-745	347
41-758	347
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41-788	356
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42PT-4	343
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42-122	358
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46-420I	377
46-421	374
46-421I	374
46-427	375
46-480	376
46-1201	379
46-1203	378
46-1209	380
46-1213	382
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501X	124
502	385
502X	124
503	388
504	387
506	20
507	20
508	25
RCA VICTOR	
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HF-2	390
QB-2	391
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QU-2M	392
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QB-5	397
QU-5	392
TT-5	395
TRK-5	395
5Q5	398
5Q6	398
5Q8	398
5Q12	400
5Q12A	400
5Q55	398
5Q56	398
5Q66	398
6QU	400
HF-6	401
QB-6	391
6Q1	402
6Q4	402
6Q4X	402
6Q7	400
6Q8	400
6QK8	400
7Q8	403
7QBK	403
QU-7	407
7Q4	405
7Q4X	405
7QK4	405
HF-8	401
8QB	403
8QBK	403
QU-8	407
8Q1	406
8Q2	404
8Q4	406
8QU5C	404
8QU5M	404
QB-9	391
9QK	408
TRK-9	410
9M1	409
9Q1	408
9M2	409
9Q4	405
10Q1	406
10-X	411
U-10	107
11Q4	414
11QK	414
11QU	414
11X-1	411
Q-11	397
12AX	411
12AX2	411
12Q4	414
12QK	414
12QU	414
12X	411
12X2	411
Q-12	397
U-12	107
TRK-12	410
14AX	411
14AX2	411
14X	411
14X2	411
Q-14	412
Q14E	412
Q-15	412
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15X	397
16K	413
16T2	413
16T3	413
16T4	413

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16X4	415
16X11	397
16X13	397
16X14	397
Q-16	416
Q-16E	416
17K	139
Q-17	416
18T	139
Q-18	398
19K	417
U-20	107
Q-22	391
Q-22A	391
Q-23	416
QK-23	392
Q-24	391
25BK	418
25BT2	419
25BT3	418
Q-25	420
U-25	395
26BP	421
26X1	397
26X3	397
26X4	397
Q-26	396
U-26	395
27K	422
Q-27	420
28T	139
28X	140
28X5	140
29K	141
29K2	141
Q-30	423
U-30	414
Q-31	423
Q-33	399
34X	411
35X	411
36X	397
U-40	107
BK-42	427
BT-42	427
U-42	107
U-43	107
Q-44	426
U-44	425
45X18	424
U-45	425
K-50	107
M-50	409
U-50	400
QU-51C	428
QU-51M	428
B-52	419
QU-52C	392
QU-52M	392
55AU	429
55F	419
55FA	419
55U	429
QU-55	430
T-55	107
X-55	107
56X	431
56X2	431
56X3	431
56X5	397
56X10	397
56X11	397
QU-56C	432
QU-56M	432
T-56	107

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58AV	142
58V	142
59AV1	142
59V1	142
M-60	409
K-60	434
T-60	107
X-60	107
K-61	107
K-62	434
T-62	107
T-63	107
64F1	138
64F2	138
64F3	138
T-64	433
65AU	429
65U	429
65X1	138
65X2	138
T-65	433
66BX	435
66X1	436
66X2	436
66X3	436
66X4	436
66X9	436
67AV1	437
67V1	437
M-70	439
K-80	434
T-80	433
K-81	434
K-82	434
TRK-90	410
948K2	442
94BT2	442
95T5	443
95T5LW	443
968K6	442
96BT6	442
96E	443
96E2	395
96K	395
96K2	395
96K5	395
96K6	395
96T	443
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96T2	395
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96T4	441
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96T6	441
96T7	395
96X1	444
96X2	444
96X3	444
96X4	444
96X11	444
96X12	444
96X13	444
96X14	444
97E	395
97K	395
97KG	395
97K2	395
97T	395
97T2	395
97X	443
97Y	395
98EY	395
98K	414
98K2	395

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98T2	395
98X	395
98YG	395
99K	414
99T	414
V-101	440
V-102	413
K-105	434
110K	445
110K2	445
111K	445
U-115	443
U-119	395
TRK-120	410
U-121	443
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U-123 (2 band)	441
U-124	395
U-125	395
U-126	414
U-127E	443
U-128	414
U-129	414
U-130	390
U-132	401
U-134	401
V-140	446
V-170	413
V-175	413
V-200	447
V-201	139
VHR-202	447
V-205	447
VHR-207	447
V-209	142
V-210	142
211K	141
VHR-212	142
V-215	142
V-219	142
V-221	142
V-225	142
V-300	447
V-301	447
V-302	447
VHR-307	447
V-405	447
VHR-407	447
515	397
516	411
517	411
522	411
526	411
527	411
612V1	448
612V2	448
612V3	448
910KG	414
911K	414
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61-2	397
61-3	397
61-5	397
61-10	397
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RAY ENERGY	
AD	449
AD4	453
SRB-1X	450

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6B20	451
6B30	451
6B32	451
REGAL	
L76	171
W800	171
W801	171
W900	454
W901	454
1049	452
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MP5-5-3	173
RENARD	
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PT-1A	455
1B5T-1	455
SCOTT	
800-B	456
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263	459
264	459
273	459
284-I	26
284-NA	26
284-NI	26
284-W	26
285-P	261
289-T	23
292-K	454
293-I	459
293-T	459
293-W	459
294-I	459
294-N	459
294-T	459
1U-284I	26
1U-284NA	26
1U-284NI	26
1U-284W	26
1U-285	261
1U-293I	459
1U-293T	459
1U-293W	459
1U-294I	459
1U-294N	459
1U-294T	459
1U-294W	459
SETCHELL-CARLSON	
416	192
SILVERTONE	
R-381	460
771	458
R-1161	458
1771	458
1781	462
1781-A	462
2011	73
2051	73
2411	73
2461	458
2511	73
2761	458
4608	461
4609	461
4628	461
4629	461
4638	461
4639	461
4648	461
4649	461
4666	465
4667	463

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4686	465
4728	461
4748	461
4766	465
4767	463
4777	463
4791	465
4792	465
4798	463
5502	466
5511	460
5511-A	460
5571	460
5571-A	460
5581	458
5601-A	460
5621	458
6008	464
6009	464
6011	467
6012	467
6016	464
6017	464
6018	464
6019	464
6022	464
6036	470
6038	470
6046	464
6047	464
6048	464
6049	464
6050	6
6051	468
6052	468
6068	464
6069	464
6071	6
6072	469
6074	470
6079	470
6092	466
6093	466
6100	73
6104	466
6105	466
6111	466
6122	464
6132	464
6136	470
6138	470
6146	464
6148	464
6157	473
6168	464
6190	474
6200-A	475
6220	475
6220-A	475
6230	477
6230-A	477
6285-A	478
6301	474
6303	476
6320	480
6321	471
6322	471
6323	471
6324	471
6325	472
6335	472
6336	472
6337	472
6346	472
6346-A	472
6359	472

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SILVERTONE (Continued)	
6360	472
6361	472
6362	472
6363	472
6364	472
6368	472
6379	472
6380	472
6381	472
6382	472
6407	472
6408	472
6409	472
6421	471
6424	471
6425	472
6435	472
6436	472
6437	472
6438	472
6438-A	472
6438-B	472
6439	472
6439-A	472
6440	472
6441	472
6446	472
6447	471
6449	460
6490	472
6490-A	472
6495	472
6497	472
6551	482
6561	482
6621	482
6661	482
6721	482
6751	482
6751-A	482
6761	482
6761-A	482
6921	482
7010	479
7021	481
7034	479
7037	483
7038	484
7048	483
7049	466
7054	489
7065	73
7066	73
7067	466
7068	466
7069	483
7070	483
7071	487
7080	486
7090	488
7100	485
7104	491
7106	491
7112	491
7115	490
7116	490
7117	490
7167	466
7168	466
7221	493
7228	410
7230	395
7245	492
7905	396
7915	408

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SIMPLON	
WVV2	494
SKY KNIGHT	
CB-500-P	6
SKYROVER	
N5-RD-250	20
N5-RD-251	20
SONORA	
RBU-176	451
RCU-208	495
RDU-209	189
RKRU-215	498
RMR-219	496
RQU-222	501
RX-223	497
SPARTON	
5AM26PS	500
5AW06	503
6AW26PA	502
7AM46	499
8AM46	499
10BW76PA	504
SPIEGEL (See Air Castle)	
STEWART-WARNER	
01-5H	509
01-6A	509
010-6AX	509
01-6B	509
010-6BX	509
01-6C	509
010-6CX	509
01-6D	507
01-6DX	507
01-6F	509
01-6F9	509
01-6G	507
01-6GZ	507
01-8C7	506
01-8C7-Z	506
01-9A	506
01-9A-Z	506
11-6U	505
11-6U-Z	505
11-7A1	508
11-7A9	508
11-8D	510
11-8F	510
11-8R	510
11-8R8	508
11-8R9	508
11-9B	506
11-9B-Z	506
11-10A	510
51T126	20
51T136	20
51T146	20
51T176	20
61T16	20
61T26	20
61TR36	511
61TR46	511
62T16	512
62T36 (Dial Only)	20
62TC16	512
62TC26	512
62TC36	512
72-CR16	510
72-CR26	510
205GA	513
205GZ	513
9000-B	20
9001-C	22
9001-D	22
9001-E	22
9001-F	22
9002 (Dial Only)	20
9003	514

Manufacturer	Diagram Number
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9004	510
9005-A	14
9005-B	14
9007-A	516
9007-F	516
9007-G	516
9014-E (Dial Only)	20
9017 (Dial Only)	20
A51T1	515
A51T2	515
A51T3	515
A51T4	515
R-3581	513
R-3589	513
R-3861	513
R-3869	513
STRATAVOX	
579-1-58A	120
STROMBERG-CARLSON	
1100-H	517
1100-HI	517
1101-HB	454
1101-HI	454
1101-HM	454
1101-HW	454
1101-HY	454
1105 (Series 10-11)	518
1110-HW (Series 10)	519
1110-PTW (Series 10)	519
1121 (Series 10-11-12)	520
1121-HW	520
1121-LW	520
1121-M1-O	520
1121-M2-W	520
1121-M2-Y	520
1121-PFM	520
1121-PFW	520
1121-PGM	520
1121-PGW	520
1121-PLM	520
1121-PLW	520
1121-PSM	520
SWANK	
DU101	521
TELESONIC (MEDCO)	
1635	6
1642	167
TELE-TONE	
109	258
117-A	258
133	258
134	258
135	260
TEMPLE	
E510	189
E511	11
E519	189
F611	324
F616	523
F617	524
G515	189
G516	189
TEMPOTONE	
500E Series	269
TRAV-LER	
5000	11
5000-I	11
5002	73
5007	18
5008	18
5009	18
5010	18
5011	18
5012	18
5020	73

Manufacturer	Diagram Number
TRUETONE	
D705	80
D934	466
D1015	40
D1016	40
D1042	45
D1070	43
D1117	525
D1118	182
D1124	48
D1145	41
D1172	41
D1176	41
D1202	182
D1215	40
D1224	48
D1644	189
D1645	38
D2127	182
D2133	526
D2149	41
D2210	40
D2211	40
D2224	182
D2261	48
D2610	527
D2611	527
D2612	20
D2613	20
D2615	529
D2616	528
D2620	531
D2621	530
D2622	275
D2623	18
D2624	78
D2630	78
D2634	125
D2642	275
D2644	13
D2645	68
D2661	527
D2663	4
D3619	95
D3630	73
D3630N	73
ULTRADYNE	
L46	35
U. S. TELEVISION (See also Clearsonic)	
5-16 Series	174
5-46 Series	174
UNITONE	
88	171
VAN CAMP	
576-1-6A	144
VIEWTONE	
RC-201A	173
RRC-201	173
VOGUE	
553R	11
554R	11
WALGREEN	
568	14
571	117
WARWICK (See Clarion)	
WATTERSON	
4581	73
RC4581	73
4582	11
ARC4591A	73
4790	132
WELLS-GARDNER	
1A17	46
1A29	45
1A62 Series	183
1A62-4	183
1A63 Series	183

Manufacturer	Diagram Number
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1A63-4	183
5A25S	72
6A43	41
6A44	41
6A65 Series	47
6B10	532
6B16	532
6B18	532
7A40	45
7A41	45
7A66	526
7D11 Series	182
8A30	45
8A31	45
8A51 Series	41
A10 Series	61
A20 Series	64
A22 Series	60
A23 Series	60
A24 Series	60
S2	64
T3 Series	64
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H-104	533
H-105	533
H-107	533
H-108	533
H-110	533
H-111	533
H-113	535
H-114	535
H-116	535
H-117	535
H-119	535
H-122	534
H-125	536
H-126	536
H-130	534
H-133	539
H-137	533
H-138	533
H-148	538
H-155	534
H-1251	536
WR-12X7	537
WR-12X8	411
WR-12X9	397
WR-12X12	397
WR-12X14	415
WR-12X15	137
WR-12X16	140
WR-13X8	411
WR-42X2	446
WR-42X3	413
WR-42X4	437
WR-42X5	437
WR-42X7	413
WR-42X14	437
WR-42X15	437
WR-158	443
WR-168	540
WR-168A	540
WR-170	107
WR-172	107
WR-175	107
WR-176	107
WR-186	537
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WR-260	541
WR-264	395
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WR-274	102
WR-290	417
WR-366	410
WR-368	410
WR-370	410
WR-372	107
WR-373	107
WR-374	102
WR-388	417
WR-473	107
WR-474	107
WR-476	102
WR-480	537
WR-482	537
WR-484	537
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WOOLAROC	
3-1A	20
3-2A	20
3-3A	25
3-4A	516
3-9A	385
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3-11A	387
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4K016	542
4K035	542
5D011	544
5D027	544
5G003	544
5R080	544
5R086	544
6D014	542
6D014W	542
6D015	544
6D015Y	544
6D029	542
6D029G	542
6D030	544
6G001	544
6G001Y	544
6G004Y	543
6MF590	548
6MF591	548
6MF593	545
6MN495	547
6MN496	547
6MN595	546
6R084	549
6R087	542
7ML592	550
7MN596	546
8G005Y	542
8H023	551
8H032	552
8H033	552
8H034	551
8H050	552
8H051	552
8H052	552
8H061	552
9H079	542
9H079E	542
9H079R	542
9H081	542
9H082R	542
9H085R	542
9H088R	542
12H090	35
12H091	35
12H092	35
12H093	35
12H094	35

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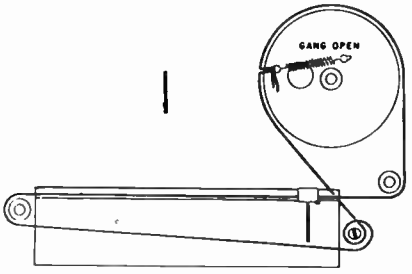

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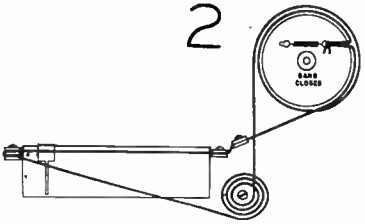

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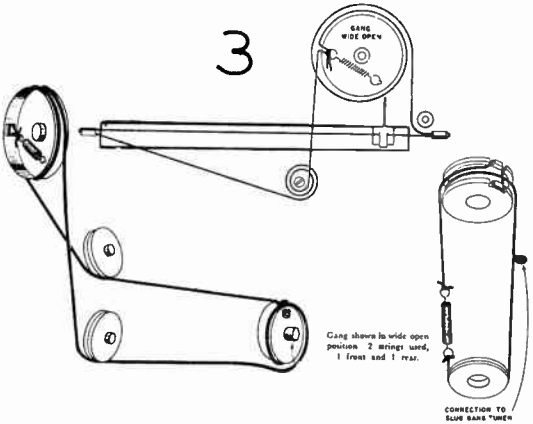

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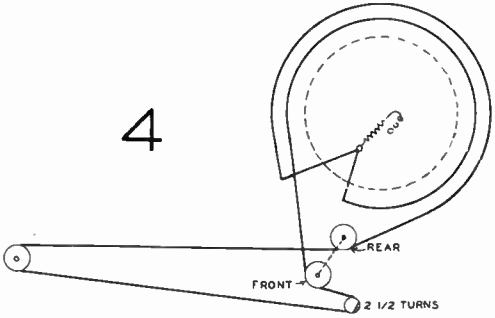
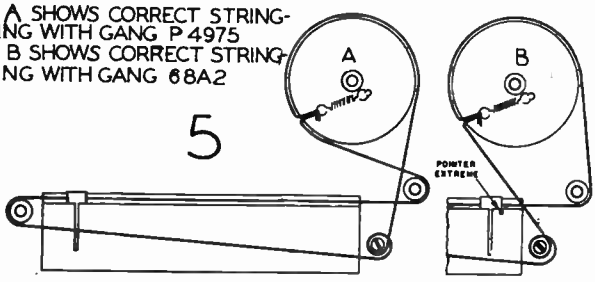


A SHOWS CORRECT STRINGING WITH GANG P 4975
B SHOWS CORRECT STRINGING WITH GANG 68A2

5



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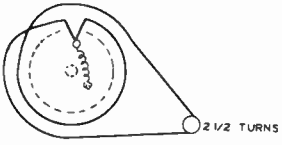

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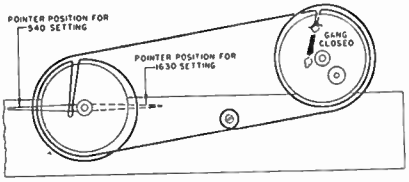
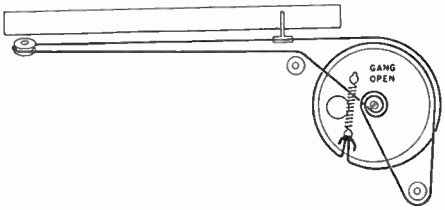
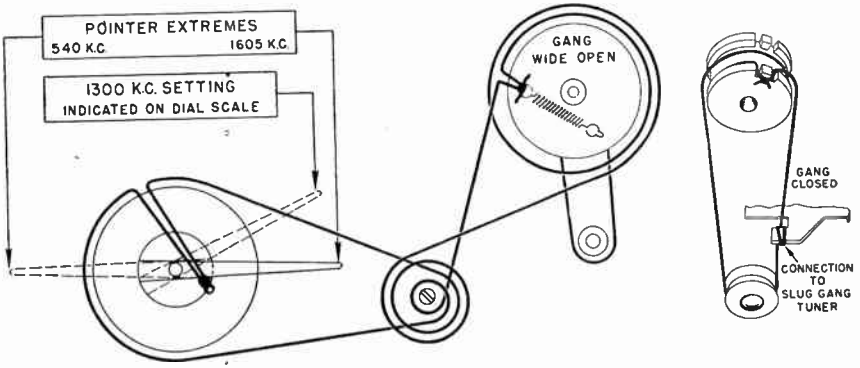

POINTER POSITION FOR
540 SETTING
POINTER POSITION FOR
1630 SETTING
GANG
CLOSED

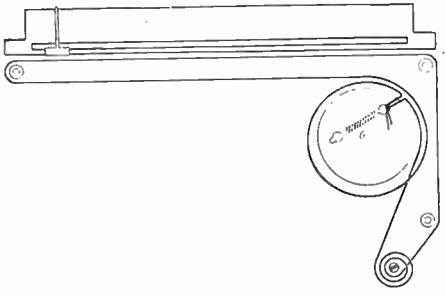
8


GANG
OPEN

9


POINTER EXTREMES
540 K.C.
1605 K.C.
1300 K.C. SETTING
INDICATED ON DIAL SCALE
GANG
WIDE OPEN
GANG
CLOSED
CONNECTION
TO
SLUG GANG
TUNER

10



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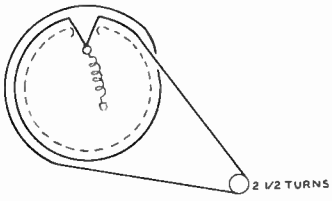
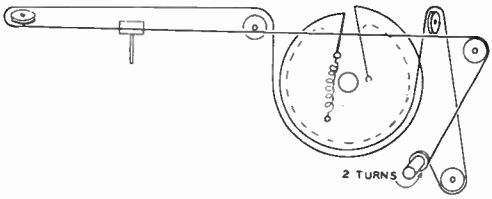

2 1/2 TURNS

12



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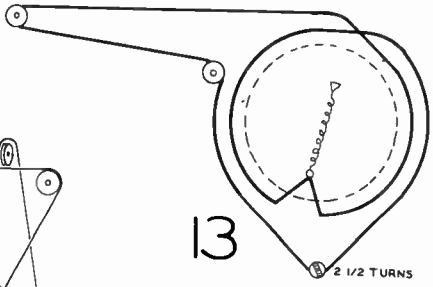

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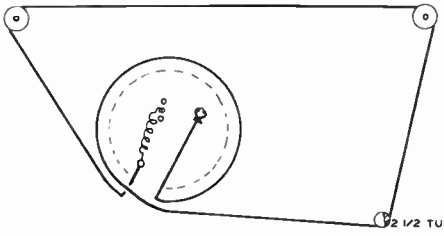

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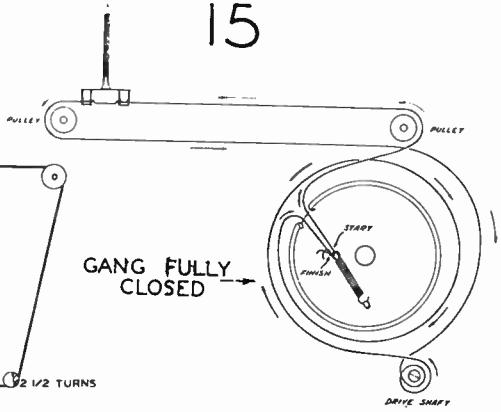

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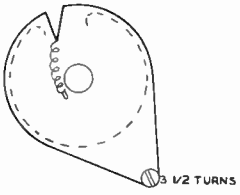

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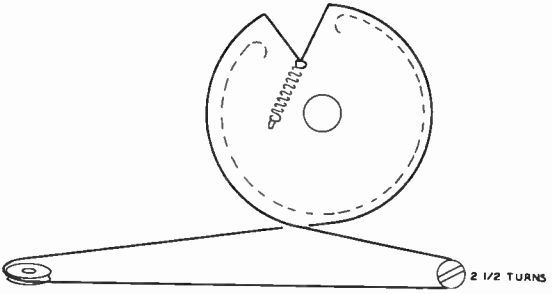

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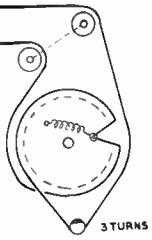
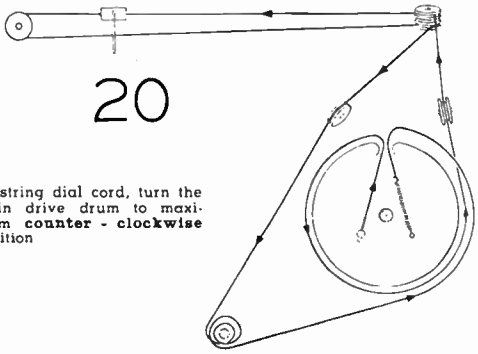
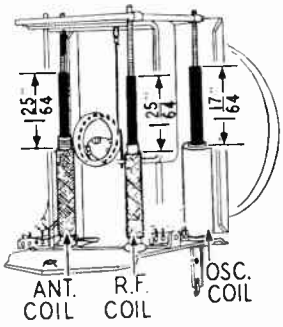


20

To string dial cord, turn the main drive drum to maximum **counter - clockwise** position





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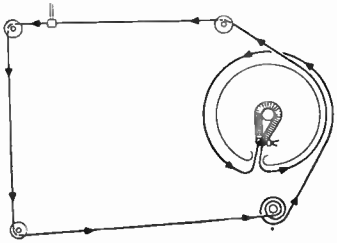

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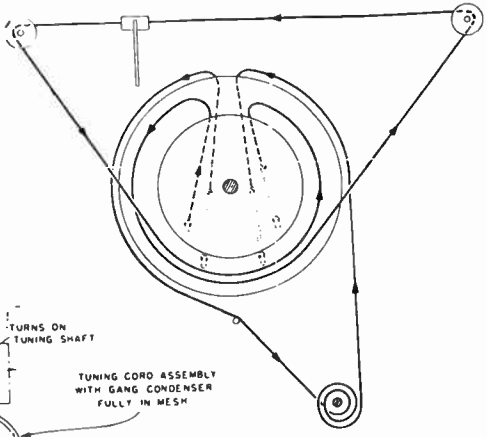

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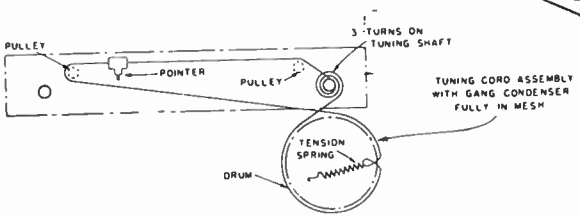
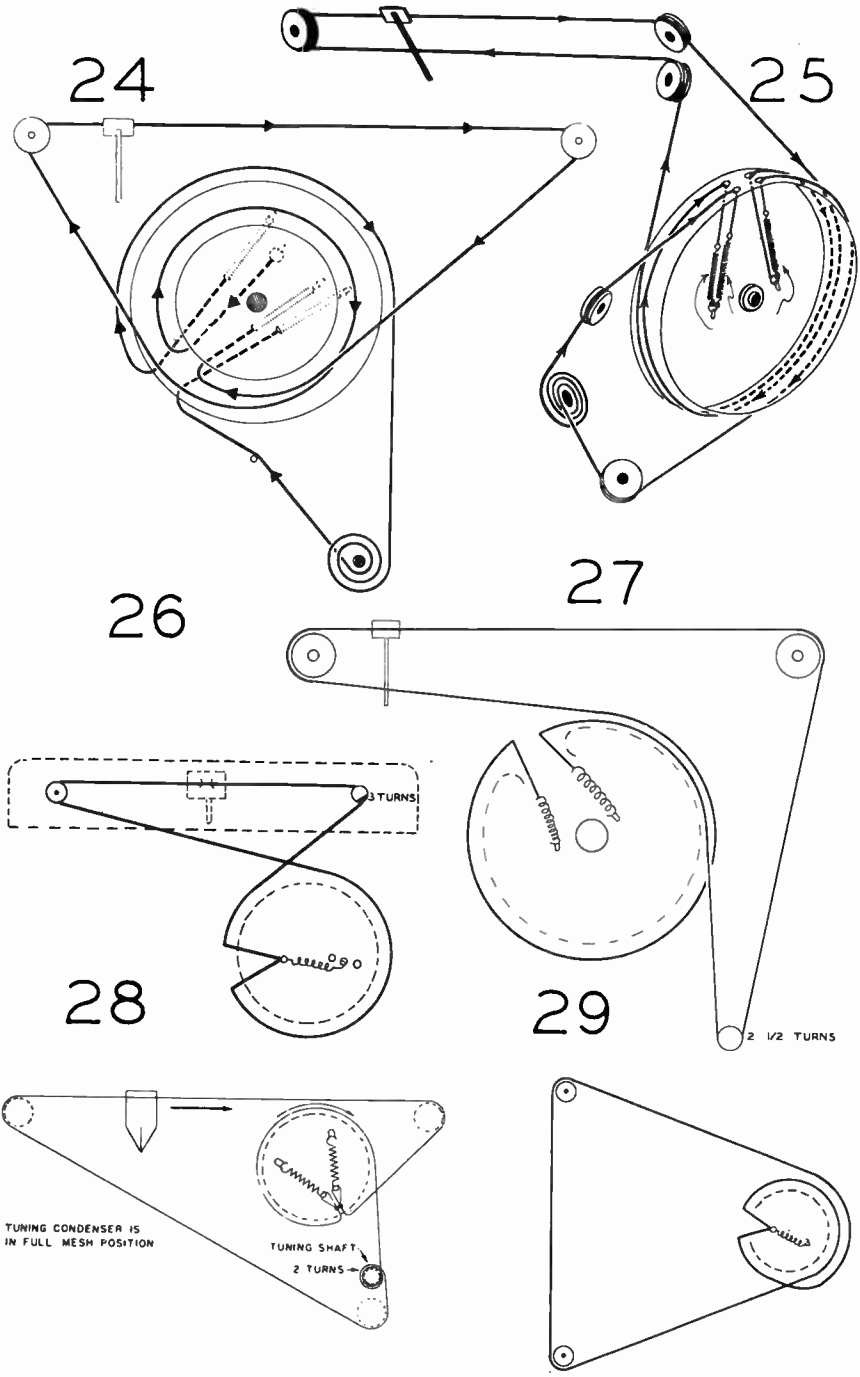
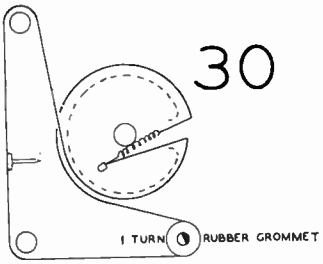



24
25
26
27
3 TURNS
28
29
2 1/2 TURNS
TUNING CONDENSER IS
IN FULL MESH POSITION
TUNING SHAFT
2 TURNS

30



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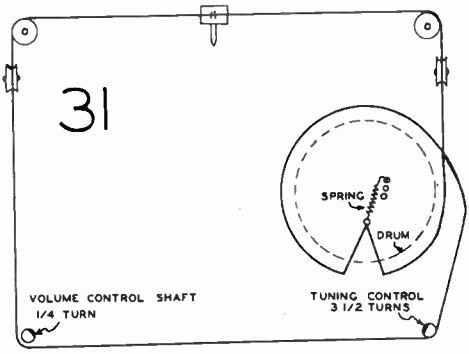

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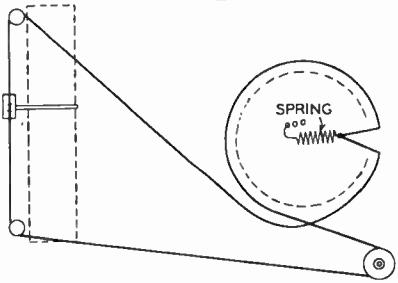

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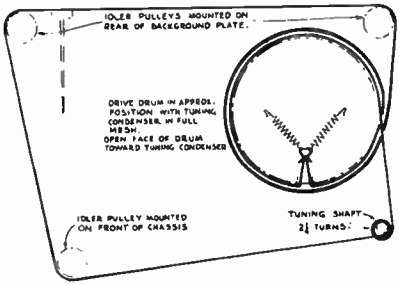

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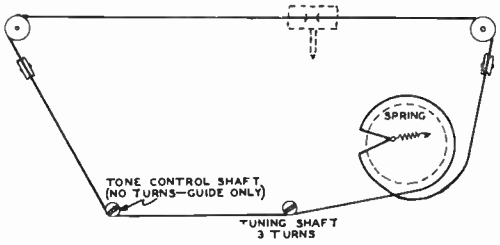

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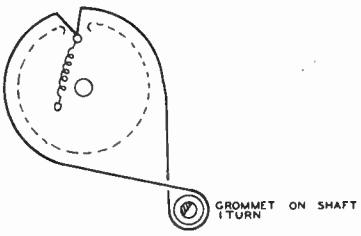

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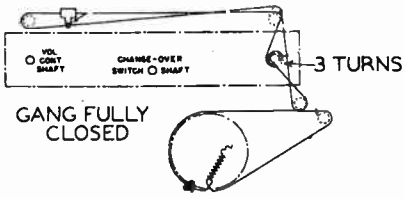
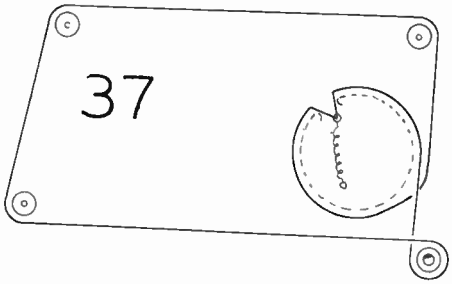
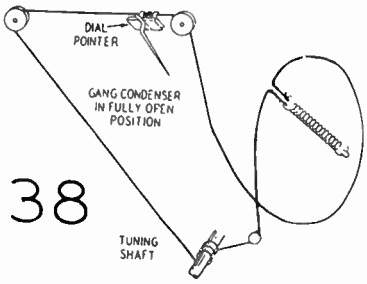
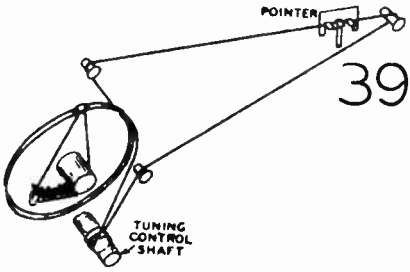
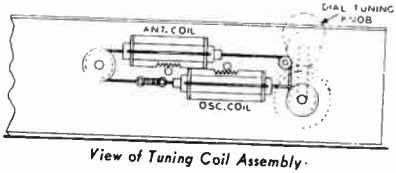






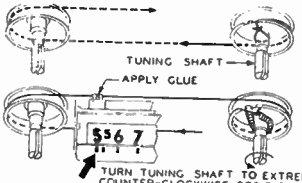




View of Tuning Coil Assembly.

40

When tying the string to the tension spring make sure that the spring takes up all slack.



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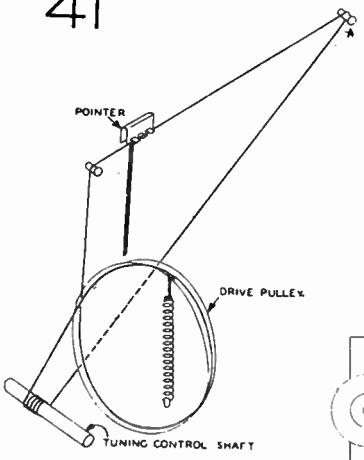
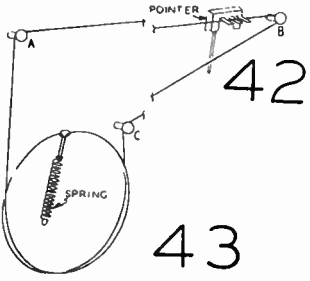
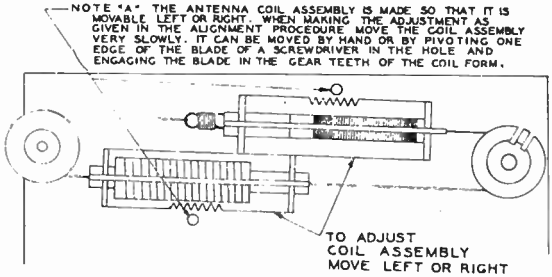


Turn gang condenser to full open position — See illustration. Use a new drive cord 42 inches in length.





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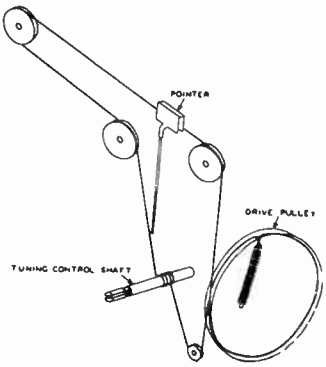

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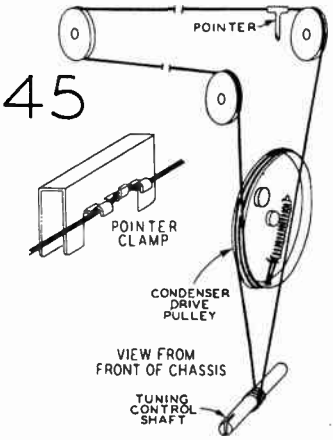

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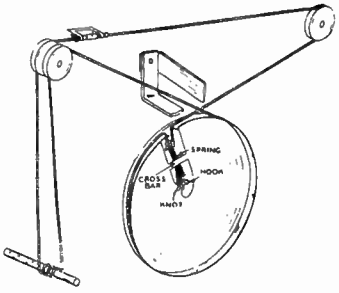

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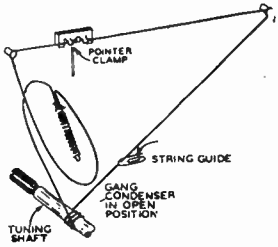

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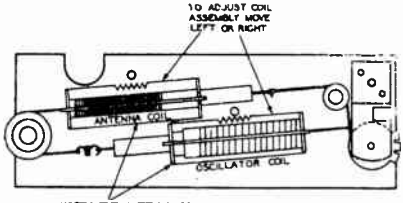
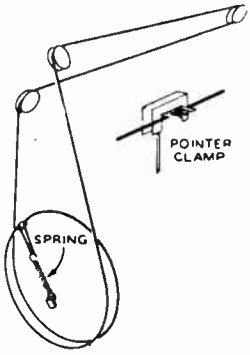


NOTE: THE ANTENNA COIL ASSEMBLY IS MADE SO THAT IT IS MOVABLE LEFT OR RIGHT. WHEN MAKING THE ADJUSTMENT AS GIVEN IN THE ALIGNMENT PROCEDURE MOVE COIL ASSEMBLY VERY SLOWLY

COIL ASSEMBLY VIEW

49



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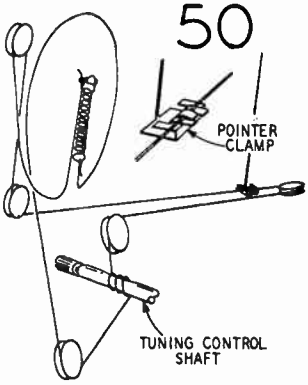

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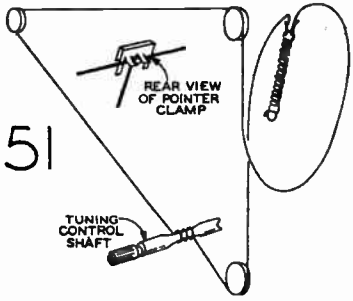

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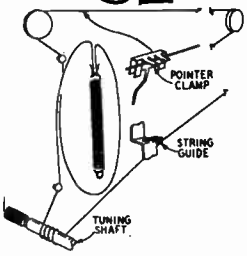

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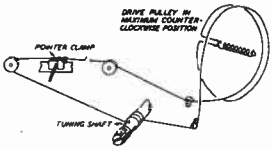

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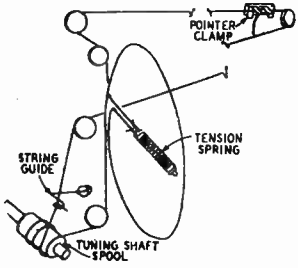
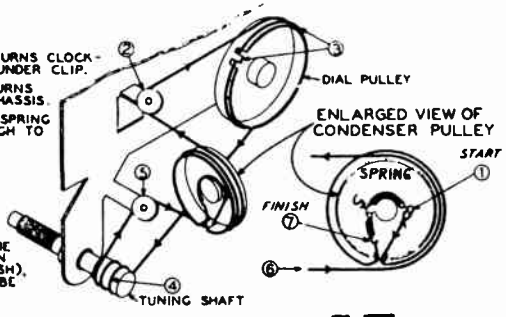


55

- IN STEP 3, WIND 1½ TURNS CLOCK-WISE. PASS STRING UNDER CLIP.
- IN STEP 4, WIND 3 TURNS TOWARD FRONT OF CHASSIS.
- IN STEP 7, BE SURE SPRING IS STRETCHED ENOUGH TO TAKE UP ALL SLACK.

IMPORTANT!
WHEN CONDENSER PULLEY IS IN EXTREME CLOCKWISE POSITION (ROTORS OUT OF MESH), DIAL POINTER MUST BE AT 18 (1600 KC).



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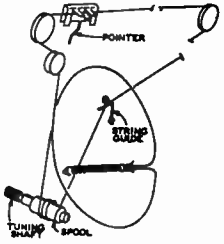

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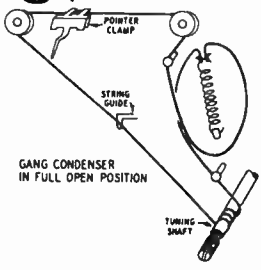

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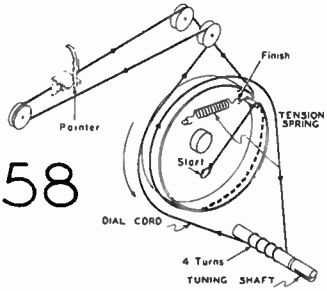

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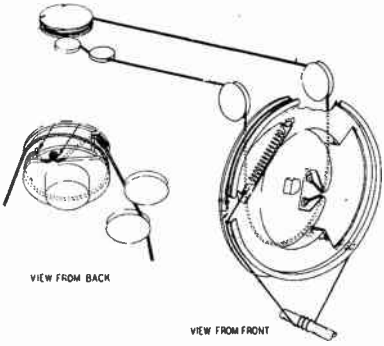

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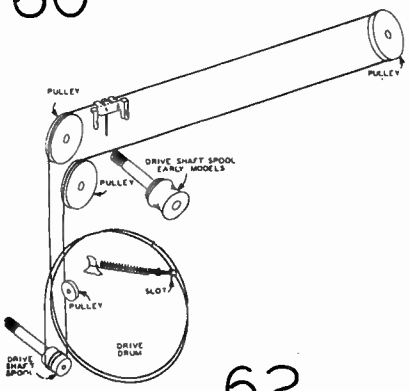

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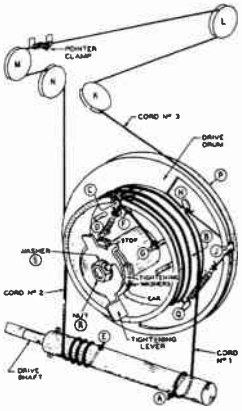

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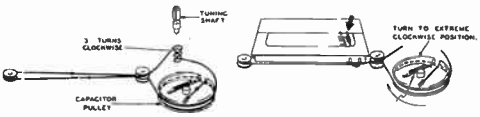

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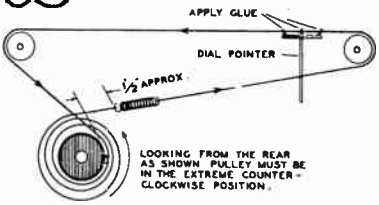

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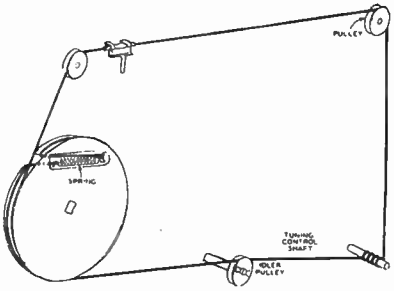

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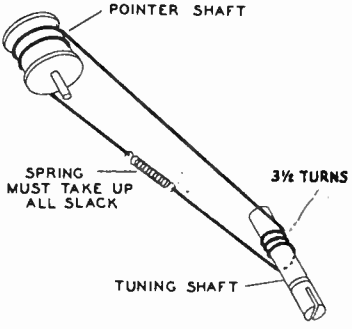

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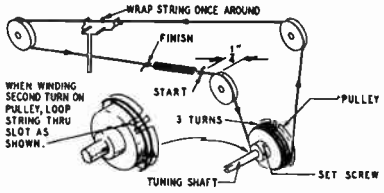

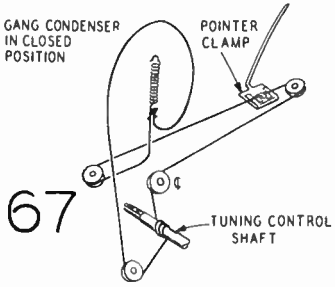

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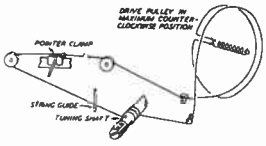

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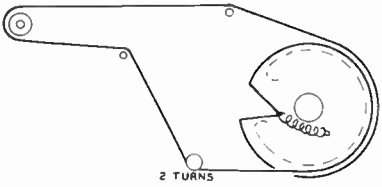
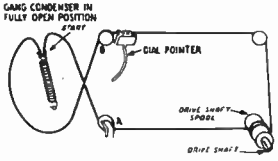
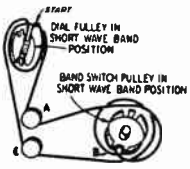




70

Both the dial pulley and the band switch pulley must be turned to the short wave band positions as shown in the illustration. Install the new cord exactly as shown then change the position of the band switch several times and note the movement of the dial.



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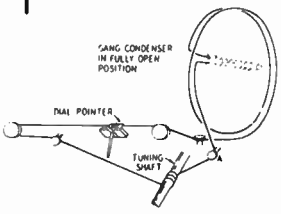

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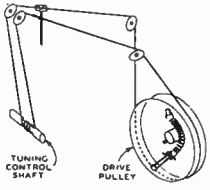

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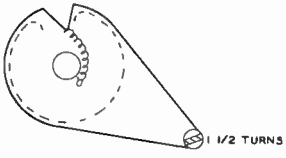

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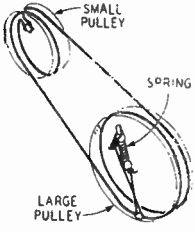

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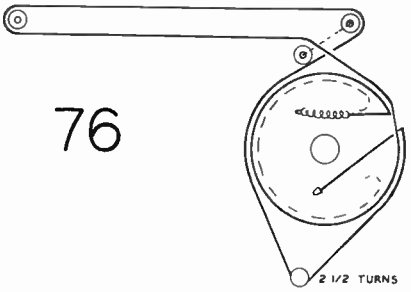

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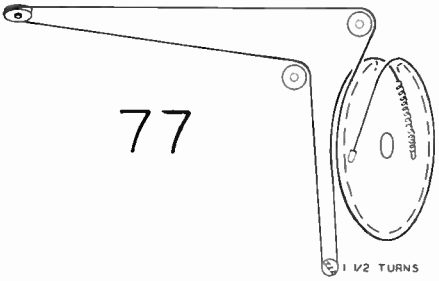

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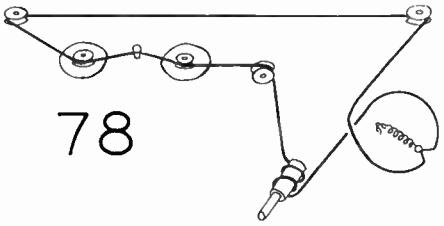

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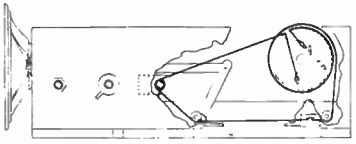
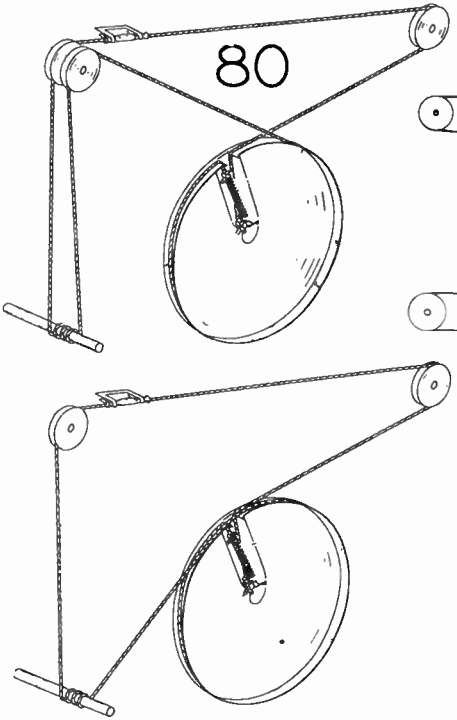


GANG SHOWN FULLY CLOSED

80



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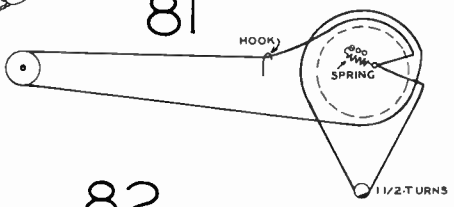

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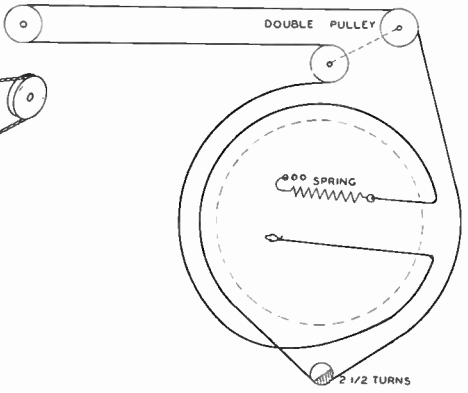

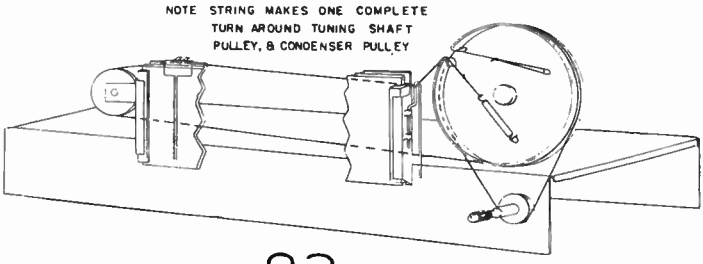

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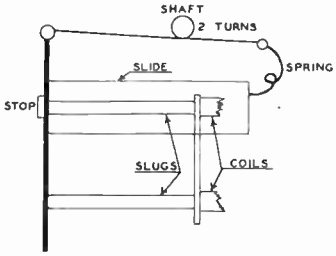

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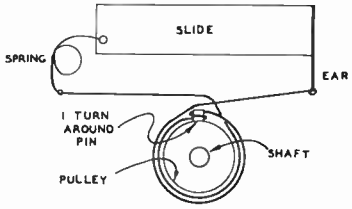

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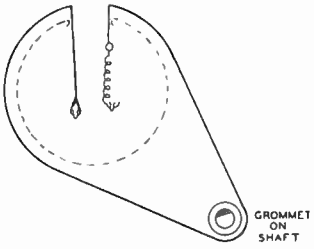

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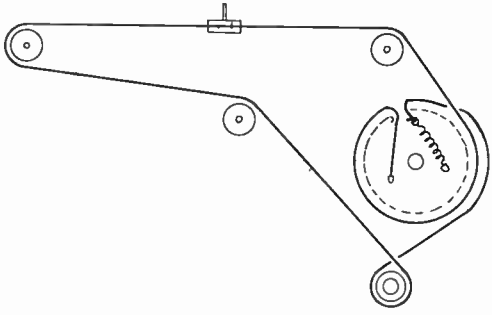

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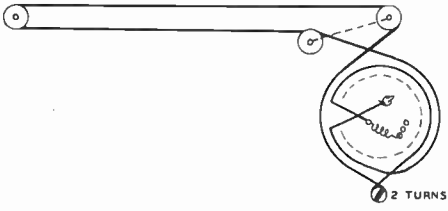

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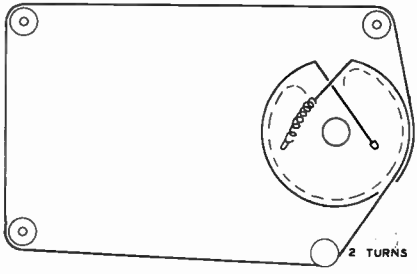

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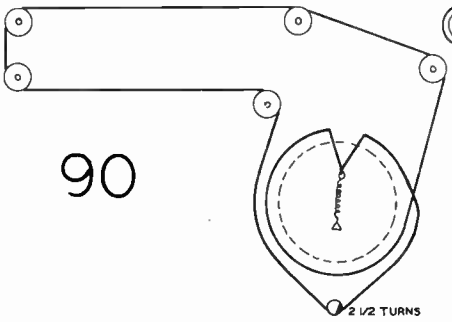

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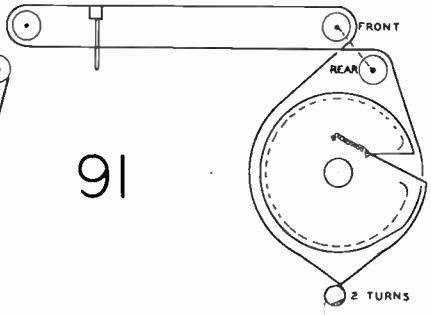

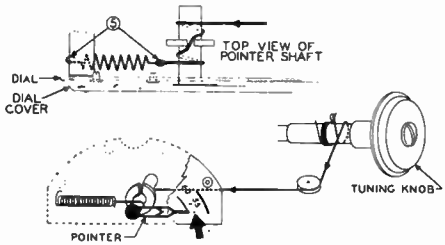

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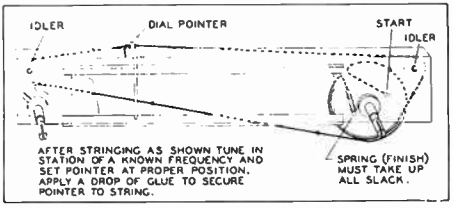

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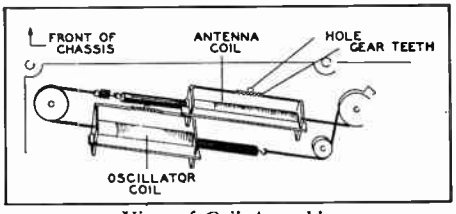
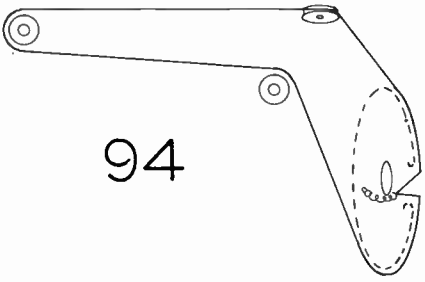


View of Coil Assembly

94



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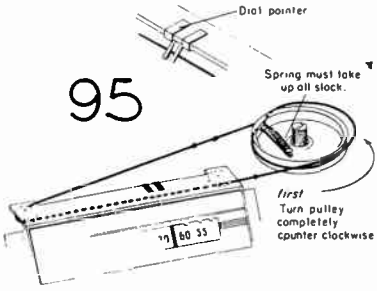
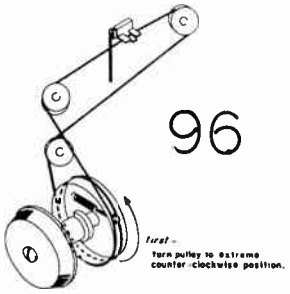
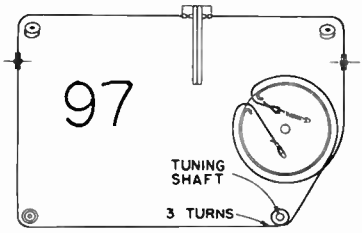
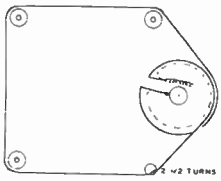


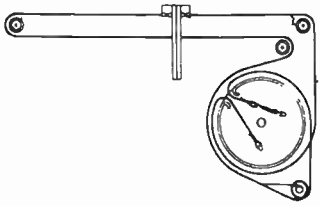

96
first -
turn pulley to extreme
counter-clockwise position.


97
TUNING
SHAFT
3 TURNS

98


2 1/2 TURNS

99



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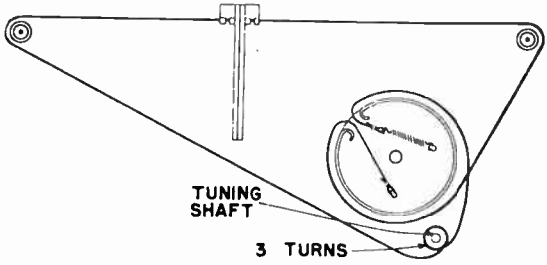
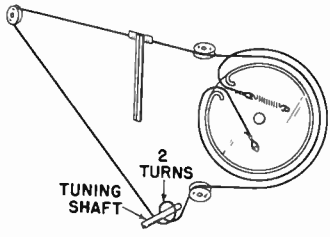
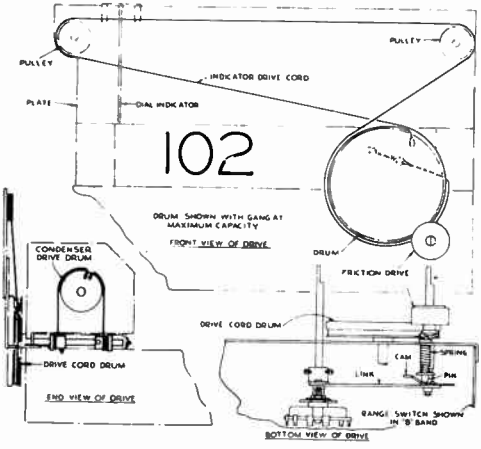
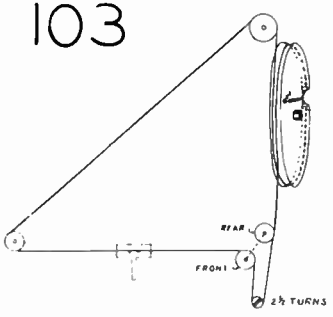

TUNING
SHAFT
3 TURNS

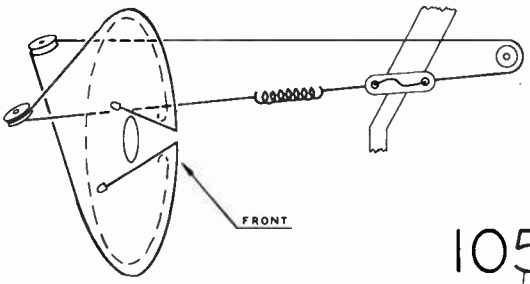
101

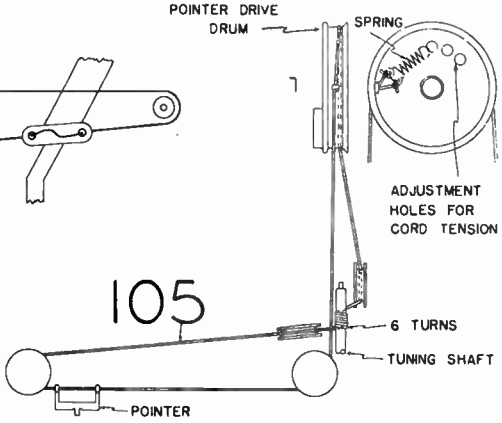

2
TURNS
TUNING
SHAFT


PULLEY
PULLEY
INDICATOR DRIVE CORD
PLATE
DIAL INDICATOR
102
DRUM SHOWN WITH GANG AT
MAXIMUM CAPACITY
FRONT VIEW OF DRIVE
DRUM
FRICTION DRIVE
CONDENSER
DRIVE DRUM
DRIVE CORD DRUM
DRIVE CORD DRUM
CAM
SPRING
LINK
PIN
END VIEW OF DRIVE
RANGE SWITCH SHOWN
IN "B" BAND
BOTTOM VIEW OF DRIVE


103
REAR
FRONT
2½ TURNS

104

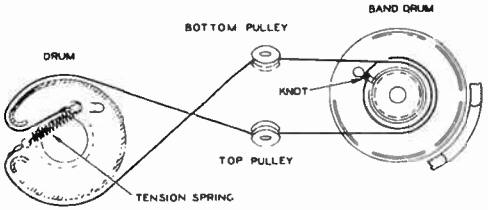


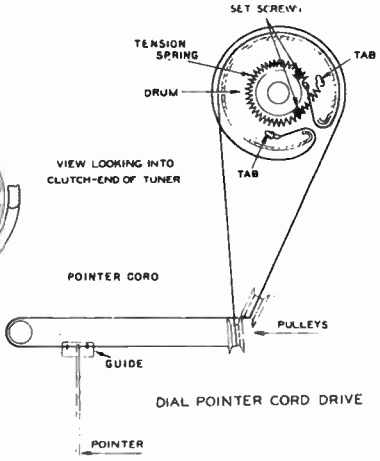


105

106

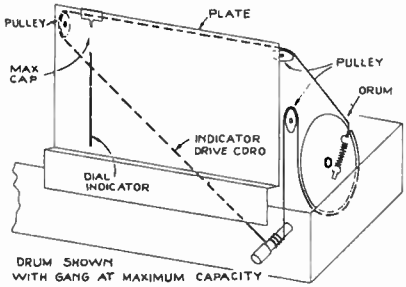
COF'D DRIVE FOR BAND INDICATOR DRUM



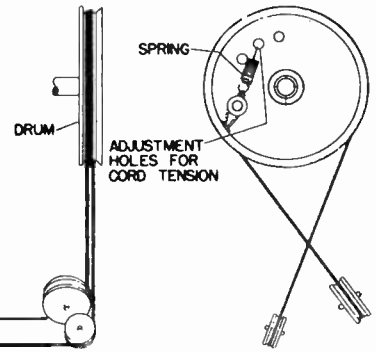


DIAL POINTER CORD DRIVE

107

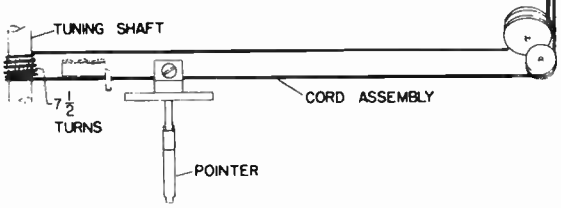


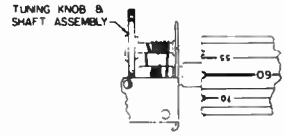
DRUM SHOWN WITH GANG AT MAXIMUM CAPACITY



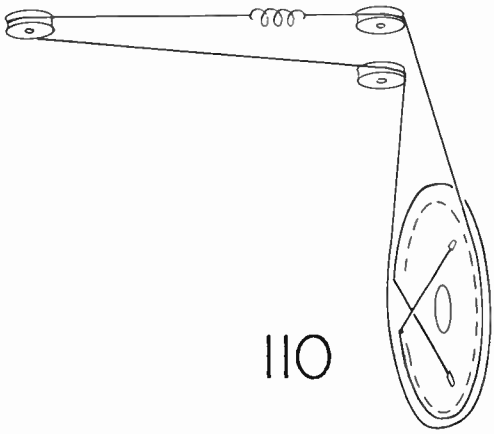
POSITION OF DRUM ASSEMBLY WITH COIL CORES FULLY IN.

108





TO RECALIBRATE: AFTER REPLACING DRIVE STRING, TURN COIL CORES FULLY IN, THEN HOLD DIAL SHAFT STATIONARY WITH PLIERS, AND REVOLVE DIAL WITH FINGERS UNTIL THE 60 CALIBRATION LINE IS IN RELATION SHOWN TO BRACKET



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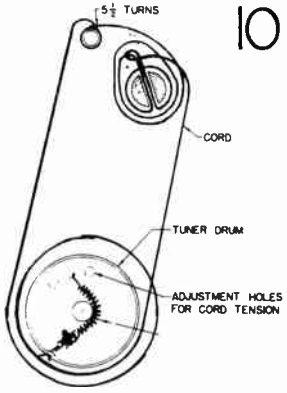

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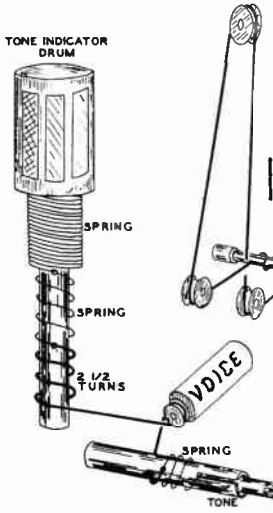

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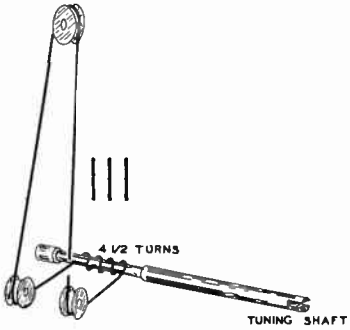
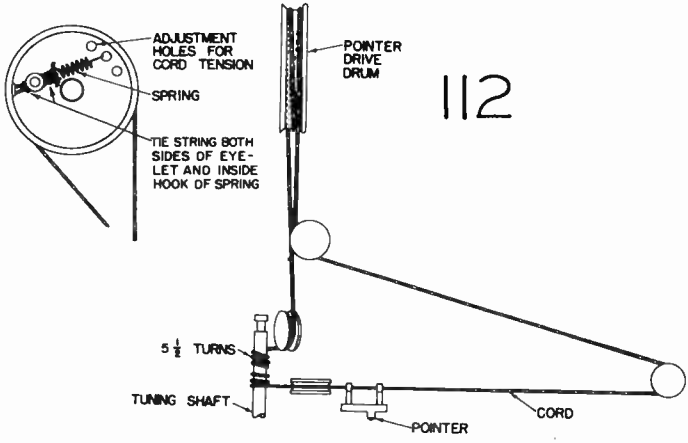
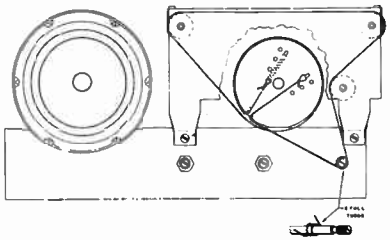


112

POSITION OF DRUM ASSEMBLY WITH COIL CORES FULLY IN.





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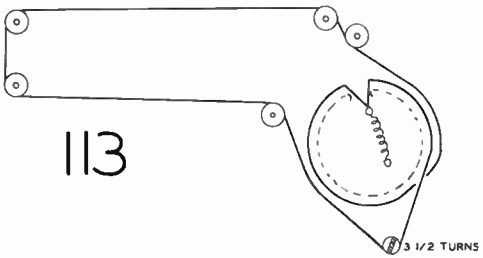

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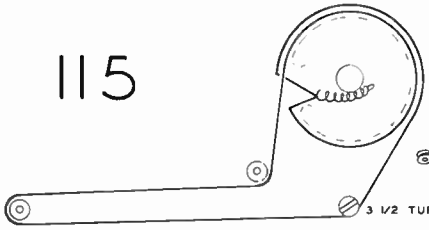
115



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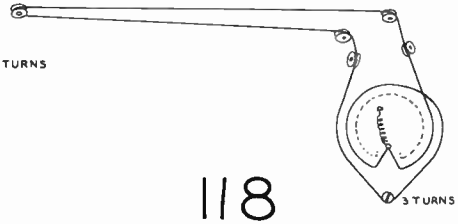

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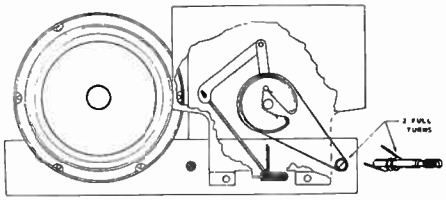

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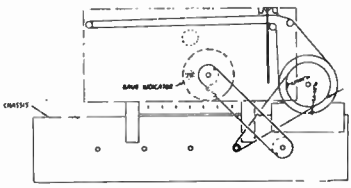

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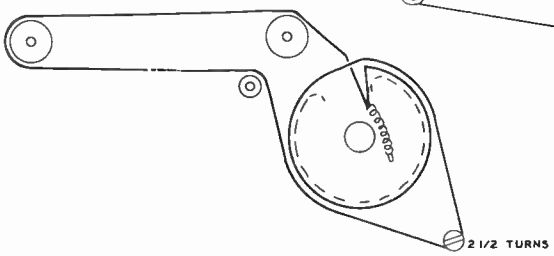

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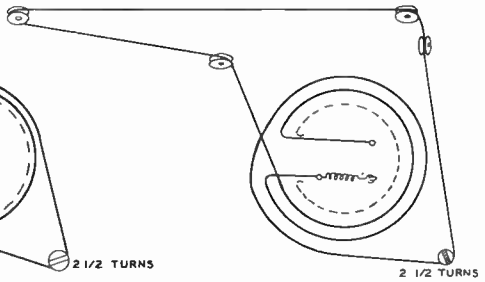
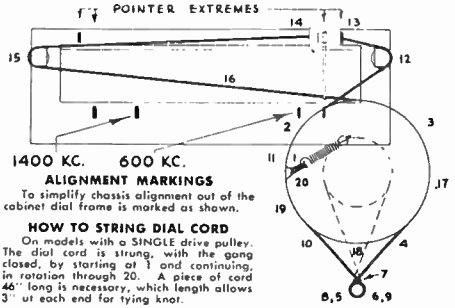




ALIGNMENT MARKINGS

To simplify chassis alignment out of the cabinet dial frame is marked as shown.

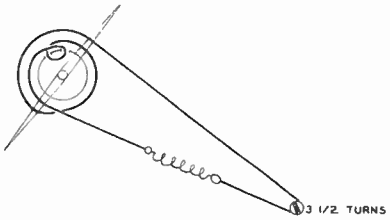
HOW TO STRING DIAL CORD

On models with a SINGLE drive pulley. The dial cord is strung, with the gang closed, by starting at 1 and continuing, in rotation through 20. A piece of cord 46" long is necessary, which length allows 3" at each end for tying knot.

On models with DOUBLE drive pulley the dial cord is in two pieces. The pointer cord is on the large pulley starting at 1 and continuing through 20 BUT in the following special order, 1, 2, 3, 4, 18, 19, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20. The drive cord is on the smaller dotted pulley, in the dotted position.

To clarify dial cord arrangement the dial frame is shown as transparent.

121



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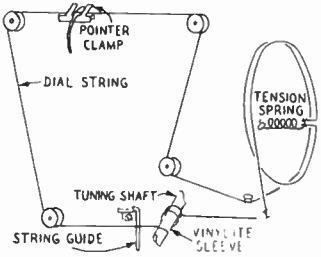

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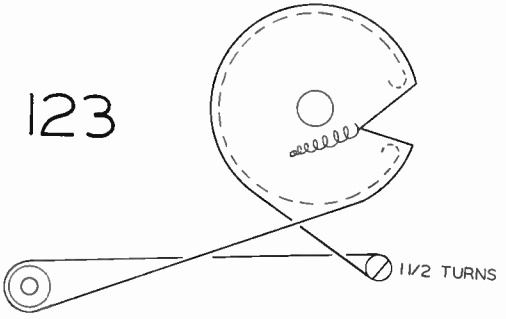

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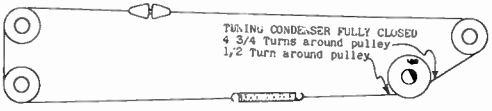

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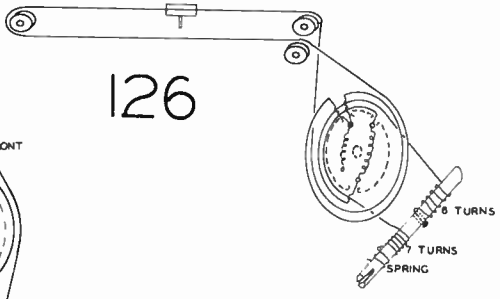

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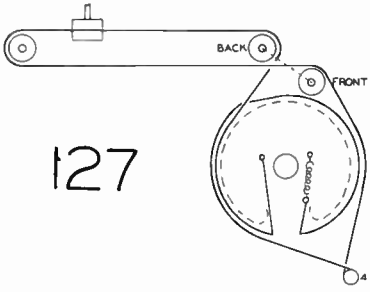

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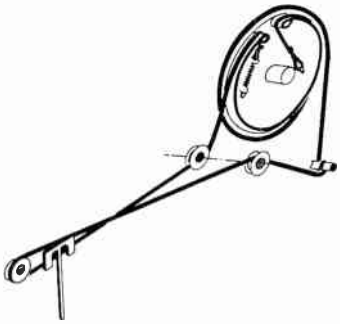

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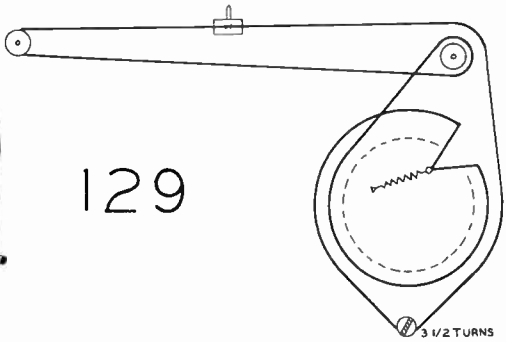

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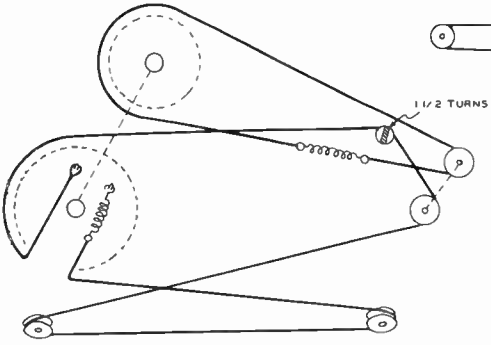

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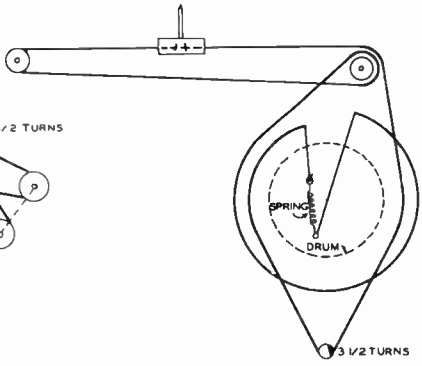

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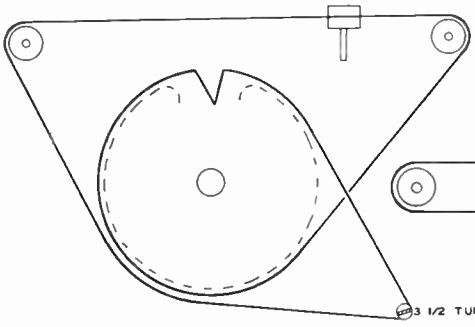

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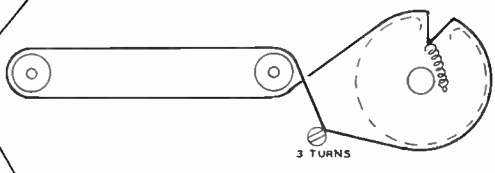
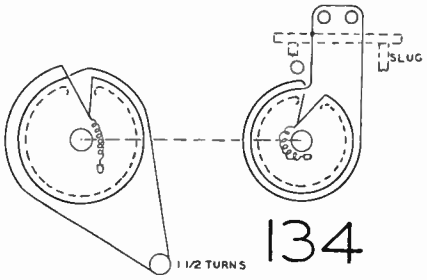
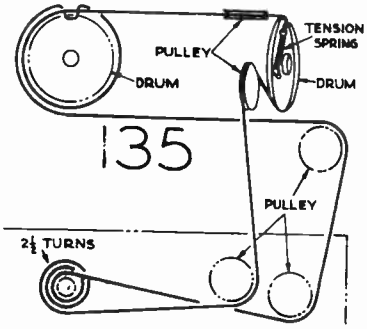
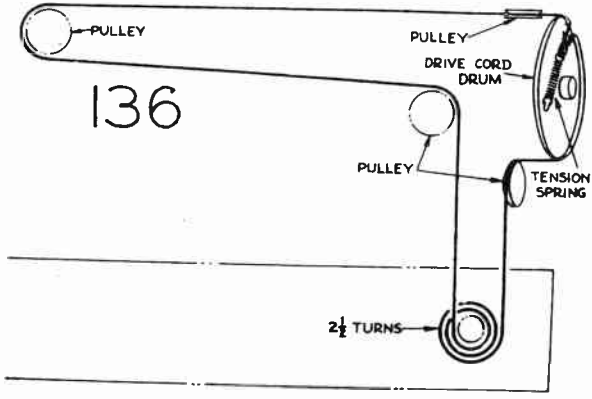
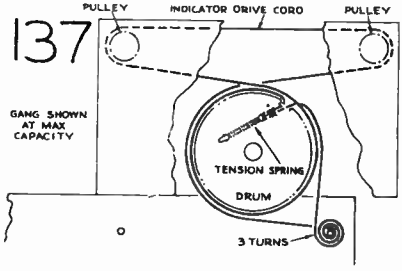
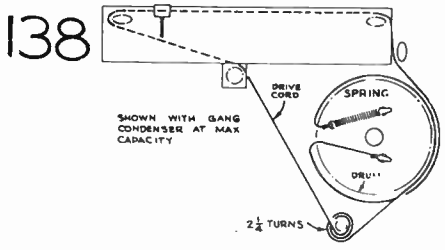


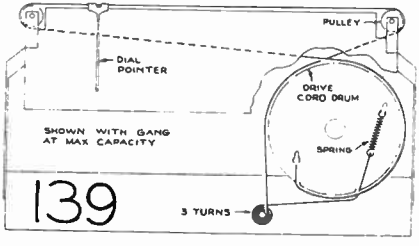

SLUG
1 1/2 TURNS
134

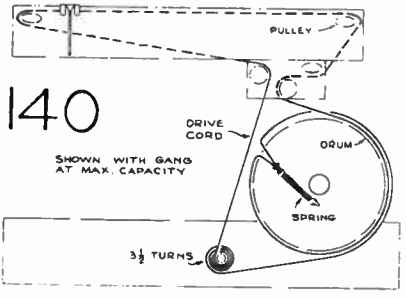

PULLEY
TENSION SPRING
DRUM
DRUM
135
PULLEY
2½ TURNS

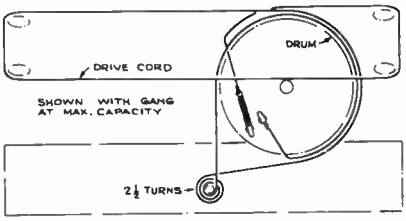

PULLEY
PULLEY
DRIVE CORD DRUM
136
PULLEY
TENSION SPRING
2½ TURNS


PULLEY
INDICATOR DRIVE CORD
PULLEY
137
GANG SHOWN AT MAX CAPACITY
TENSION SPRING
DRUM
3 TURNS


138
DRIVE CORD
SPRING
SHOWN WITH GANG CONDENSER AT MAX CAPACITY
DRUM
2¼ TURNS


PULLEY
DIAL POINTER
DRIVE CORD DRUM
SHOWN WITH GANG AT MAX CAPACITY
SPRING
139
3 TURNS


PULLEY
140
DRIVE CORD
DRUM
SHOWN WITH GANG AT MAX. CAPACITY
SPRING
3½ TURNS



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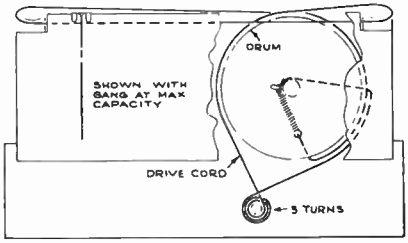

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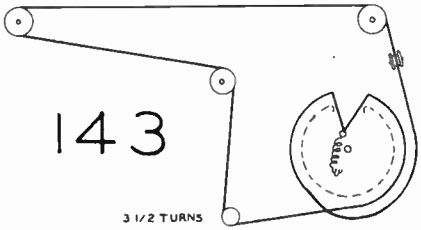

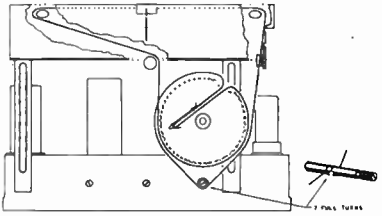

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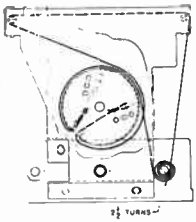

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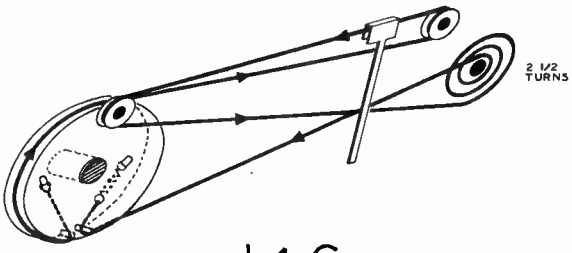

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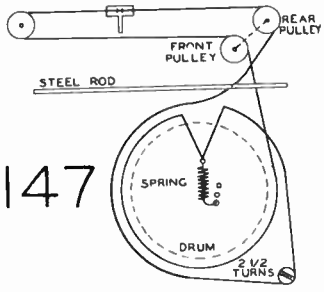

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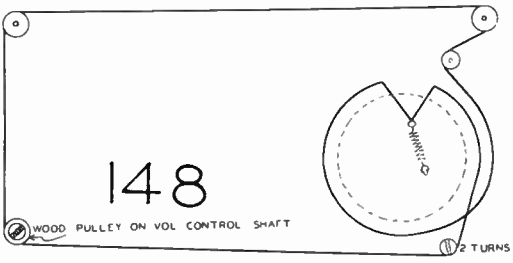

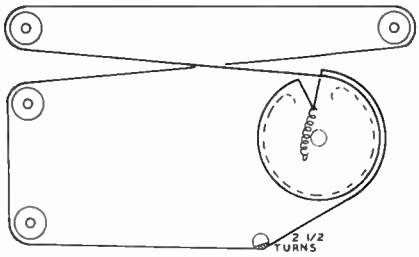

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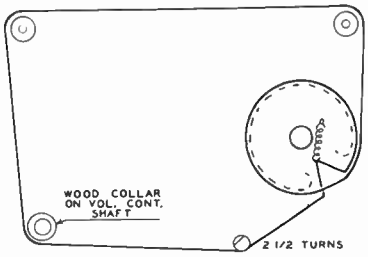

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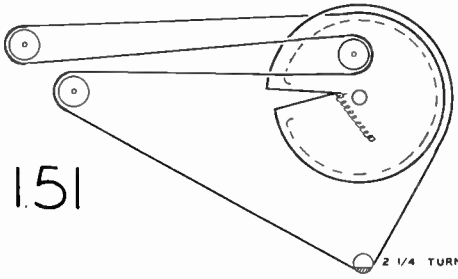

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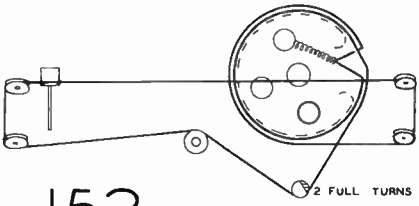

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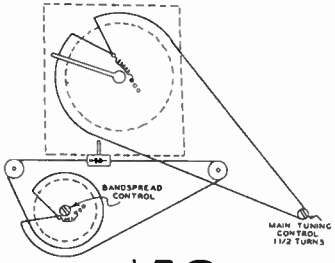

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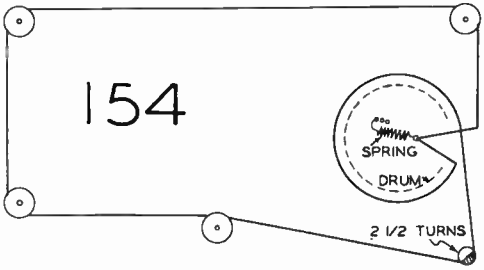

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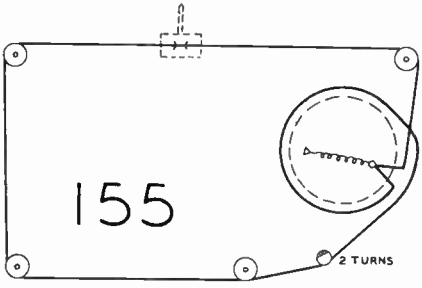

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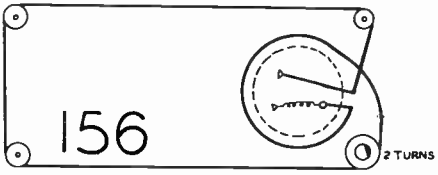

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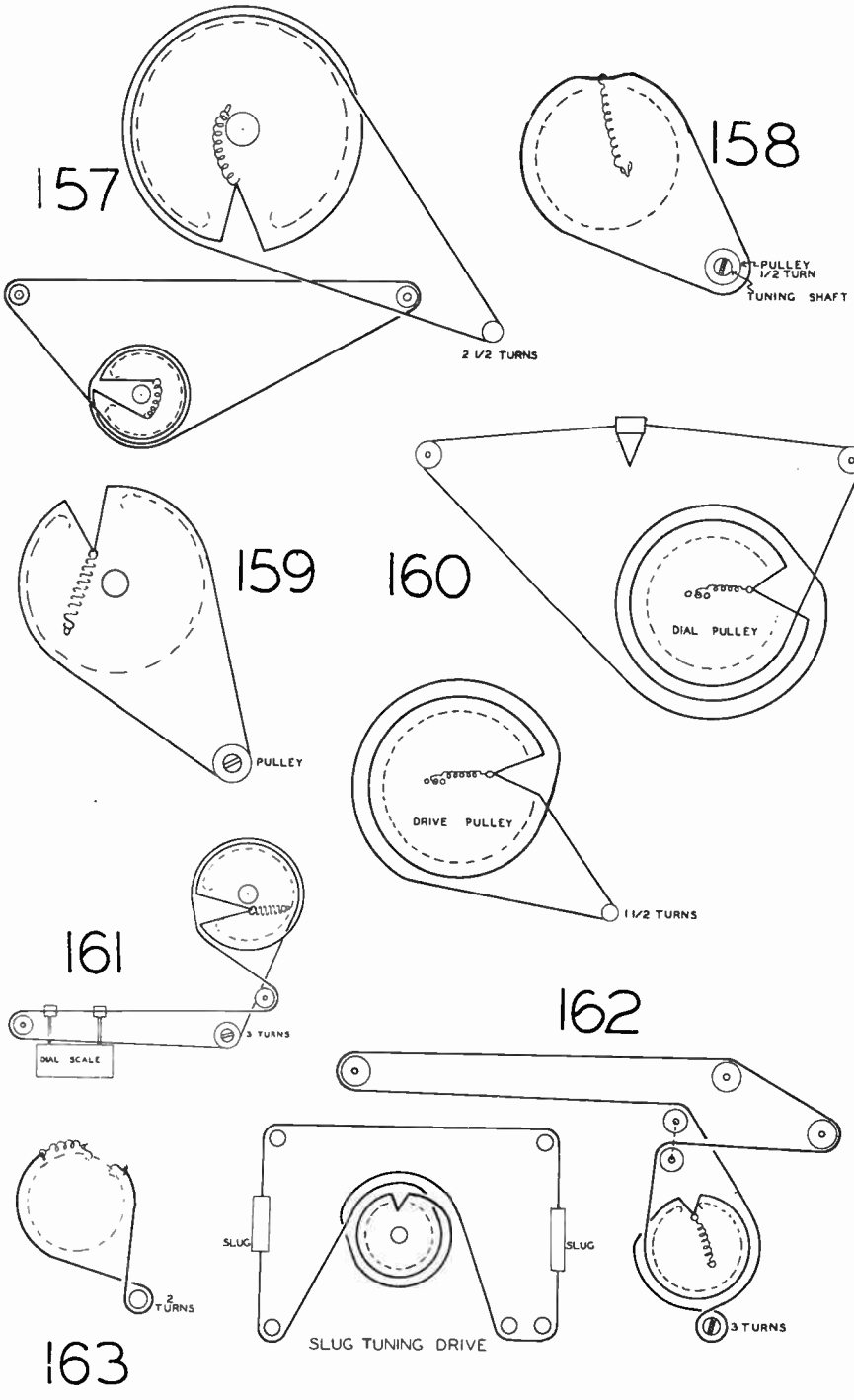
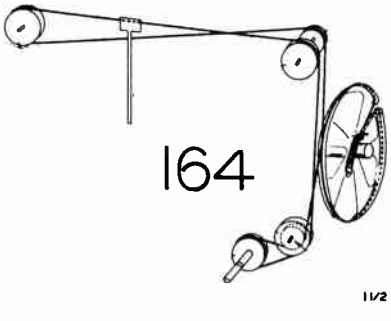
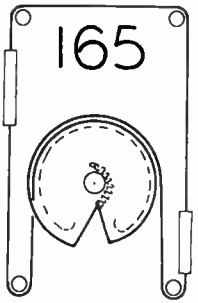

157
2 1/2 TURNS
158
PULLEY
1/2 TURN
TUNING SHAFT
159
PULLEY
160
DIAL PULLEY
DRIVE PULLEY
1 1/2 TURNS
161
3 TURNS
DIAL SCALE
162
3 TURNS
SLUG
SLUG
SLUG TUNING DRIVE
2
TURNS
163


164
1 1/2 TURNS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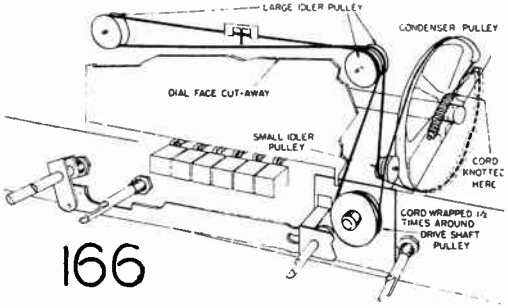
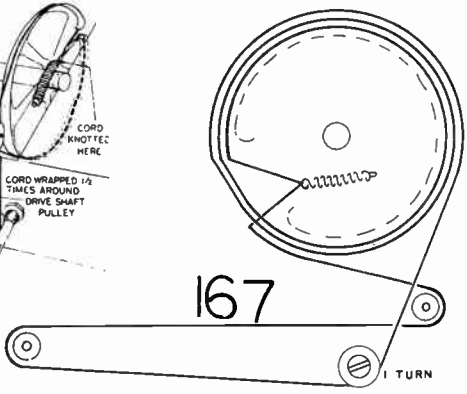
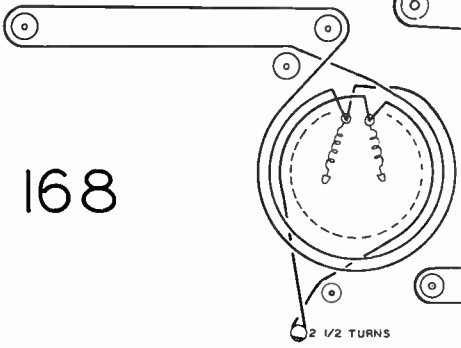
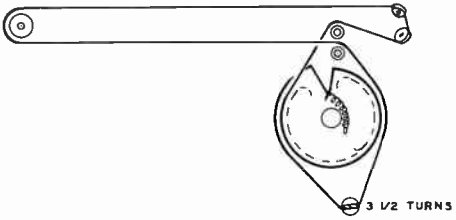
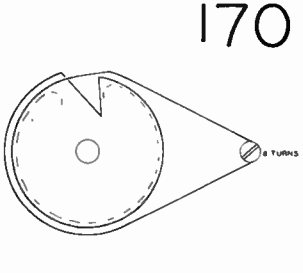
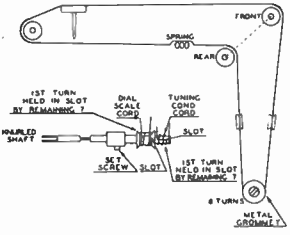

LARGE IDLER PULLEY
CONDENSER PULLEY
DIAL FACE CUT-AWAY
SMALL IDLER PULLEY
CORD KNOTTED HERE
CORD WRAPPED 1/2 TIMES AROUND DRIVE SHAFT PULLEY
166


167
1 TURN

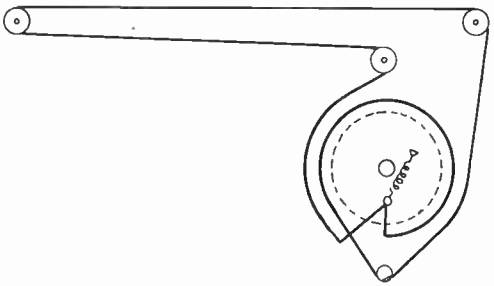

168
2 1/2 TURNS

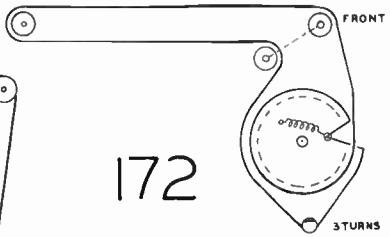

169
3 1/2 TURNS


170
6 TURNS


FRONT
SPRING
REAR
1ST TURN HELD IN SLOT BY REMAINING 7
DIAL SCALE CORD
TUNING COND CORD
KNURLED SHAFT
SLOT
SET SCREW
SLOT
1ST TURN HELD IN SLOT BY REMAINING 7
6 TURNS
METAL GROMMET

171





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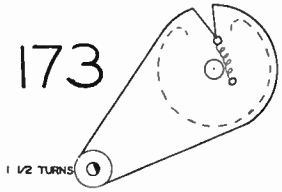

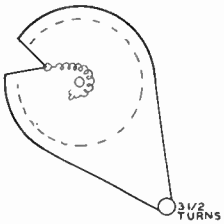

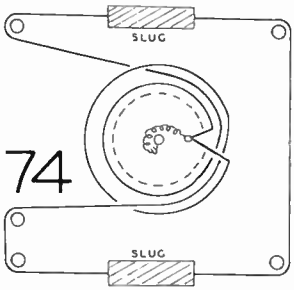

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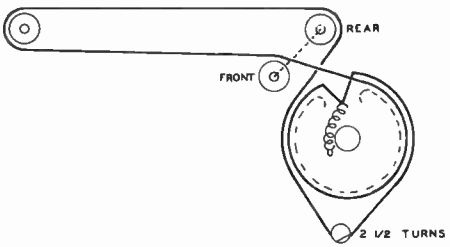

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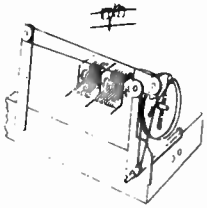

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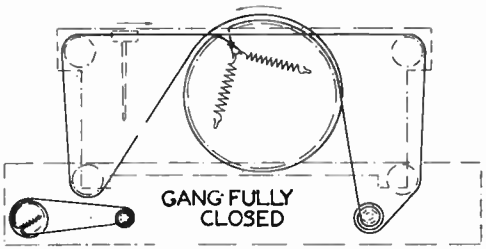
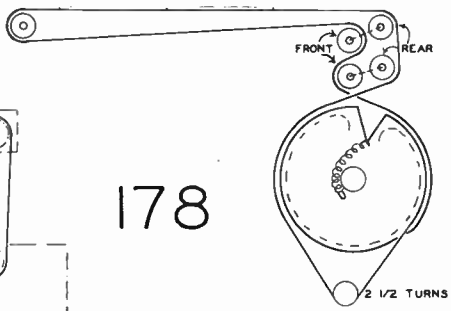


VOLUME CONTROL STRINGING OFF POSITION



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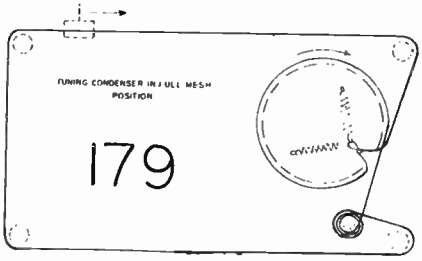

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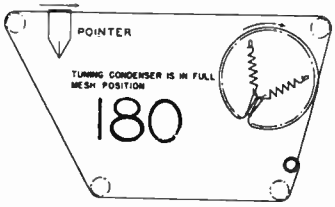

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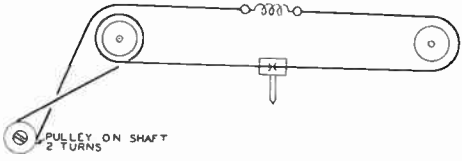

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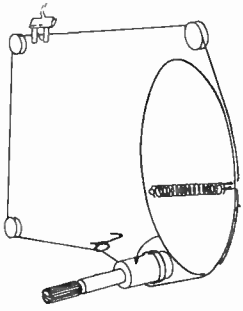

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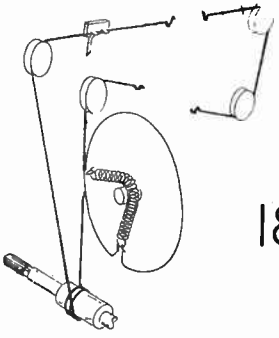

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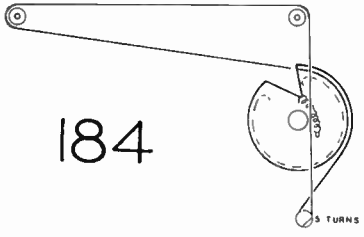

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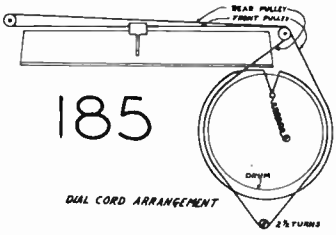
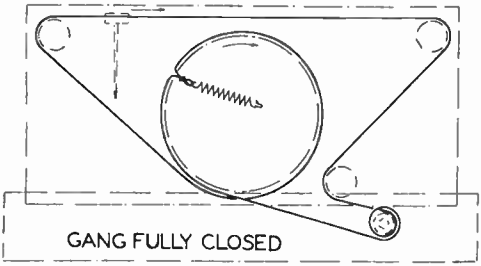


185

DUAL CORD ARRANGEMENT



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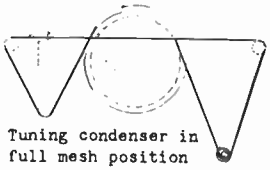
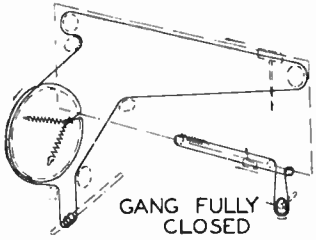


Tuning condenser in full mesh position

187



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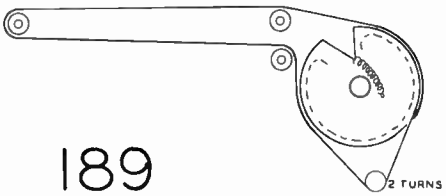

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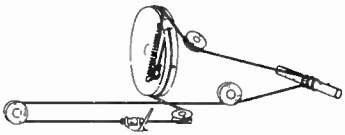

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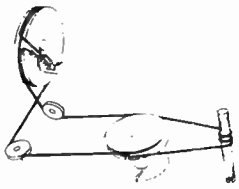

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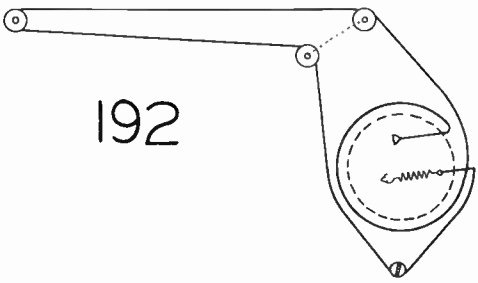

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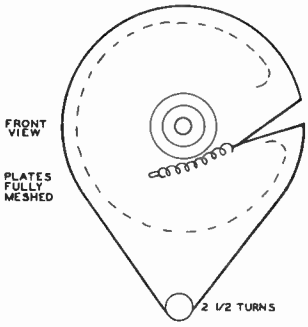


FIG. 1 DIAL DRIVE (AM)

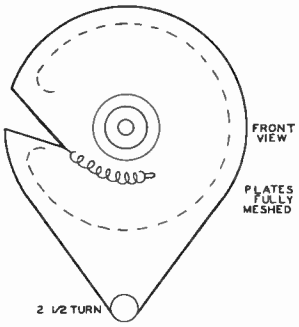


FIG. 2 DIAL DRIVE (F.M.)

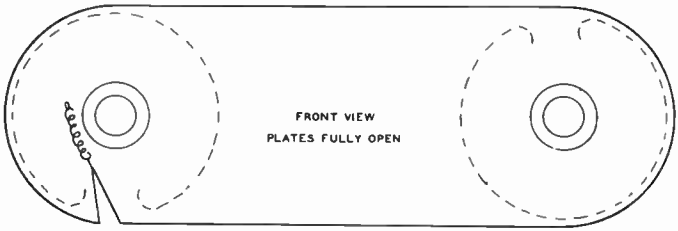


FIG. 3 DIAL DRUMS
A.M. TUNING

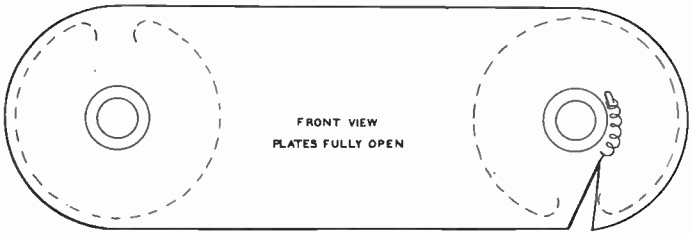
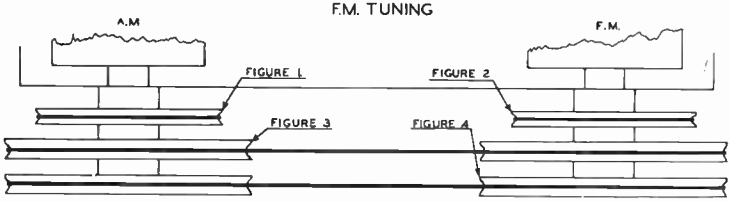
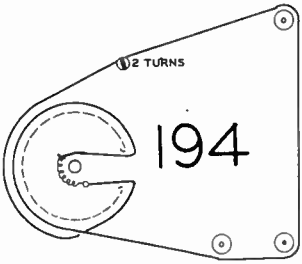
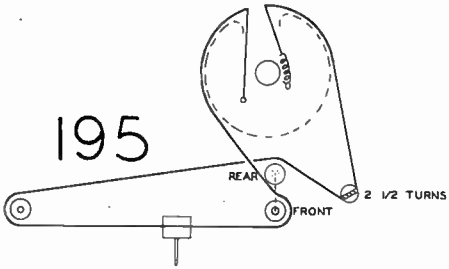
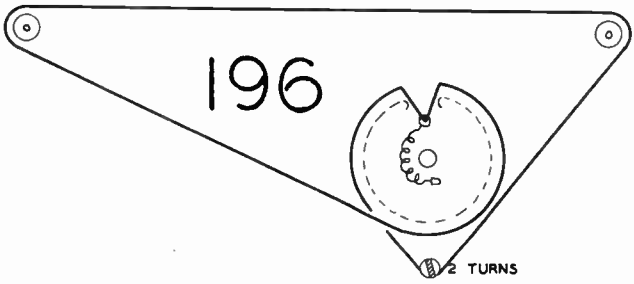


FIG. 4 DIAL DRUMS
F.M. TUNING




2 TURNS
194


195
REAR
FRONT
2 1/2 TURNS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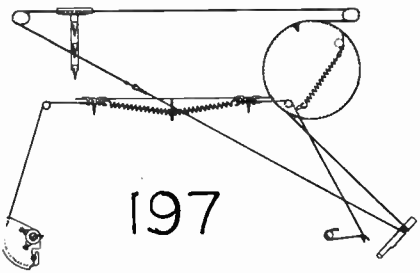
2 TURNS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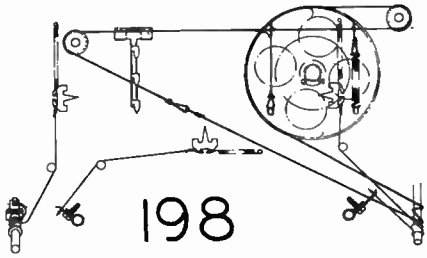
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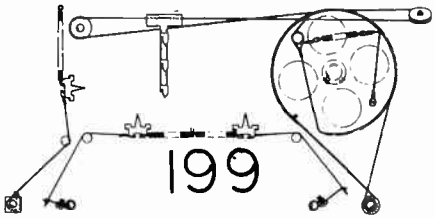
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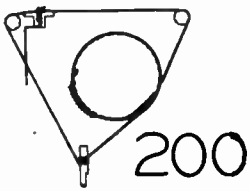
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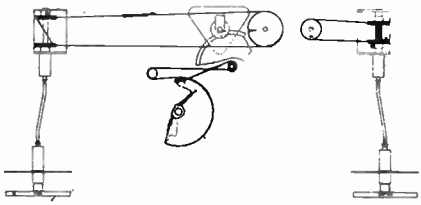
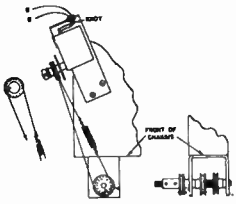
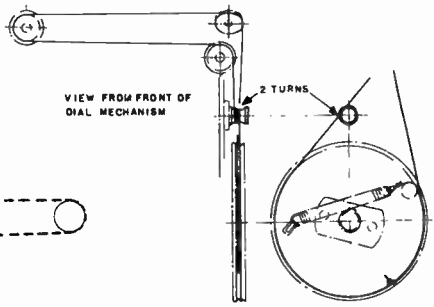




Volume Control Motor Mounting

202



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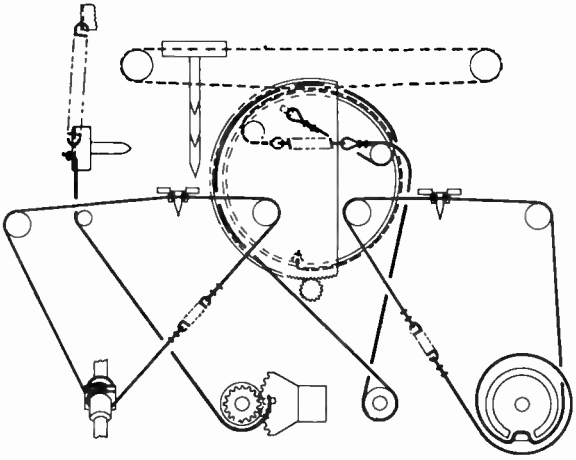

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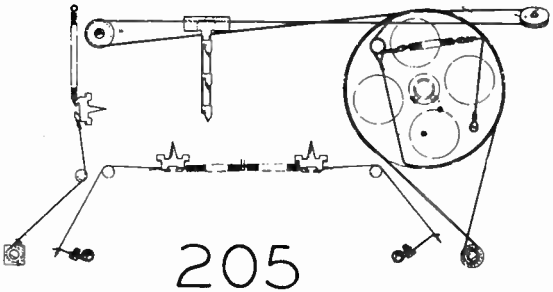

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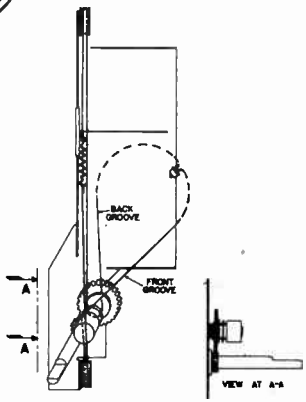

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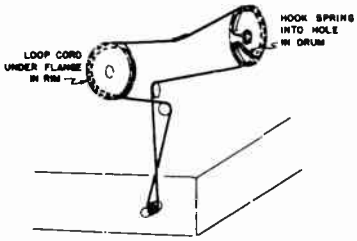

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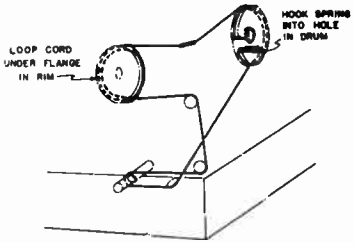

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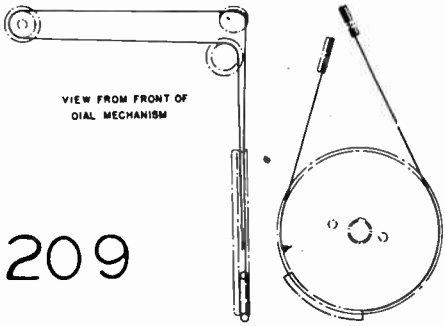

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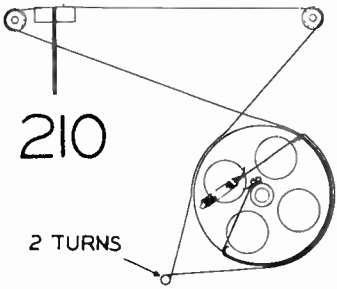

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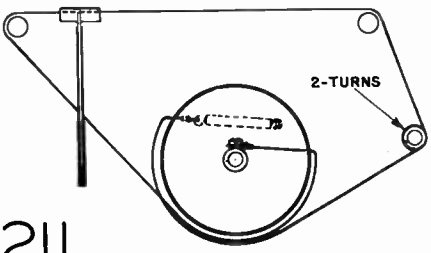

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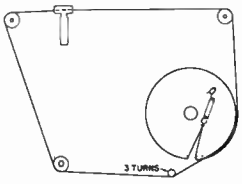

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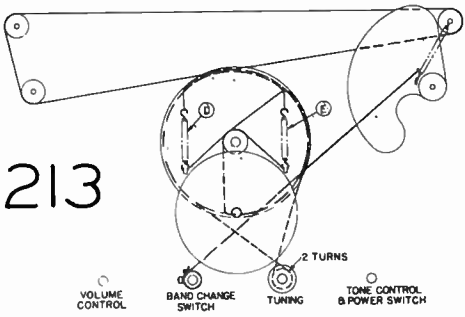

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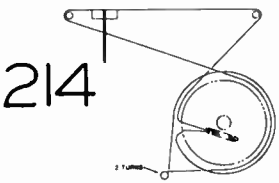

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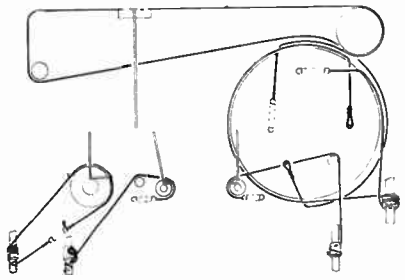

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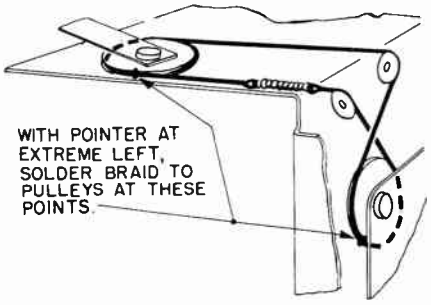

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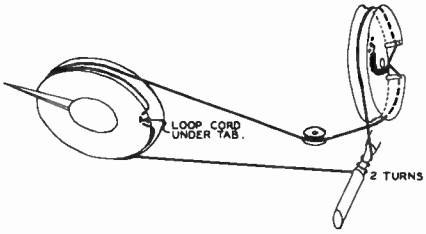

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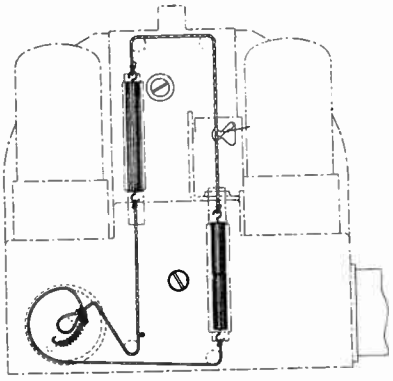

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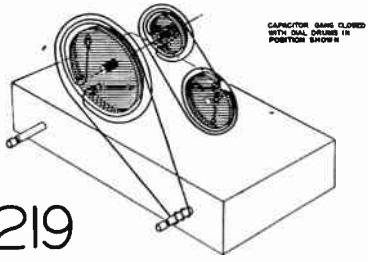

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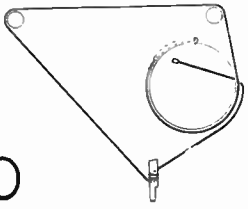

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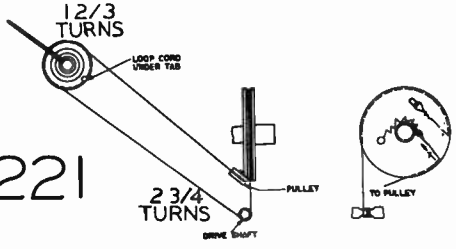

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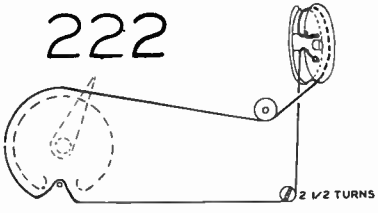

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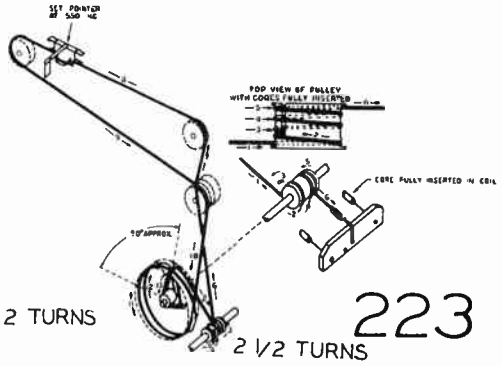

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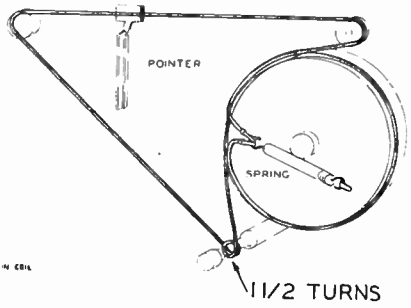

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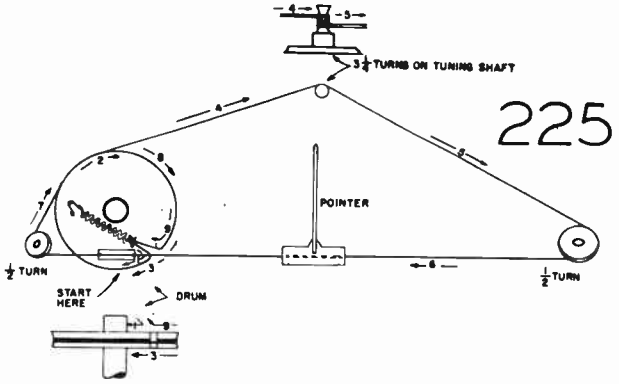

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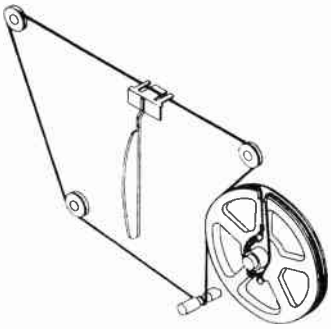

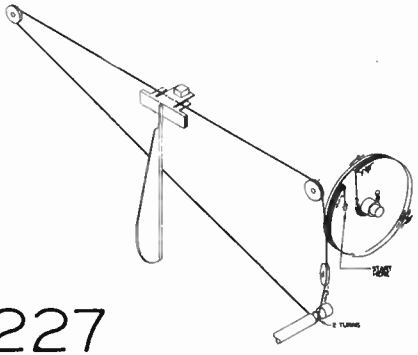

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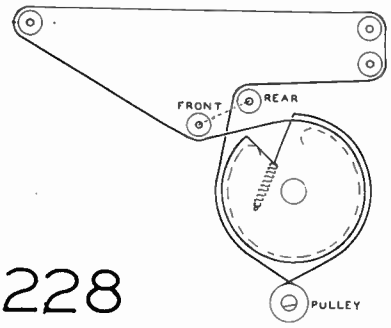

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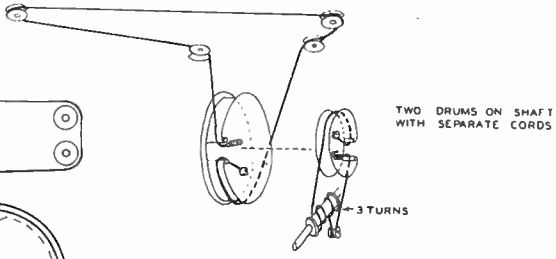

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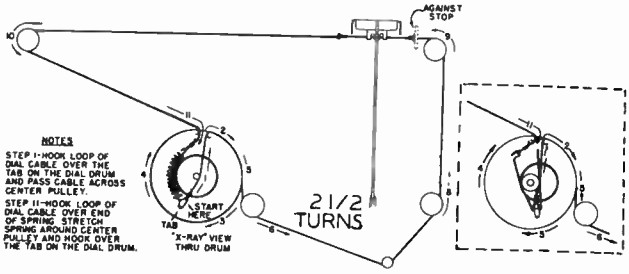
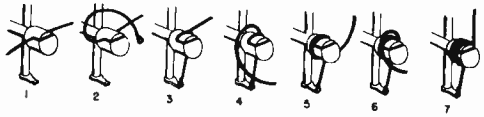


Dial Stringing Diagram Showing Later Production Spring at Right



Elevator Windlass Stringing Procedure

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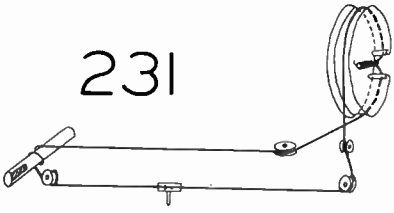
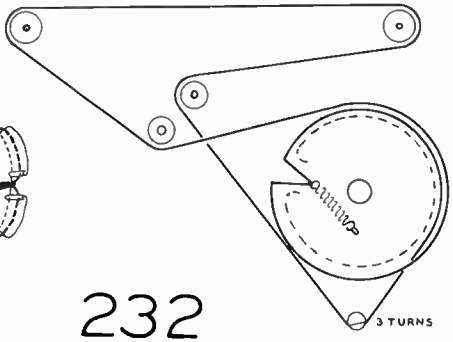
231





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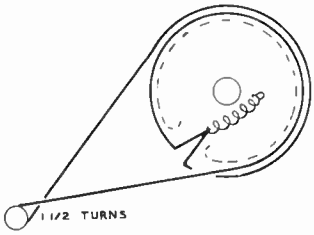

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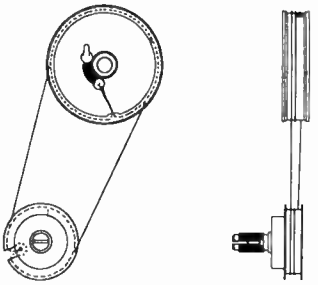

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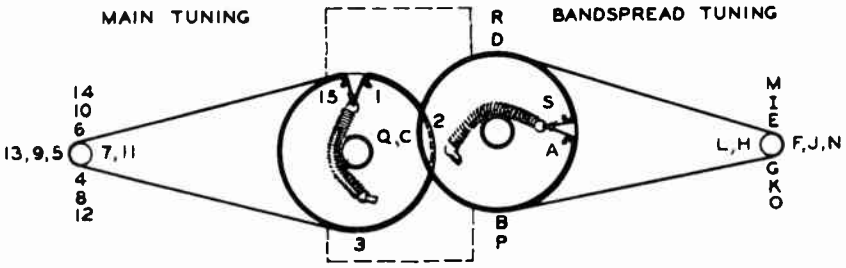
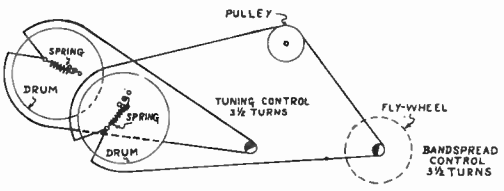
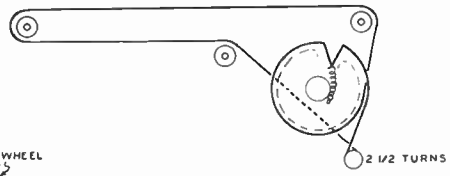


TUNING CAPACITOR FULLY CLOSED (BOTH SECTIONS).

235

236





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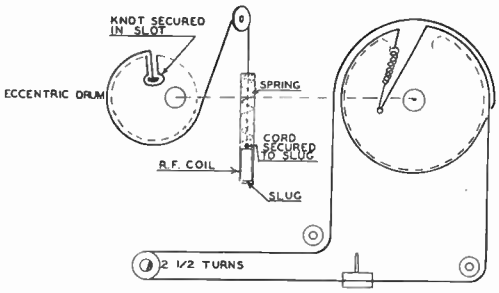

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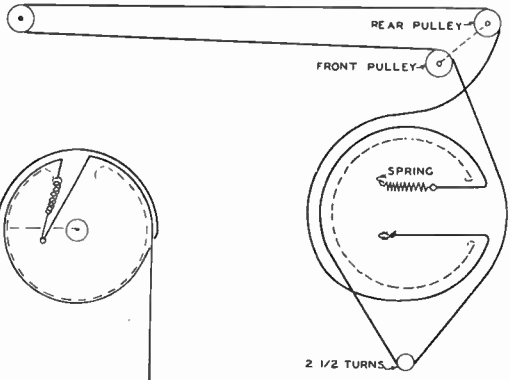

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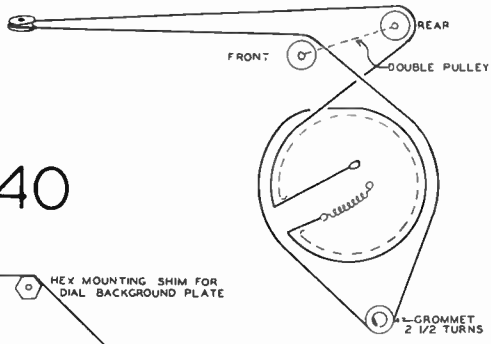

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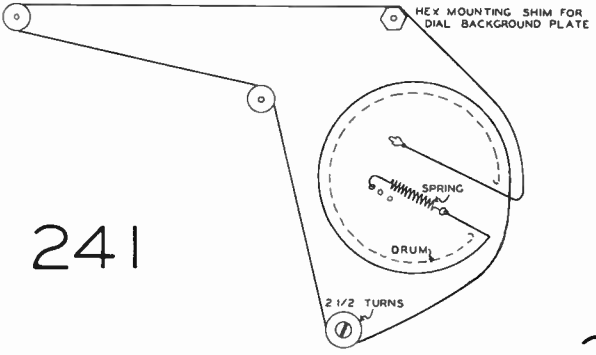

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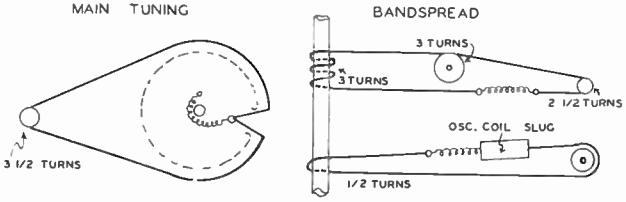

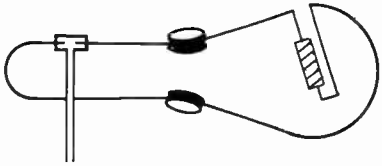

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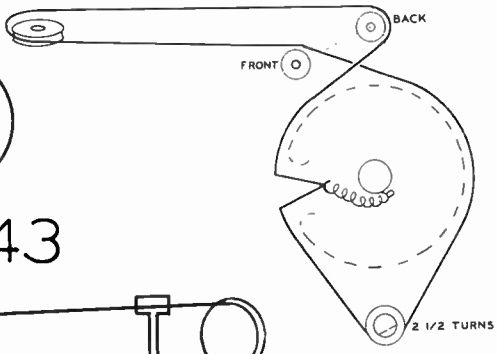

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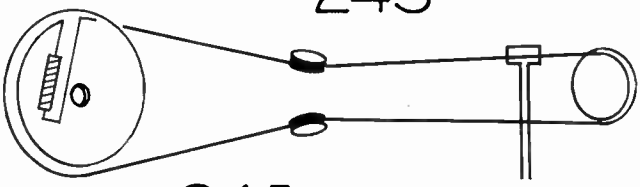

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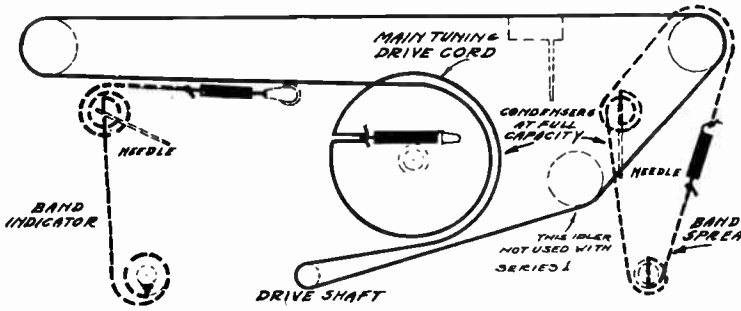

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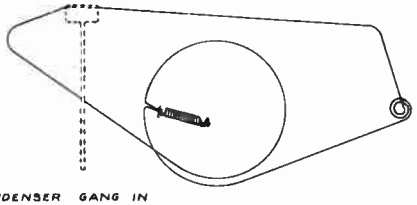
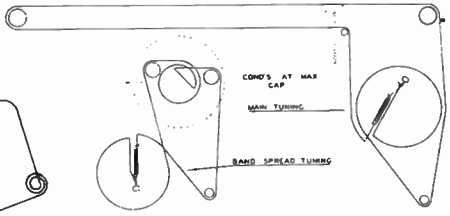


CONDENSER GANG IN MAXIMUM POSITION



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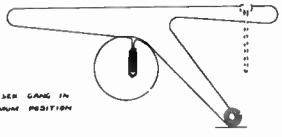

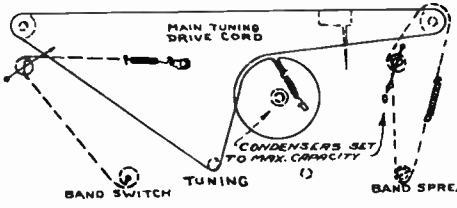

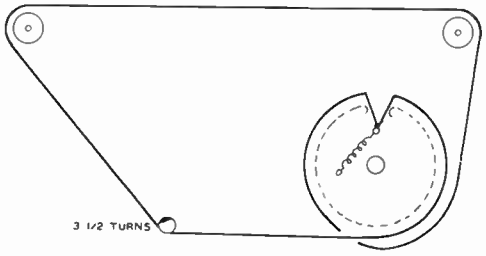

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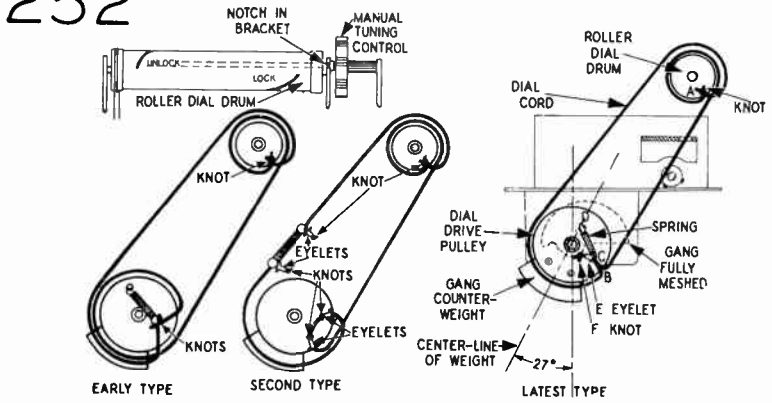

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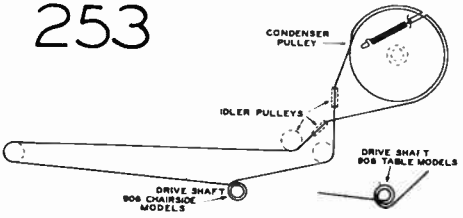

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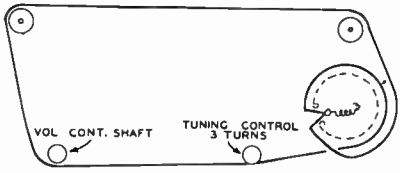

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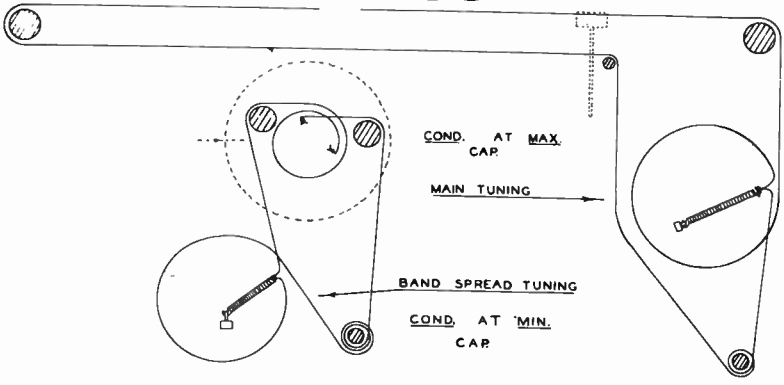

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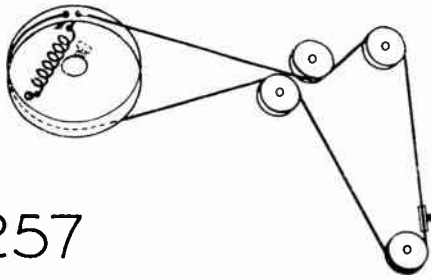

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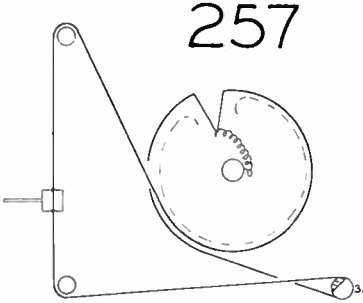

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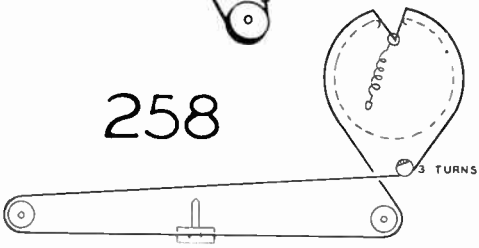

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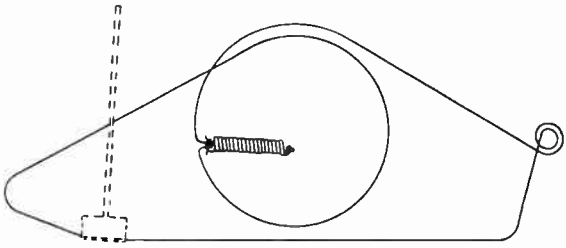
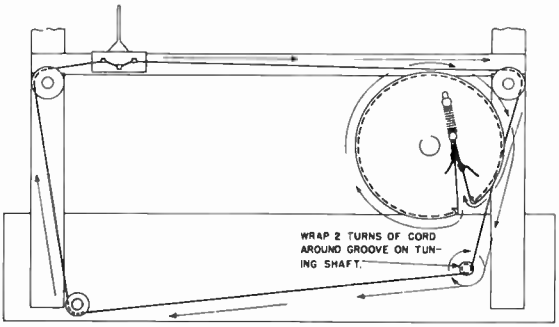


Condenser gang in maximum position.



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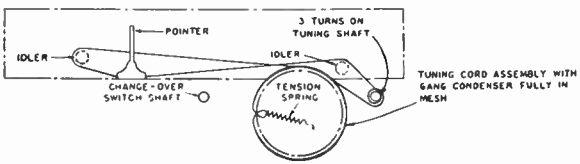

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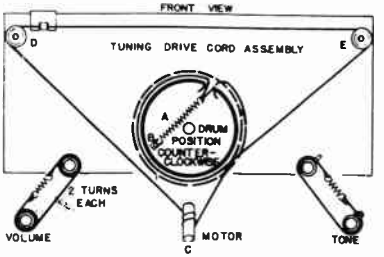

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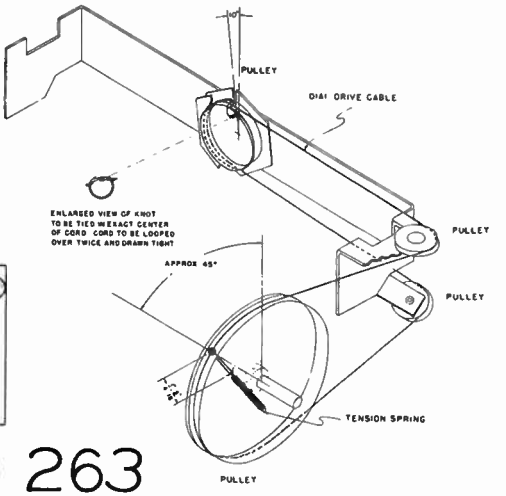

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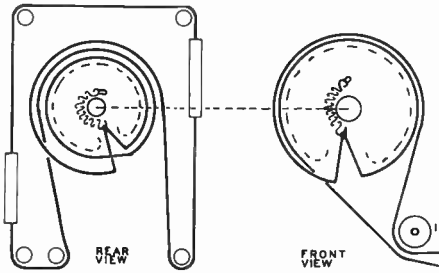

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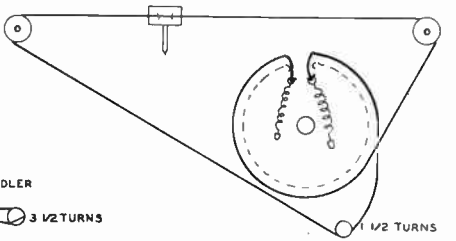

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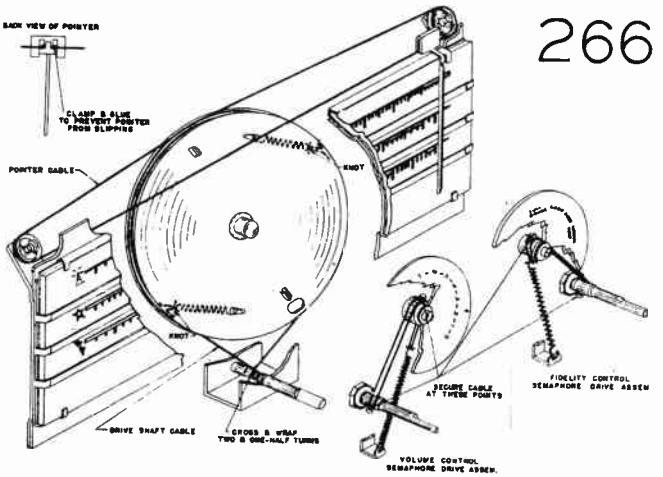

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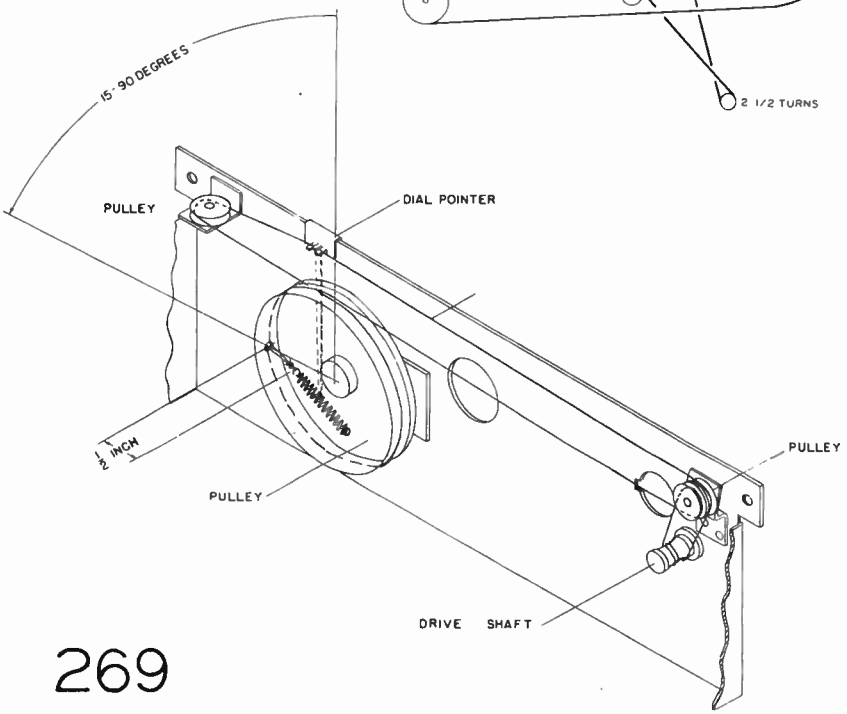

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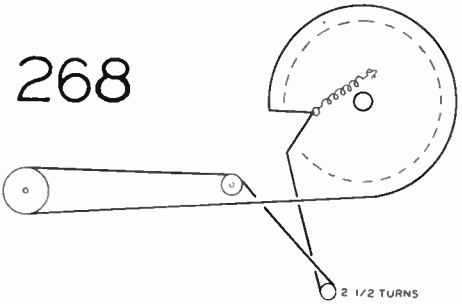

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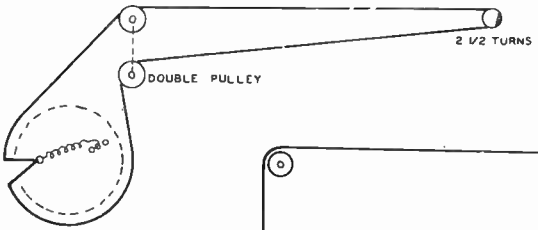

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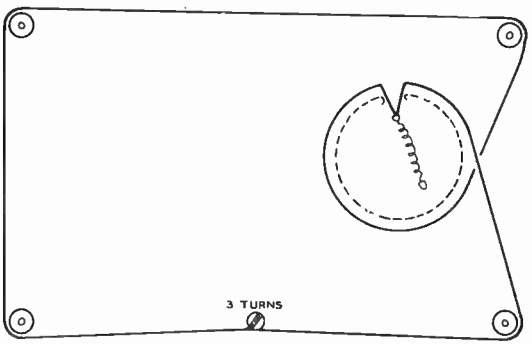

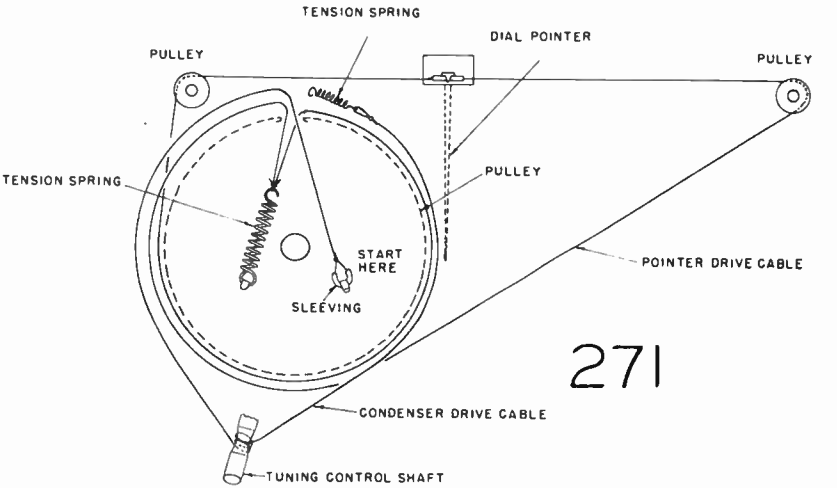

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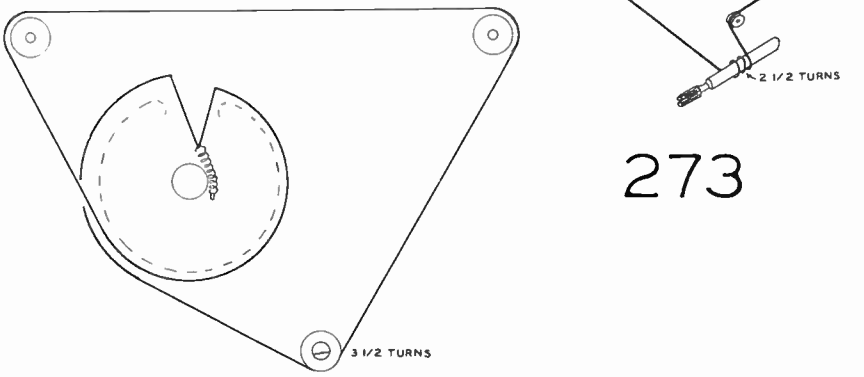

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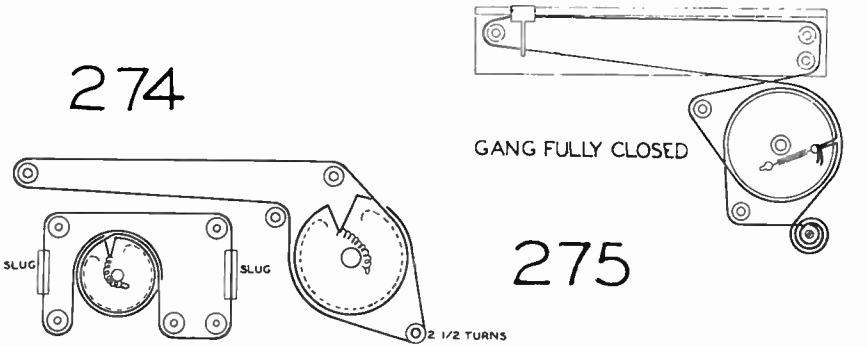

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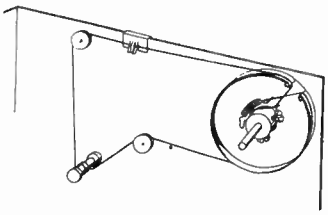

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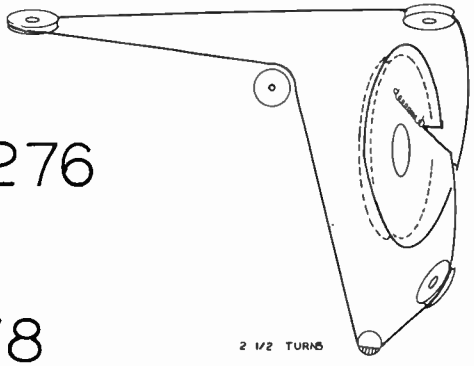

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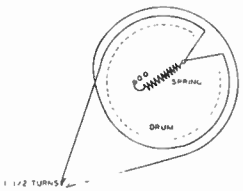

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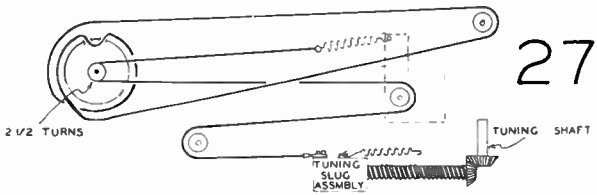

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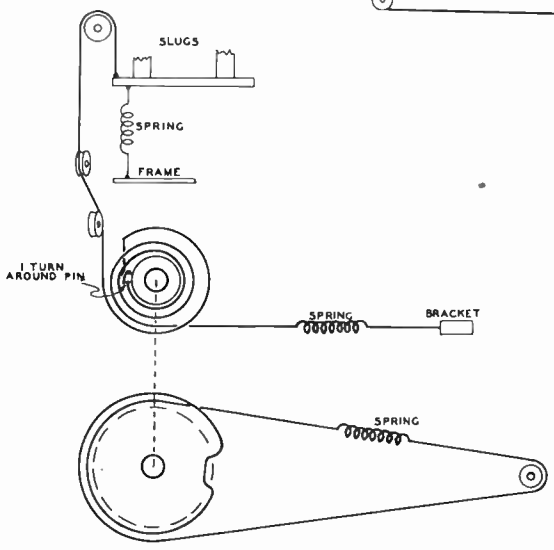

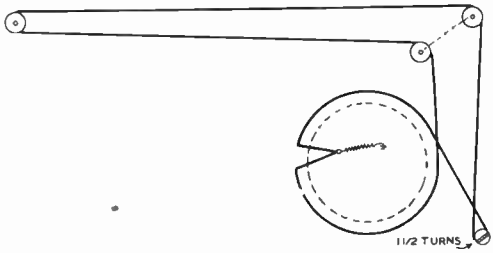

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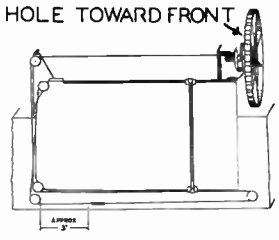

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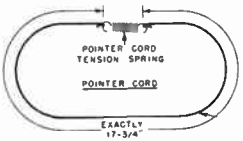
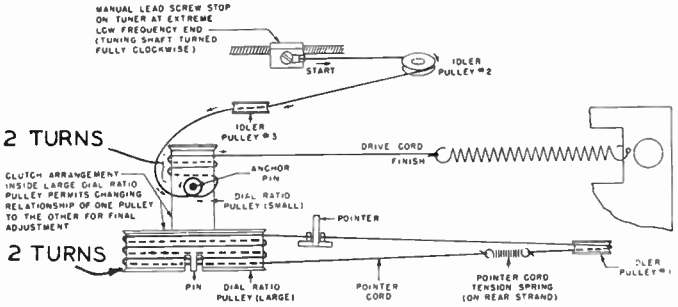
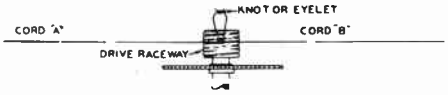
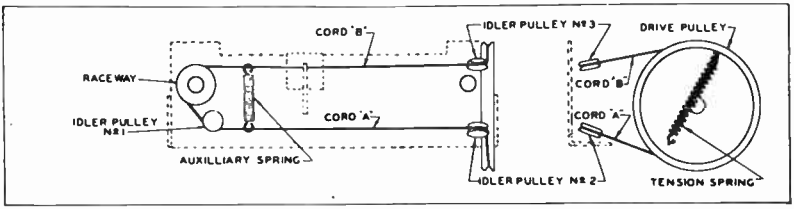

POINTER CORD TENSION SPRING
POINTER CORD
EXACTLY 17-3/4"

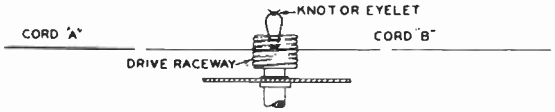

MANUAL LEAD SCREW STOP ON TUNER AT EXTREME LOW FREQUENCY END (TUNING SHAFT TURNED FULLY CLOCKWISE)
START
IDLER PULLEY #2
IDLER PULLEY #3
2 TURNS
DRIVE CORD FINISH
CLUTCH ARRANGEMENT INSIDE LARGE DIAL RATIO PULLEY PERMITS CHANGING RELATIONSHIP OF ONE PULLEY TO THE OTHER FOR FINAL ADJUSTMENT
ANCHOR PIN
DIAL RATIO PULLEY (SMALL)
POINTER
2 TURNS
PIN
DIAL RATIO PULLEY (LARGE)
POINTER CORD
POINTER CORD TENSION SPRING (ON REAR STRAND)
IDLER PULLEY #1

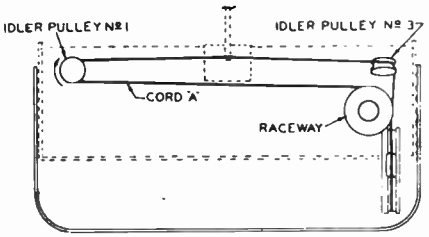
284

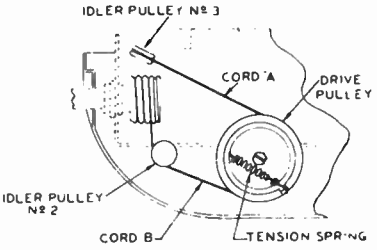

KNOT OR EYELET
CORD "A"
CORD "B"
DRIVE RACEWAY


CORD "B"
IDLER PULLEY Nº 3
DRIVE PULLEY
RACEWAY
CORD "B"
CORD "A"
IDLER PULLEY Nº 1
CORD "A"
AUXILLIARY SPRING
IDLER PULLEY Nº 2
TENSION SPRING

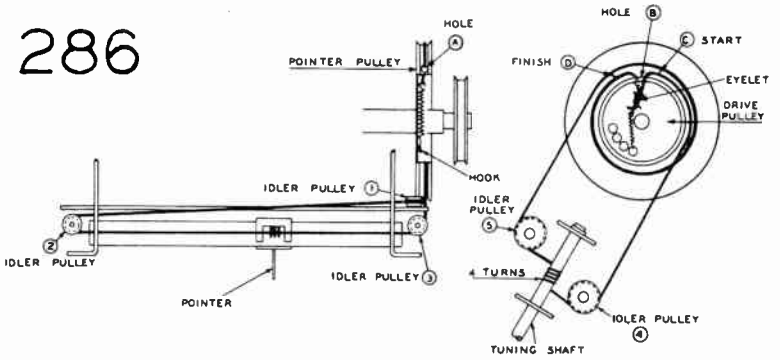
285

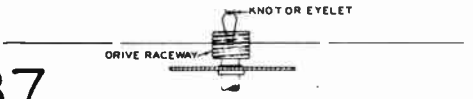

KNOT OR EYELET
CORD "A"
CORD "B"
DRIVE RACEWAY


IDLER PULLEY Nº 1
IDLER PULLEY Nº 3
CORD "A"
RACEWAY


IDLER PULLEY Nº 3
CORD "A"
DRIVE PULLEY
IDLER PULLEY Nº 2
CORD B
TENSION SPRING

286





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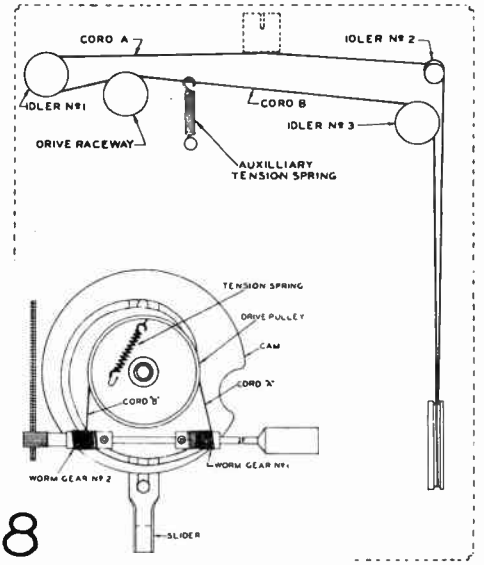

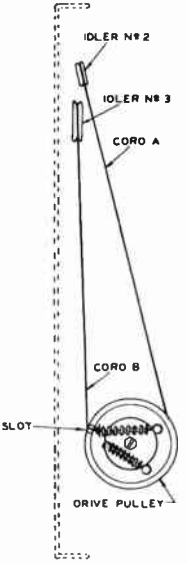

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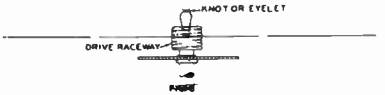

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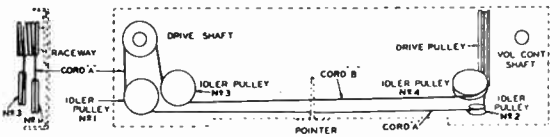

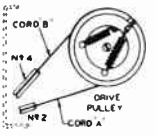

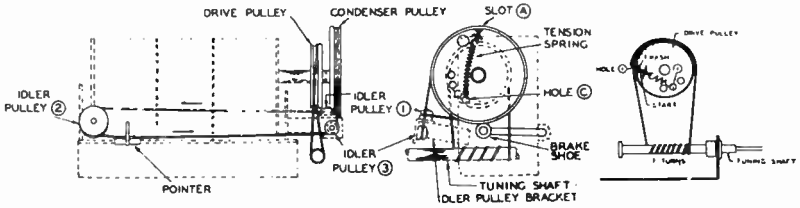

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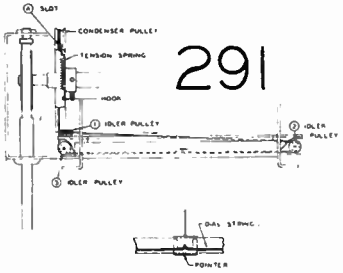

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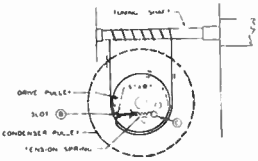

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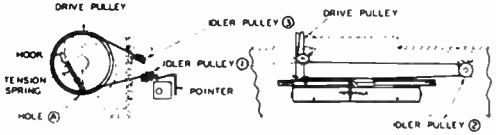

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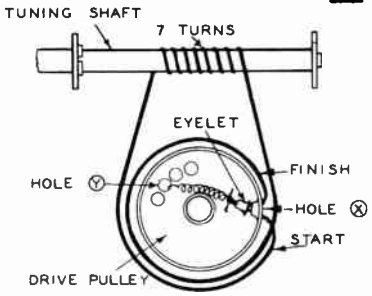

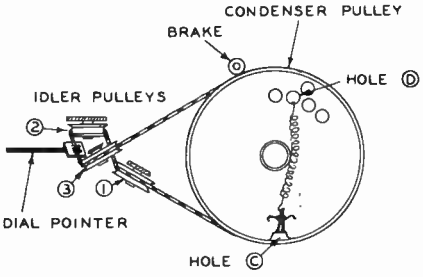

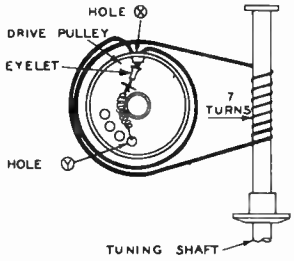

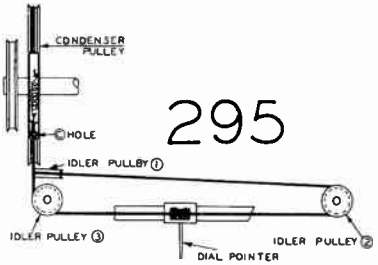

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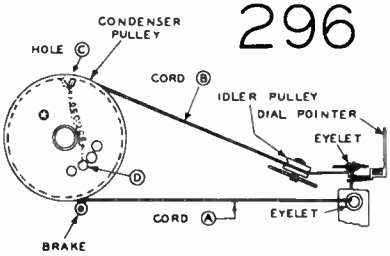

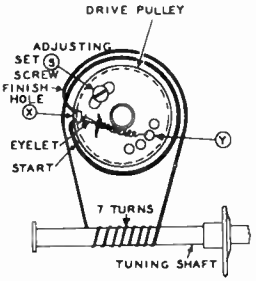

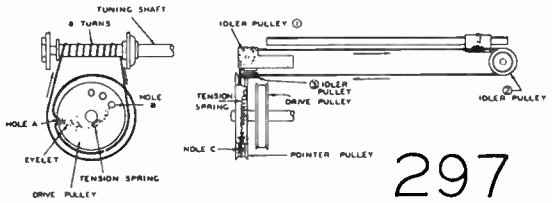

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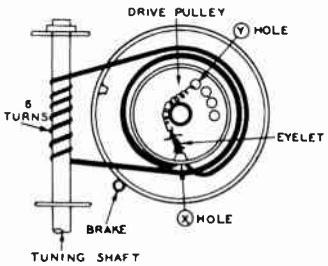

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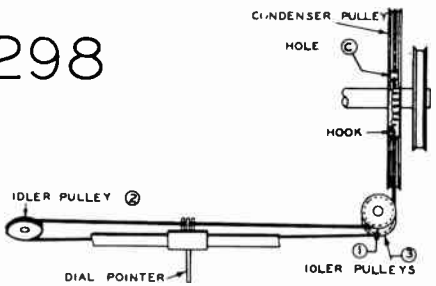

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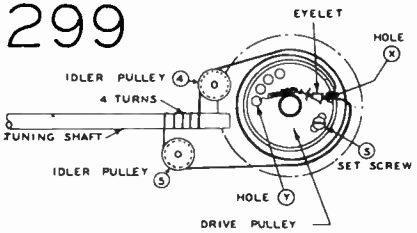
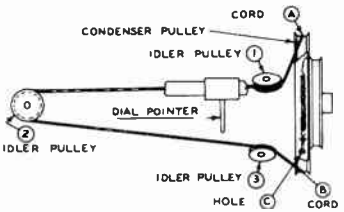
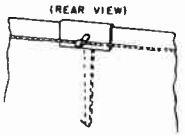
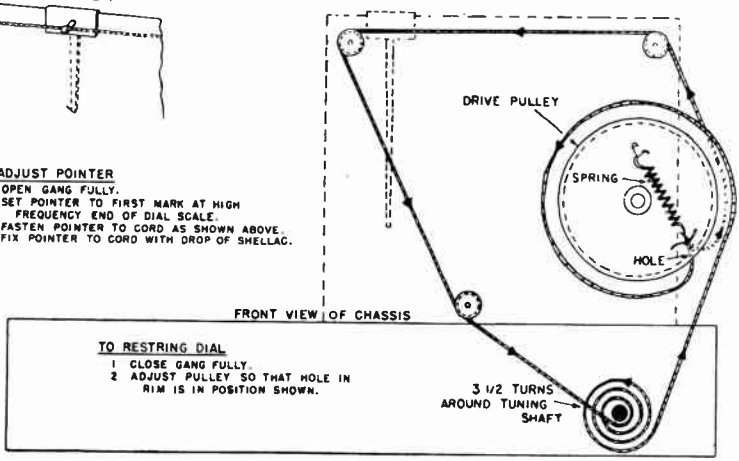






TO ADJUST POINTER

1 OPEN GANG FULLY.
2 SET POINTER TO FIRST MARK AT HIGH FREQUENCY END OF DIAL SCALE.
3 FASTEN POINTER TO CORD AS SHOWN ABOVE.
4 FIX POINTER TO CORD WITH DROP OF SHELLAC.



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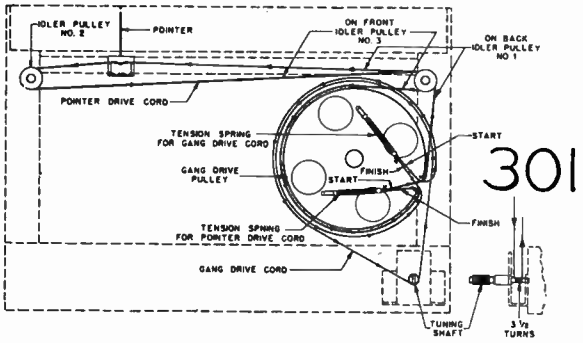

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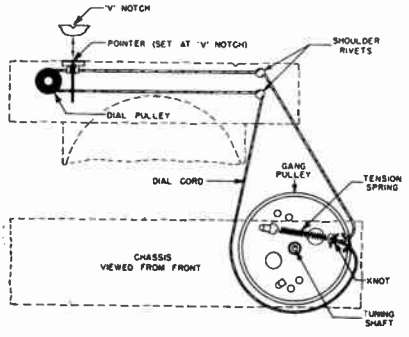

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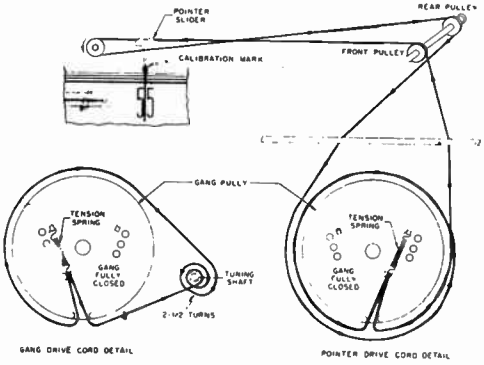

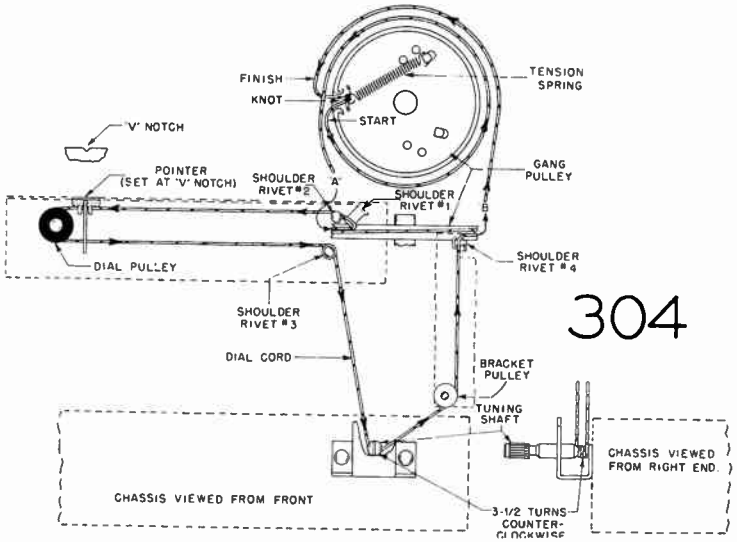

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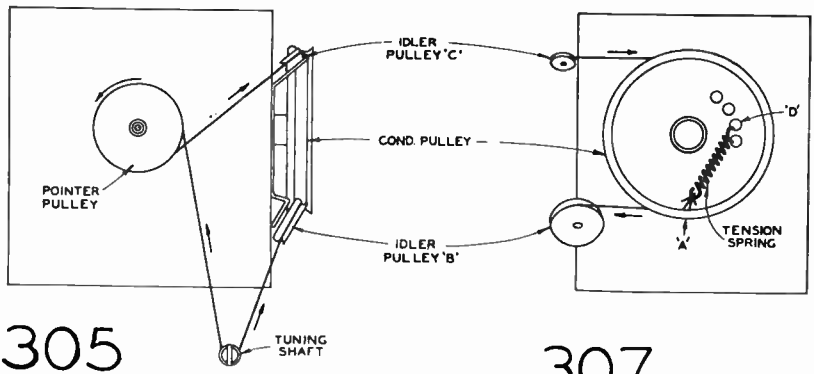

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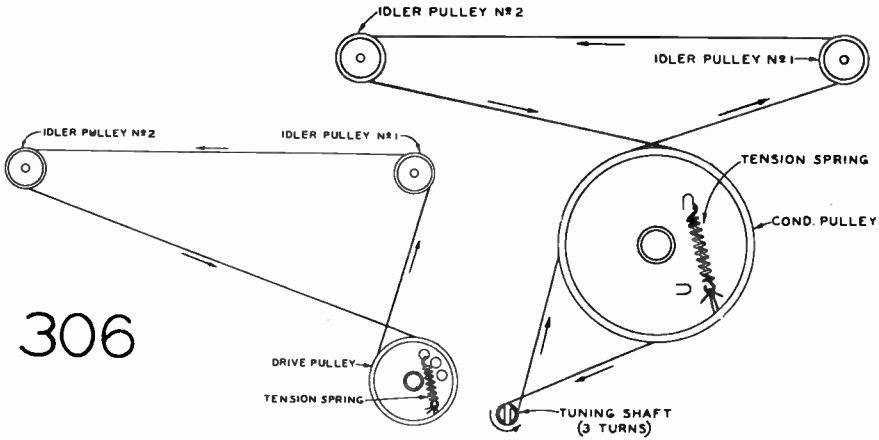

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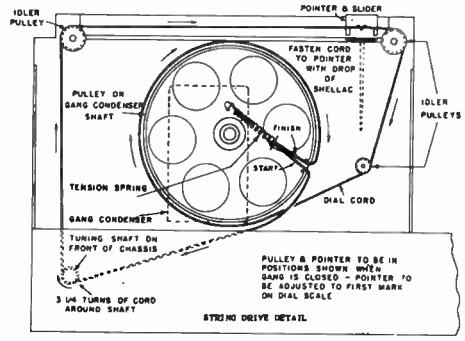

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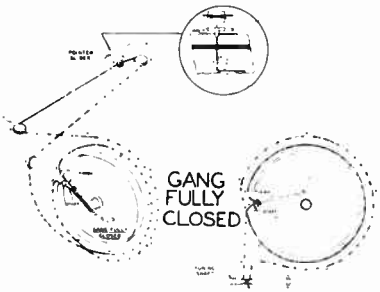

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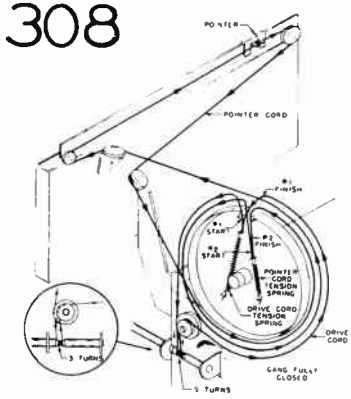

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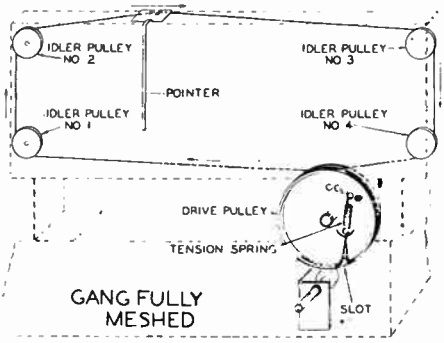

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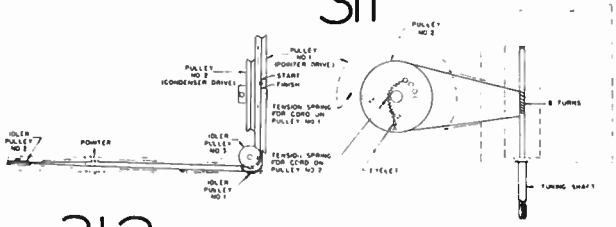

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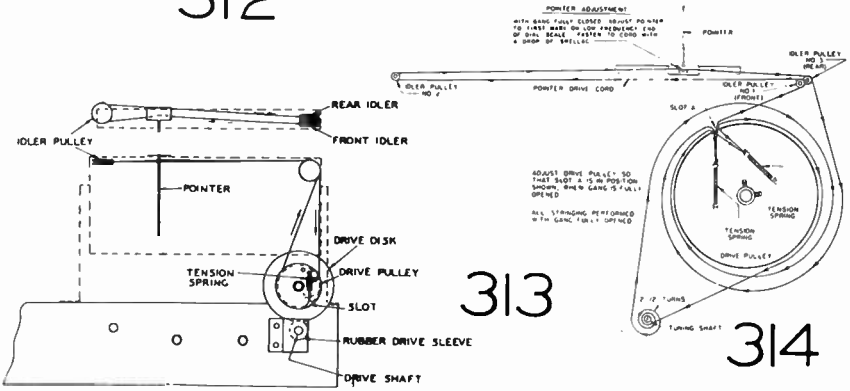

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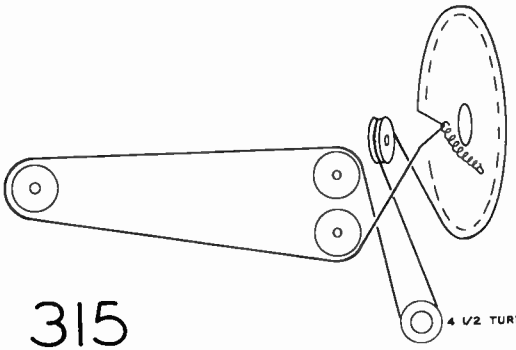

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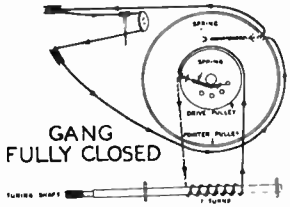

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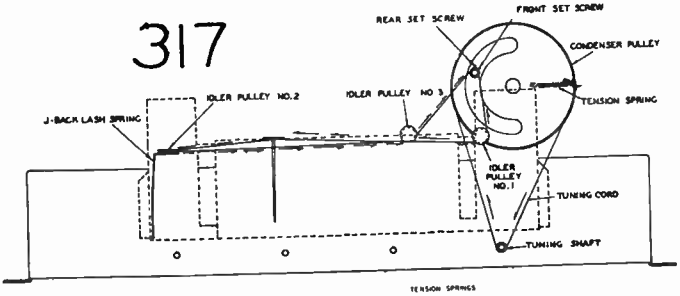

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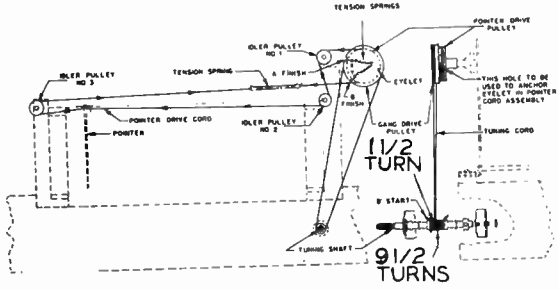
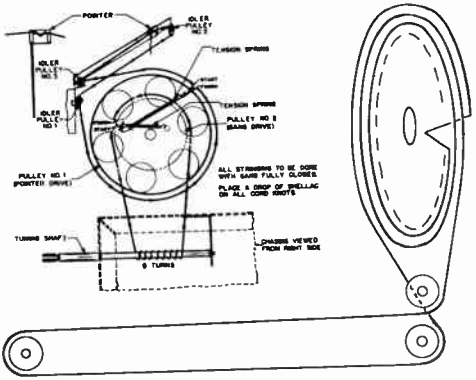
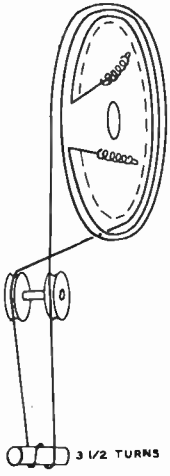


319

WITH GANG FULLY CLOSED MOUNT POINTER AS SHOWN AND FASTEN TO CORD WITH A DROP OF SHELLAC





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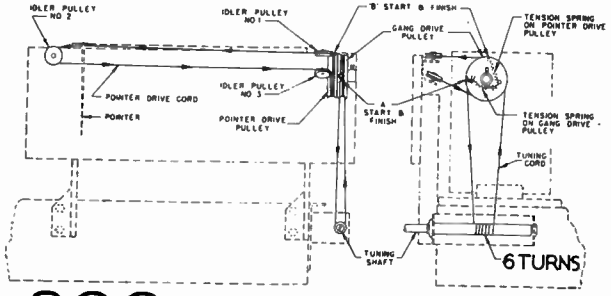

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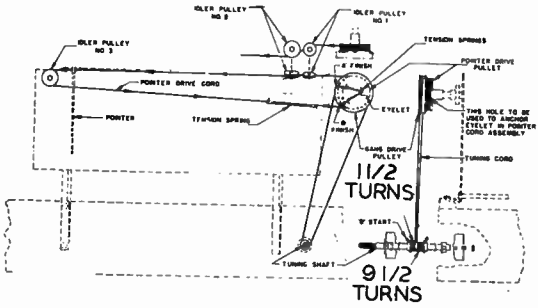

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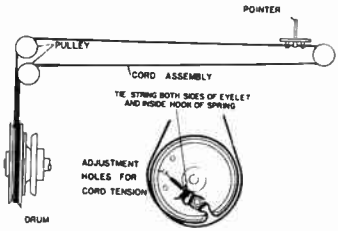

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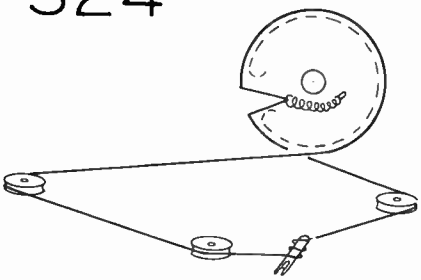

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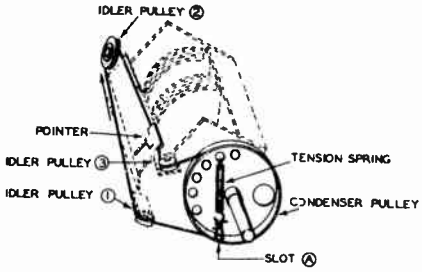

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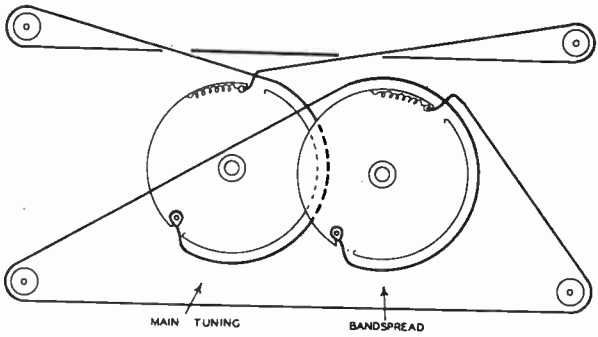

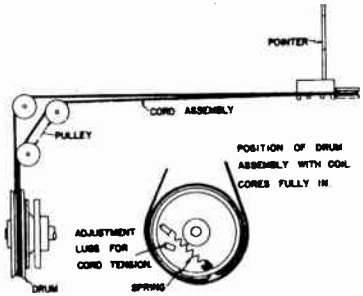

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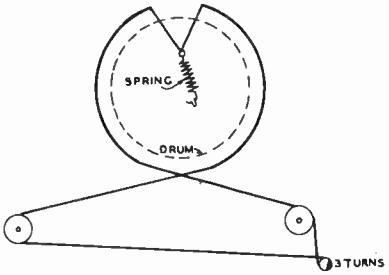

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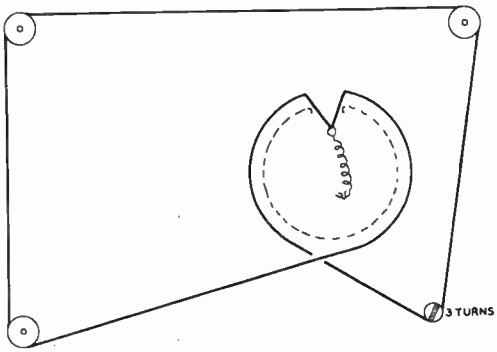

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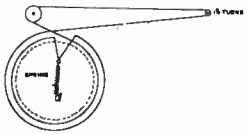

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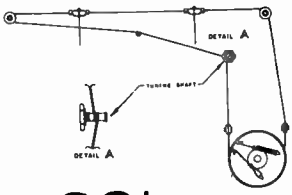

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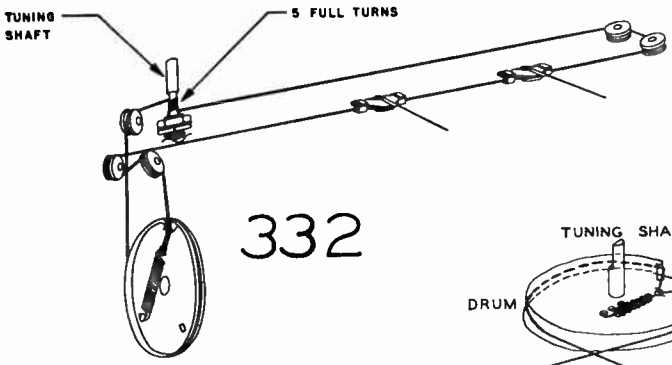

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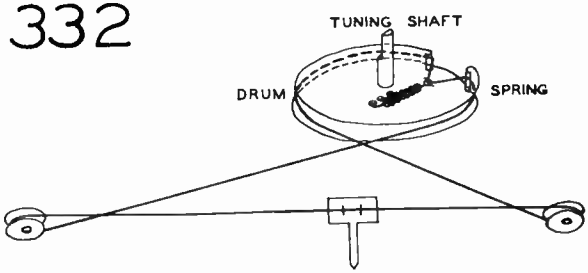

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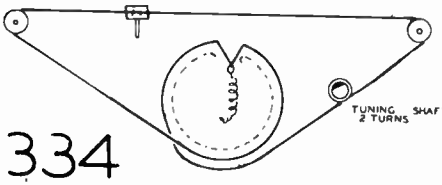

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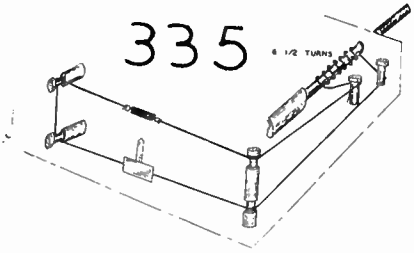

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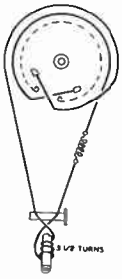
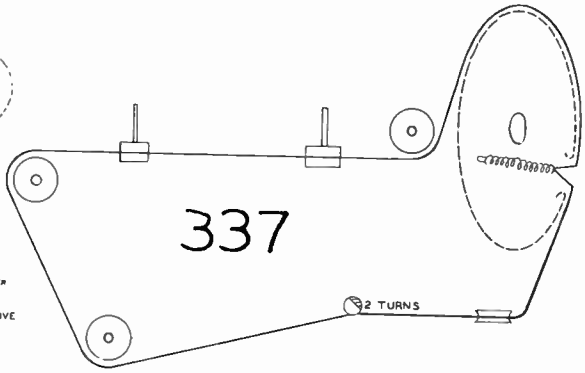


TUNING GANG DRIVE

DIAL POINTER DRIVE

336



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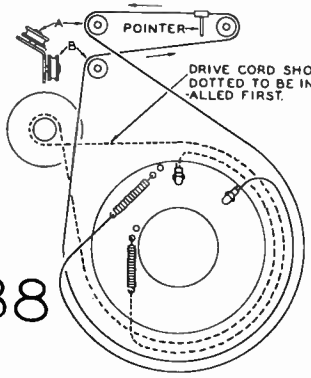
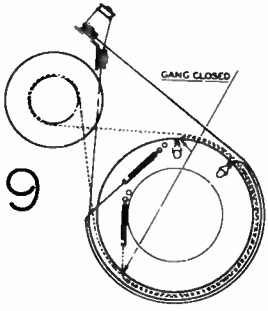


338

(POINTER AT LOW FREQUENCY END OF DIAL.)
TUNING CONDENSER MAXIMUM CAPACITY (FULLY CLOSED.)



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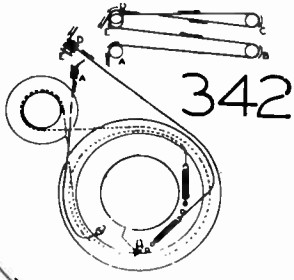

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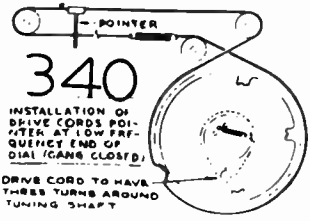
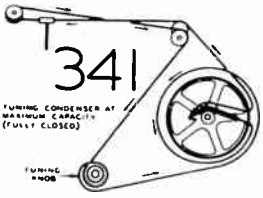


340

INSTALLATION OF DRIVE CORDS POINTER AT LOW FREQUENCY END OF DIAL (GANG CLOSED)

DRIVE CORD TO HAVE THREE TURNS AROUND TUNING SHAFT



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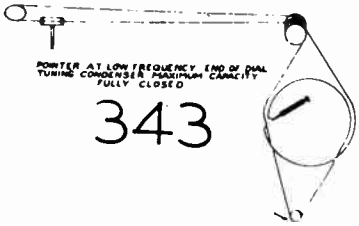
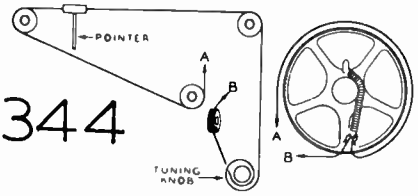
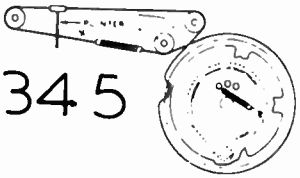
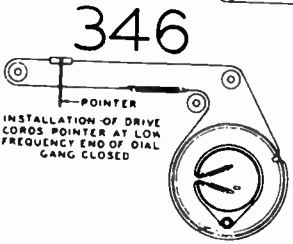
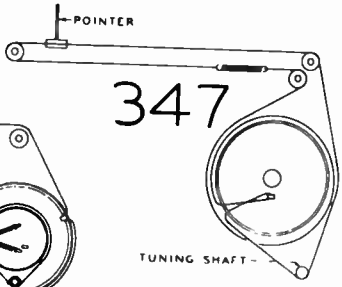
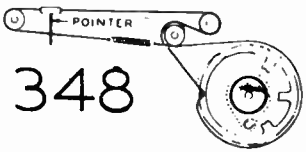


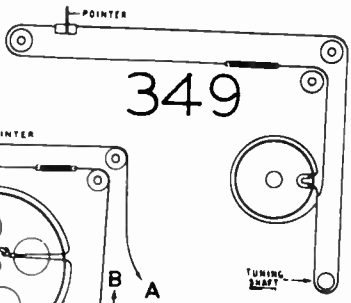


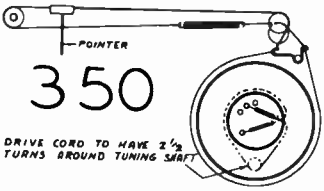


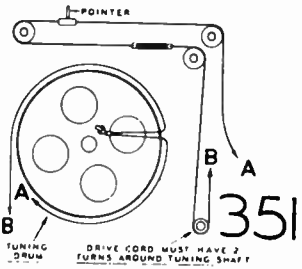


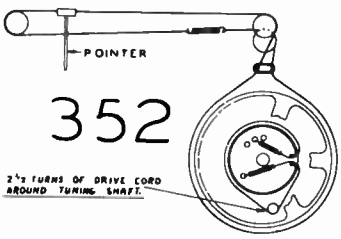


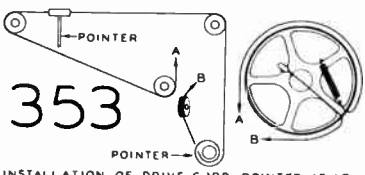




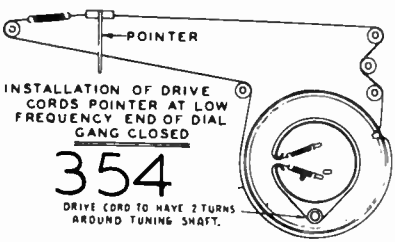


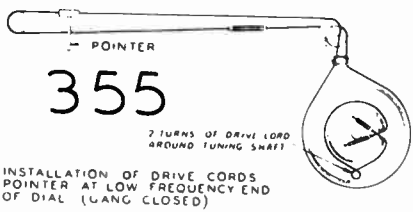




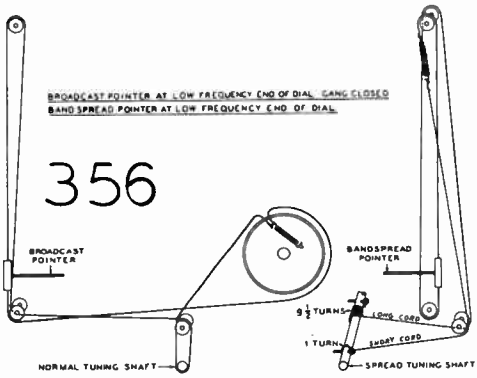


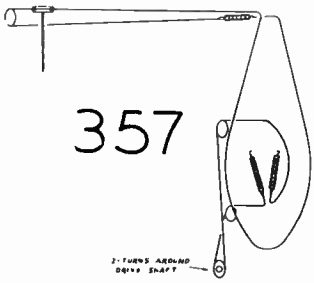
INSTALLATION OF DRIVE CORD POINTER AT LOW FREQUENCY END OF DIAL. GANG CLOSED

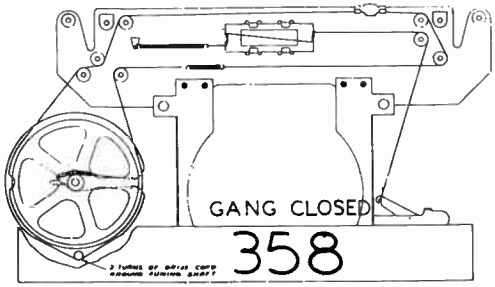




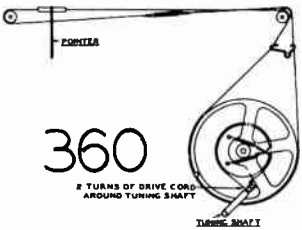
INSTALLATION OF DRIVE CORDS POINTER AT LOW FREQUENCY END OF DIAL (GANG CLOSED)

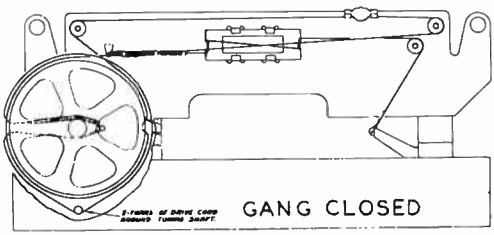

BROADCAST POINTER AT LOW FREQUENCY END OF DIAL, GANG CLOSED
BAND SPREAD POINTER AT LOW FREQUENCY END OF DIAL
356
BROADCAST POINTER
BANDSPREAD POINTER
9½ TURNS
LONG CORD
1 TURN
SWAY CORD
NORMAL TUNING SHAFT
SPREAD TUNING SHAFT

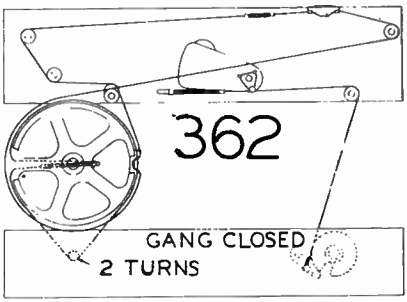

357
2 TURNS AROUND DRIVE SHAFT

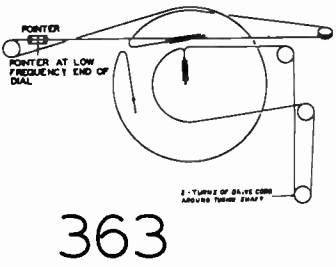

GANG CLOSED
358
2 TURNS OF DRIVE CORD AROUND TUNING SHAFT

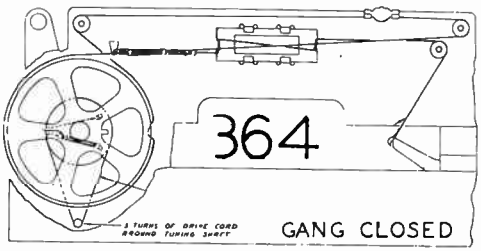

PINCH SLOTS TO HOLD CORD
PILOT LAMP
359
POINTER
½ TURN
2½ TURNS
TUNING SHAFT
BAND INDICATOR DRUM

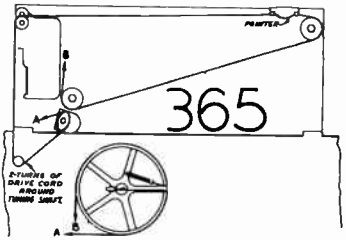

POINTER
360
2 TURNS OF DRIVE CORD AROUND TUNING SHAFT
TUNING SHAFT

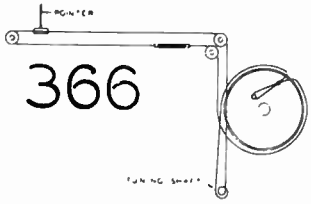

2 TURNS OF DRIVE CORD AROUND TUNING SHAFT
GANG CLOSED
361

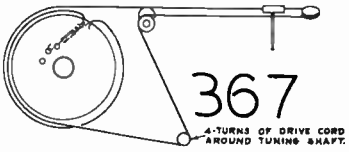

362
GANG CLOSED
2 TURNS

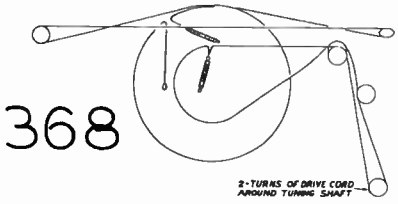

POINTER
POINTER AT LOW FREQUENCY END OF DIAL
1 TURN OF DRIVE CORD AROUND TUNING SHAFT
363

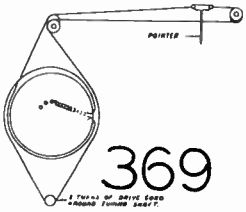

364
GANG CLOSED
TURNS OF DRIVE CORD AROUND TUNING SHAFT

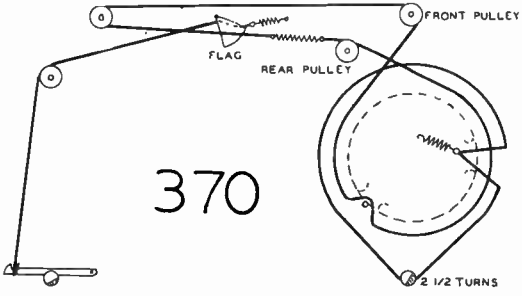

365
POINTER
2-TURNS OF DRIVE CORD AROUND TUNING SHAFT

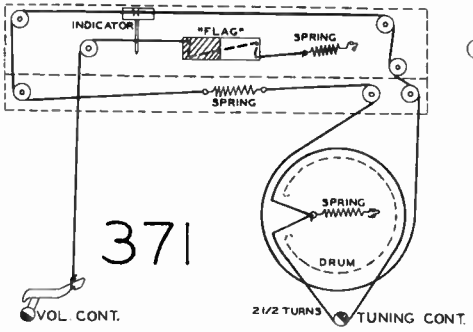

366
POINTER

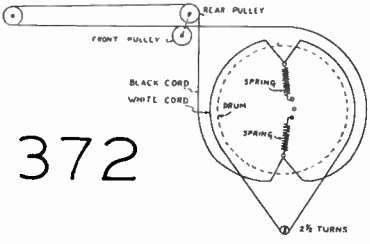

367
4-TURNS OF DRIVE CORD AROUND TUNING SHAFT.


368
2-TURNS OF DRIVE CORD AROUND TUNING SHAFT

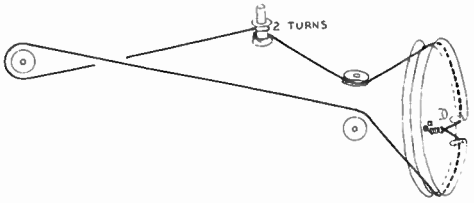

369
POINTER


370
FRONT PULLEY
FLAG
REAR PULLEY
2 1/2 TURNS


371
INDICATOR
"FLAG"
SPRING
SPRING
SPRING
DRUM
VOL CONT.
2 1/2 TURNS
TUNING CONT.


372
REAR PULLEY
FRONT PULLEY
BLACK CORD
WHITE CORD
SPRING
DRUM
SPRING
2½ TURNS

373



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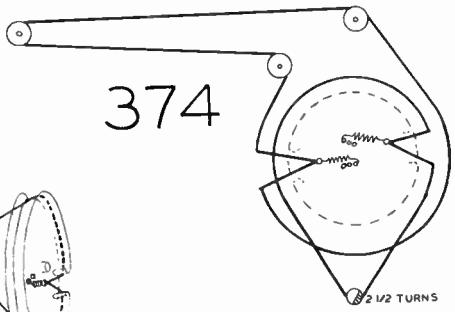

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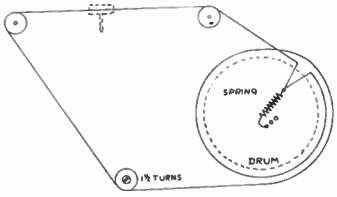

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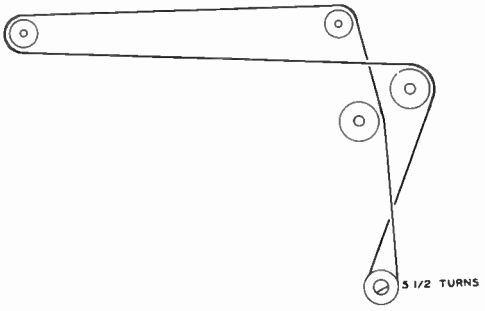

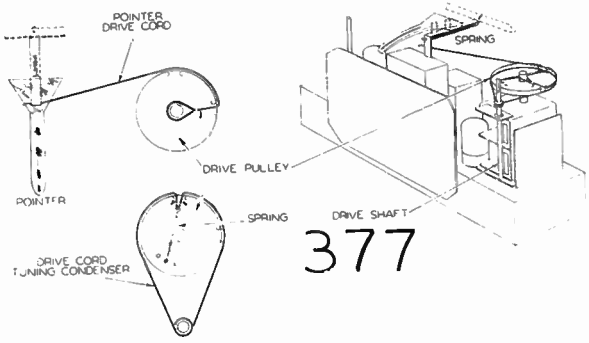

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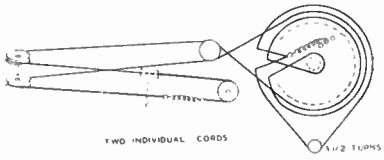

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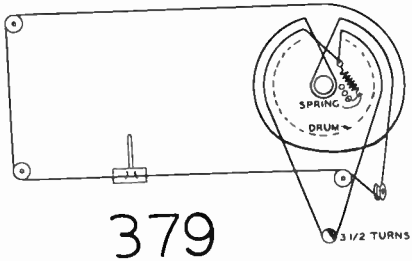

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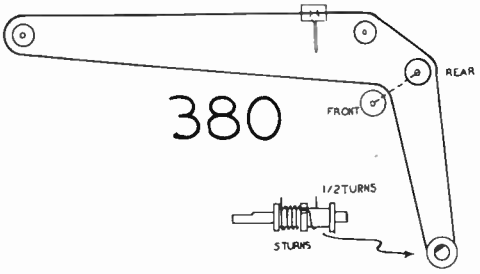

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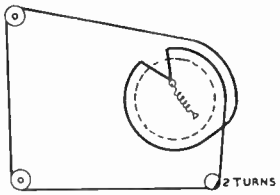

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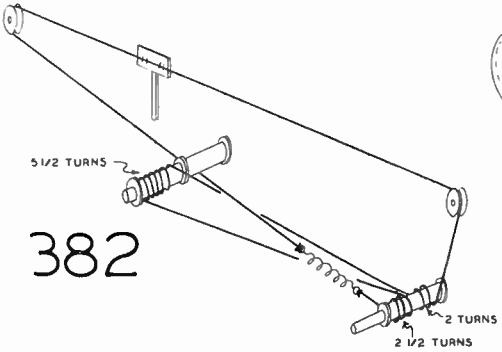

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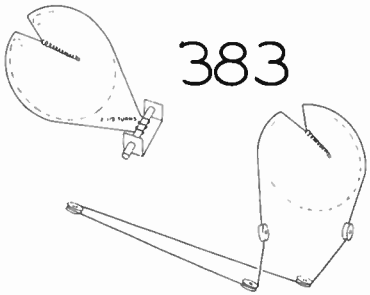

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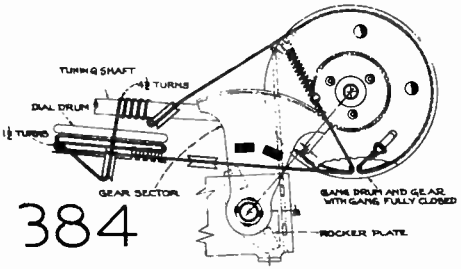

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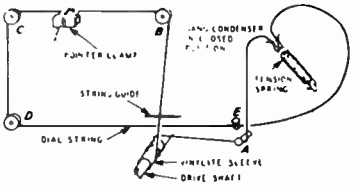

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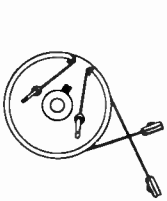

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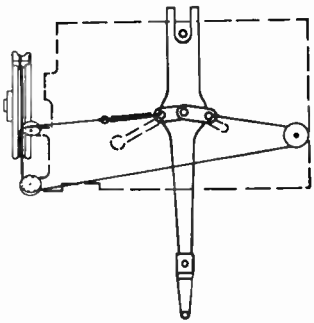

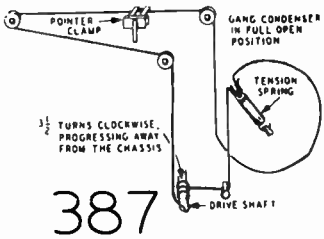

387

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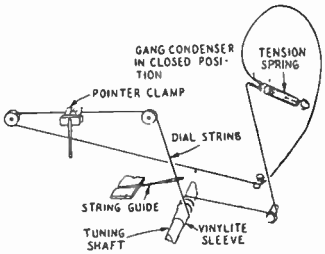

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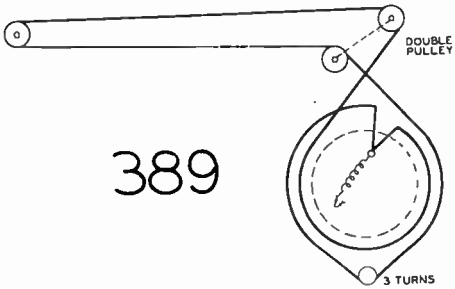

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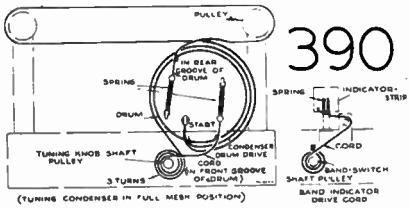

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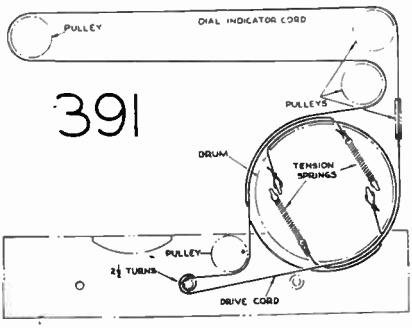

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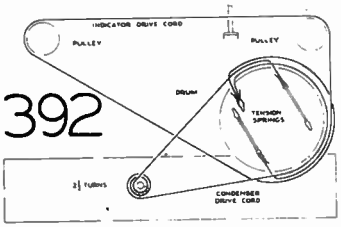

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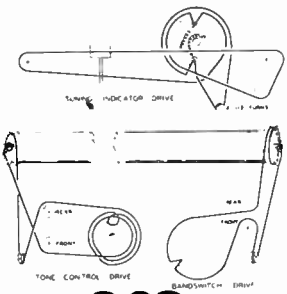

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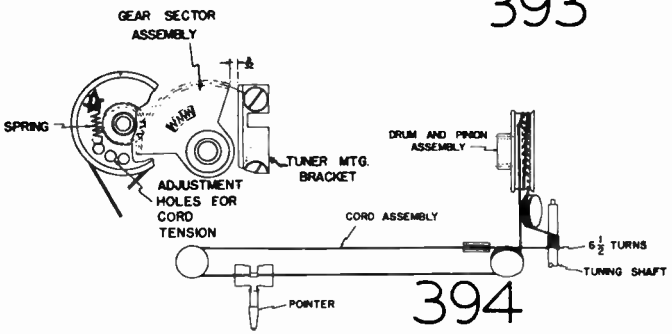

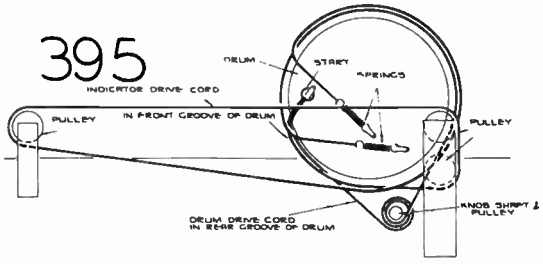

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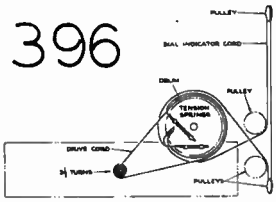

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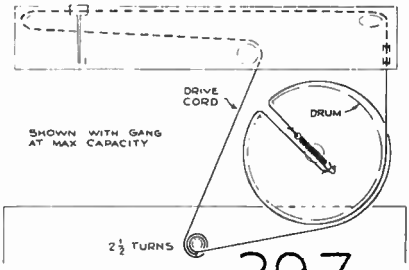

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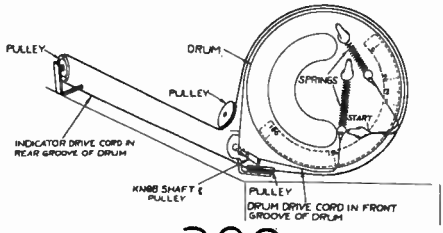

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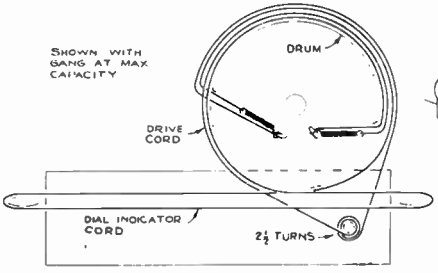

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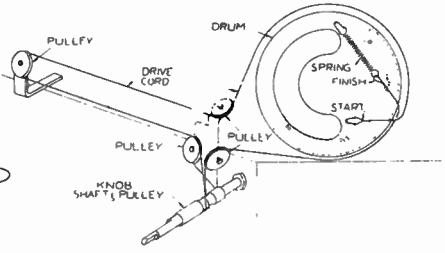

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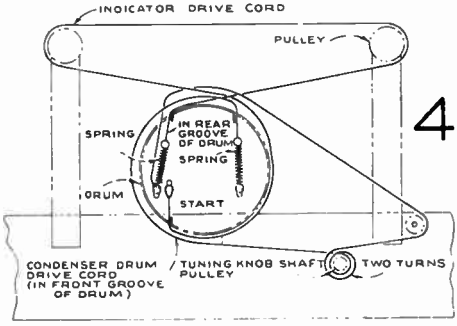
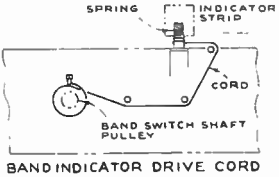
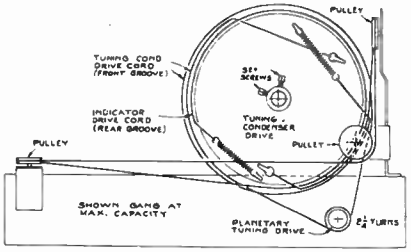


401

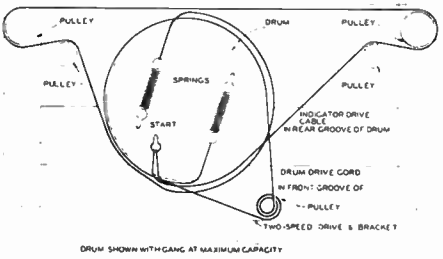
TUNING CONDENSER IN FULL MESH POSITION



BAND INDICATOR DRIVE CORD



402



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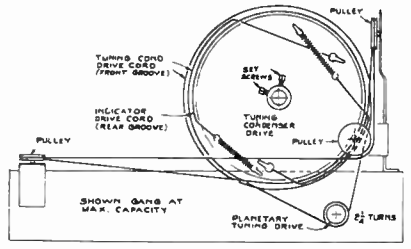

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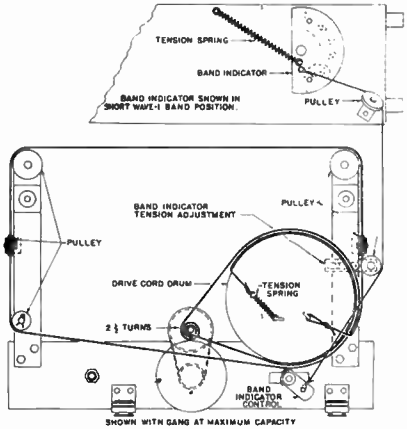

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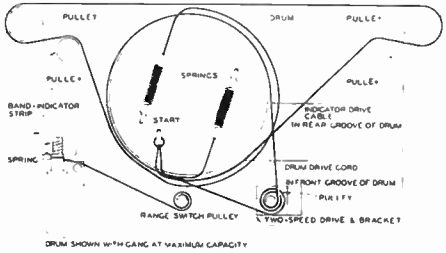
406



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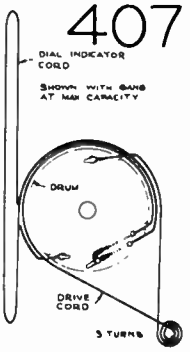
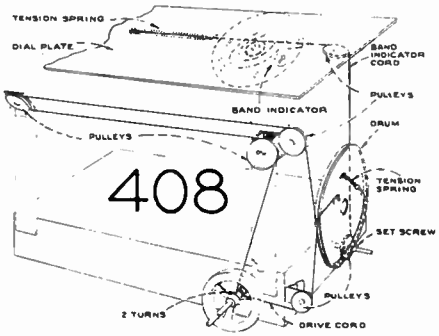
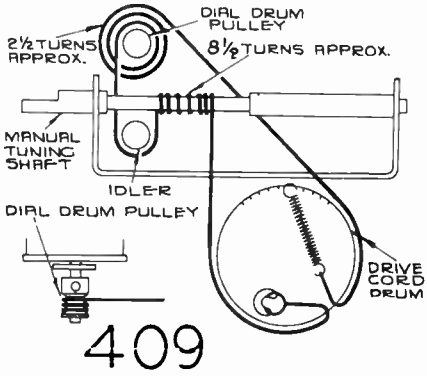
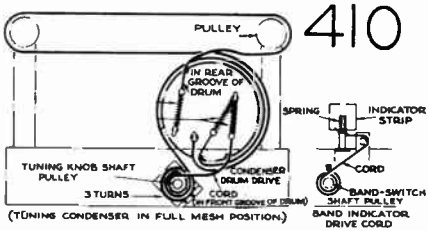
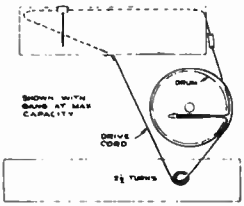
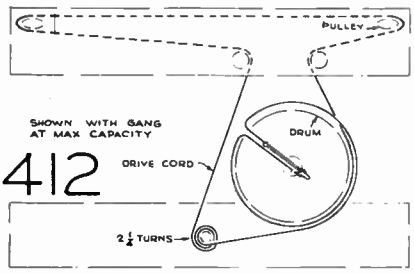


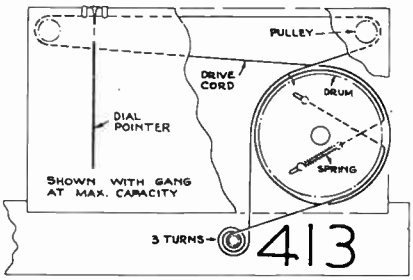

TENSION SPRING
DIAL PLATE
BAND INDICATOR CORD
PULLEYS
BAND INDICATOR
DRUM
PULLEYS
TENSION SPRING
SET SCREW
PULLEYS
2 TURNS
DRIVE CORD
408

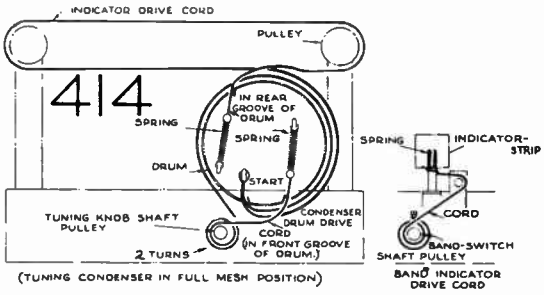

DIAL DRUM PULLEY
2½ TURNS APPROX.
8½ TURNS APPROX.
MANUAL TUNING SHAFT
IDLER
DIAL DRUM PULLEY
DRIVE CORD DRUM
409

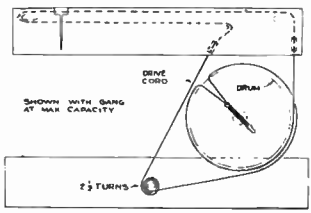

PULLEY
410
IN REAR GROOVE OF DRUM
SPRING
INDICATOR STRIP
TUNING KNOB SHAFT PULLEY
CONDENSER DRUM DRIVE CORD
3 TURNS
(IN FRONT GROOVE OF DRUM)
BAND-SWITCH SHAFT PULLEY
(TUNING CONDENSER IN FULL MESH POSITION)
BAND INDICATOR DRIVE CORD

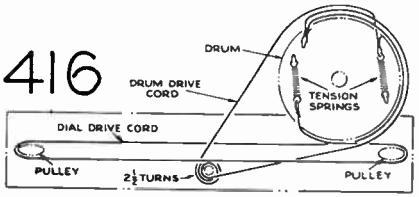

SHOWN WITH GANG AT MAX CAPACITY
DRUM
DRIVE CORD
2½ TURNS
411

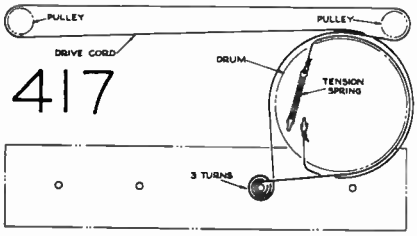

PULLEY
SHOWN WITH GANG AT MAX CAPACITY
DRUM
412
DRIVE CORD
2¼ TURNS

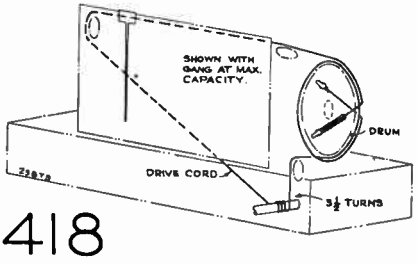

PULLEY
DRIVE CORD
DRUM
DIAL POINTER
SPRING
SHOWN WITH GANG AT MAX. CAPACITY
3 TURNS
413

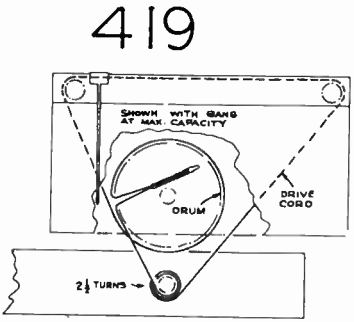

INDICATOR DRIVE CORD
PULLEY
414
IN REAR GROOVE OF DRUM
SPRING
SPRING
DRUM
START
TUNING KNOB SHAFT PULLEY
CONDENSER DRUM DRIVE CORD (IN FRONT GROOVE OF DRUM.)
2 TURNS
(TUNING CONDENSER IN FULL MESH POSITION)
SPRING
INDICATOR-STRIP
CORD
BAND-SWITCH SHAFT PULLEY
BAND INDICATOR DRIVE CORD

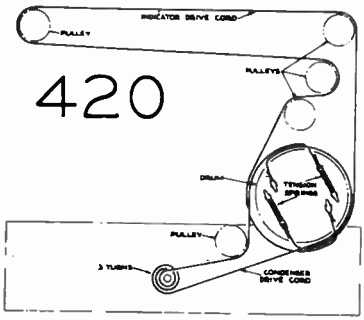

DRIVE CORD
DRUM
SHOWN WITH GANG AT MAX CAPACITY
2½ TURNS
415

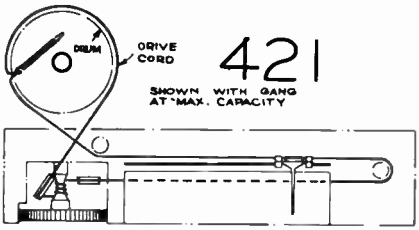

416
DRUM
DRUM DRIVE CORD
TENSION SPRINGS
DIAL DRIVE CORD
PULLEY
2½ TURNS
PULLEY

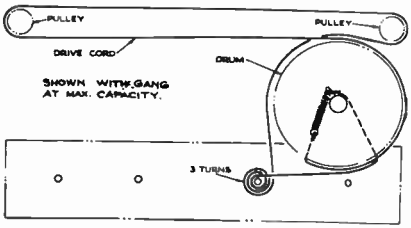

PULLEY
PULLEY
DRIVE CORD
417
DRUM
TENSION SPRING
3 TURNS

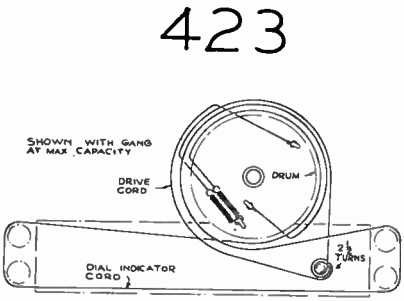

SHOWN WITH GANG AT MAX. CAPACITY.
DRUM
DRIVE CORD
3½ TURNS
418

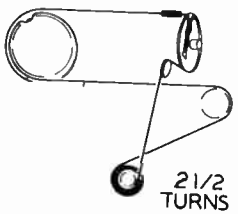

419
SHOWN WITH GANG AT MAX. CAPACITY
DRUM
DRIVE CORD
2½ TURNS


INDICATOR DRIVE CORD
PULLEY
PULLEYS
420
DRUM
TENSION SPRINGS
PULLEY
3 TURNS
CONDENSER DRIVE CORD


DRUM
DRIVE CORD
421
SHOWN WITH GANG AT MAX. CAPACITY


422
PULLEY
PULLEY
DRIVE CORD
DRUM
SHOWN WITH GANG AT MAX. CAPACITY.
3 TURNS


423
SHOWN WITH GANG AT MAX. CAPACITY
DRIVE CORD
DRUM
2½ TURNS
DIAL INDICATOR CORD



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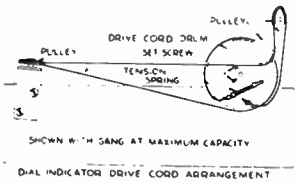

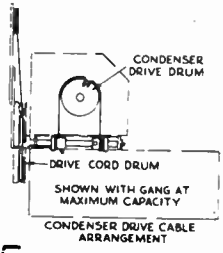

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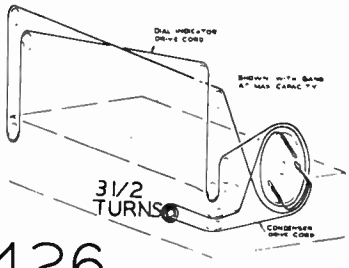

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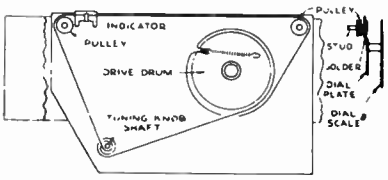

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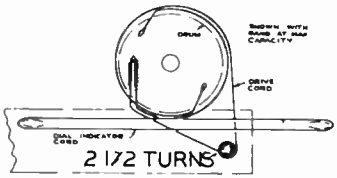

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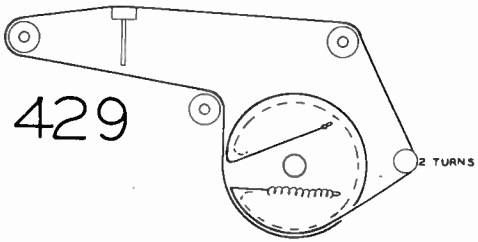

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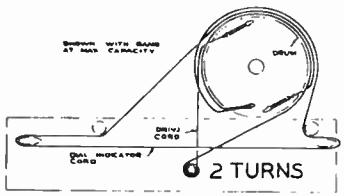

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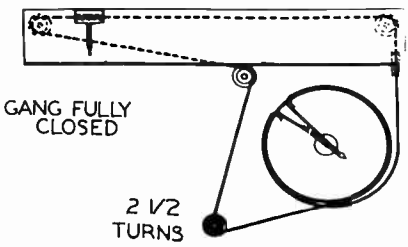

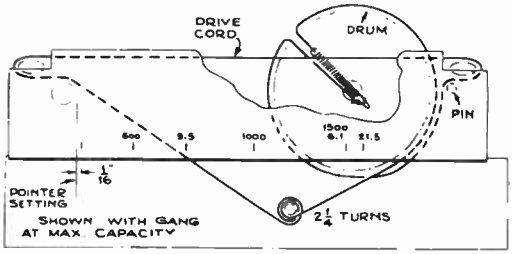

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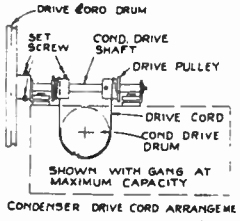

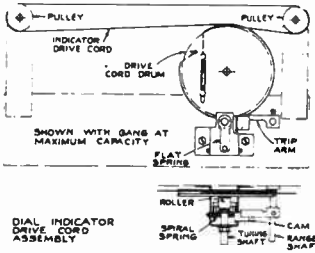

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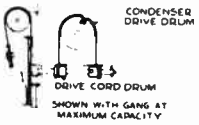

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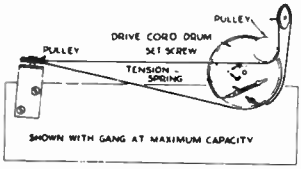

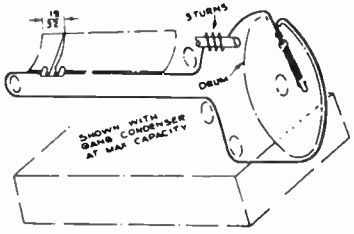

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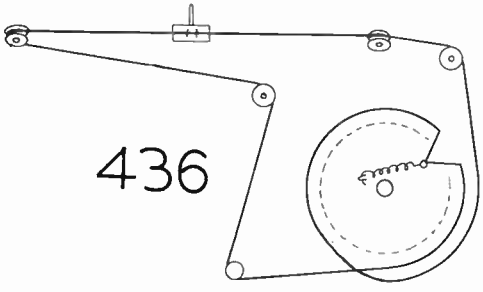

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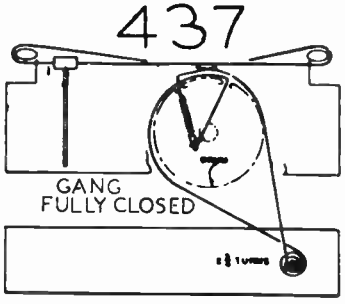

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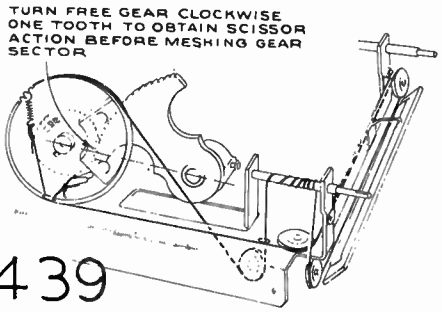

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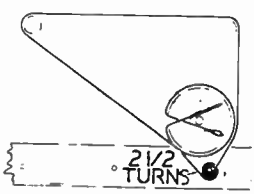

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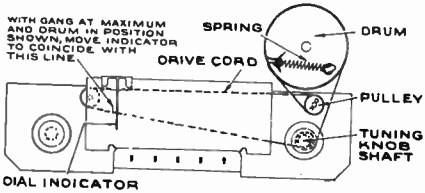

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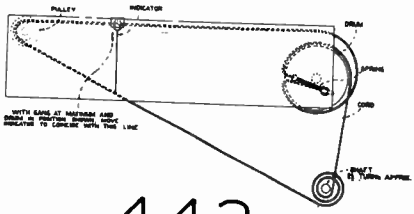

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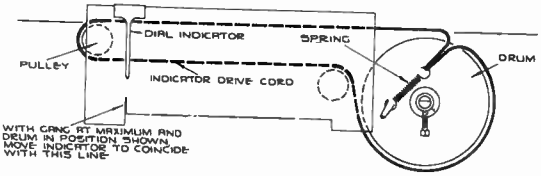

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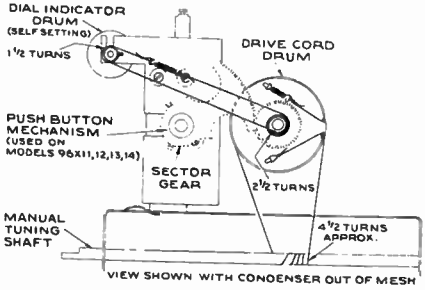

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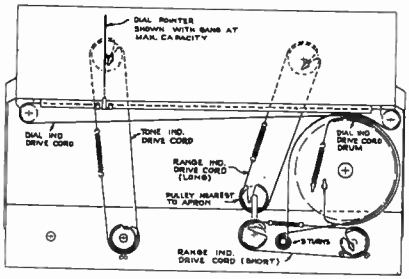

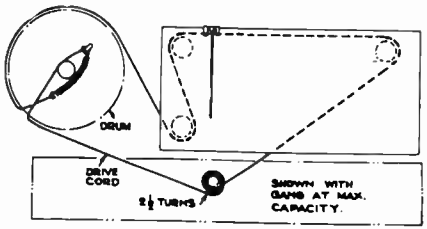

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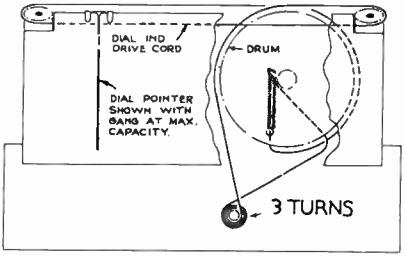

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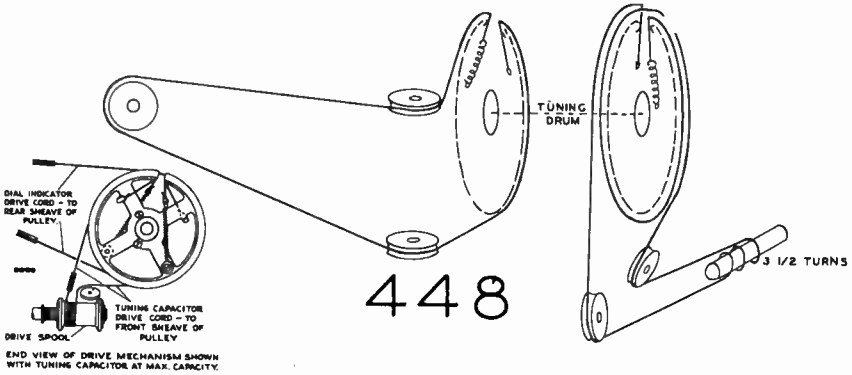

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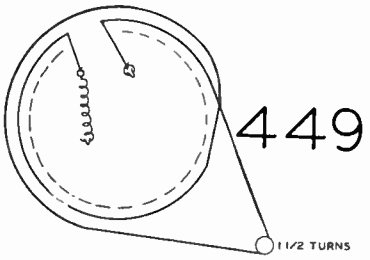

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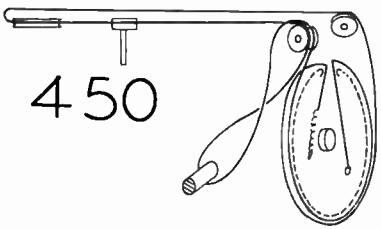

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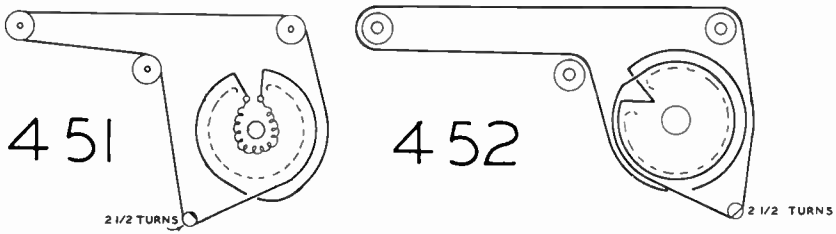
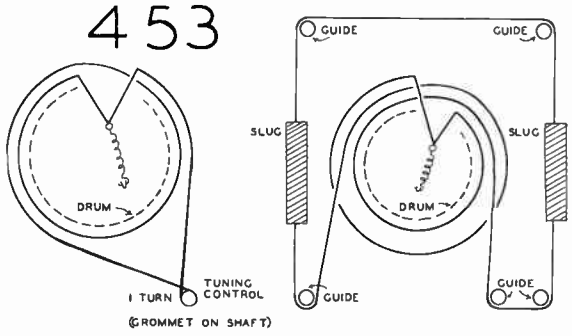
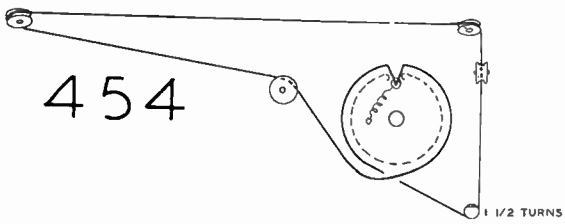
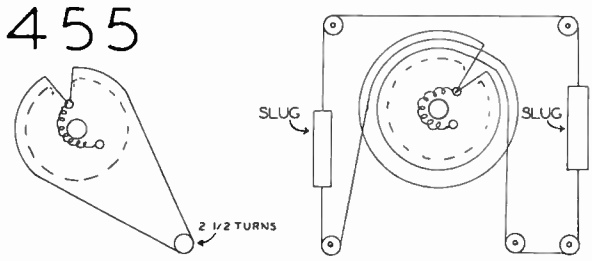
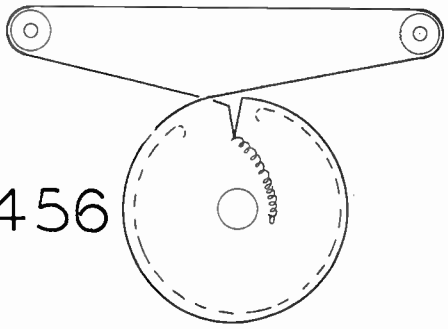

451
2 1/2 TURNS
452
2 1/2 TURNS


453
DRUM
1 TURN
TUNING CONTROL
(GROMMET ON SHAFT)
GUIDE
GUIDE
SLUG
SLUG
DRUM
GUIDE
GUIDE

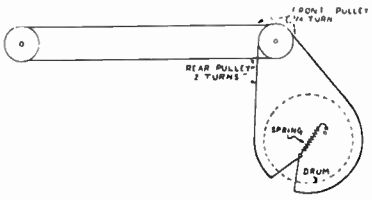

454
1 1/2 TURNS


455
2 1/2 TURNS
SLUG
SLUG

456

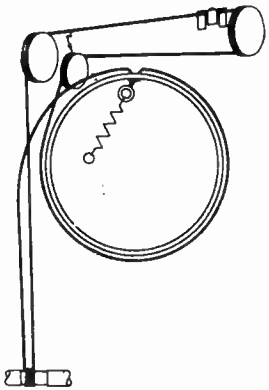


NOTE: Dial cord material is bronze wire - .033 diameter.



457

458



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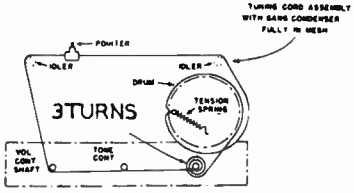

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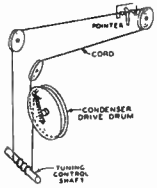

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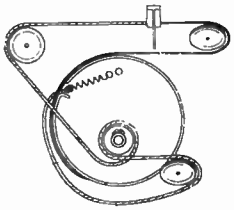

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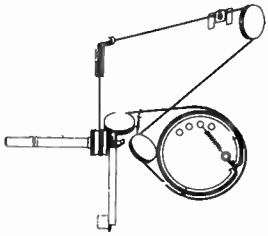
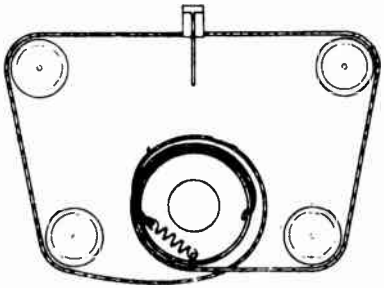
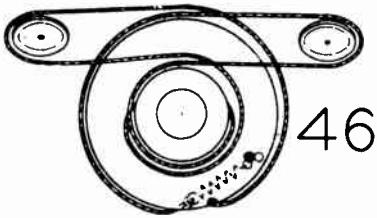


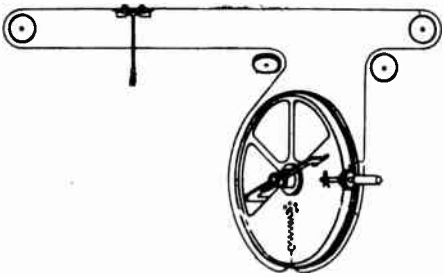


POINTER DRIVE HOOKUP

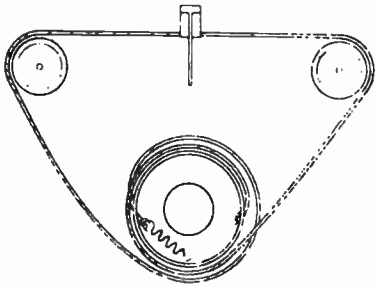


463

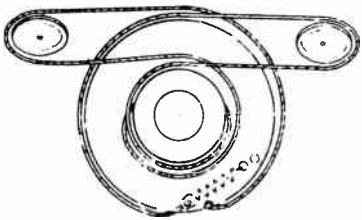
CONDENSER DRIVE HOOKUP



464

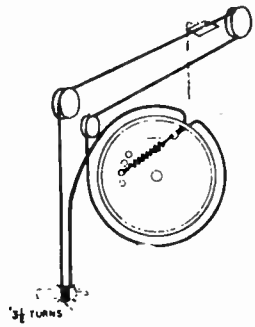


POINTER DRIVE HOOKUP



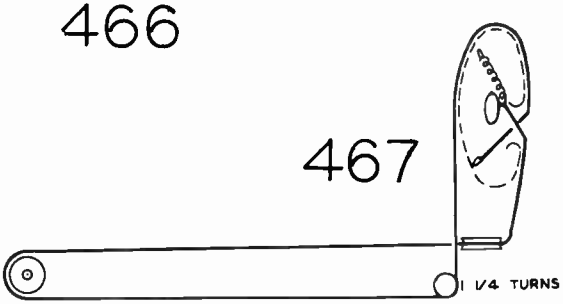
CONDENSER DRIVE HOOKUP

465



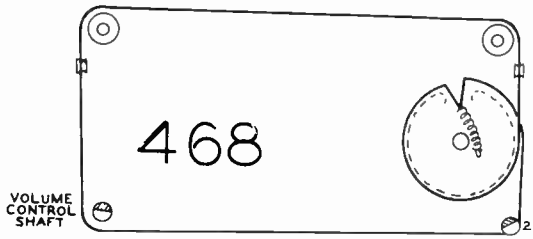
3½ TURNS

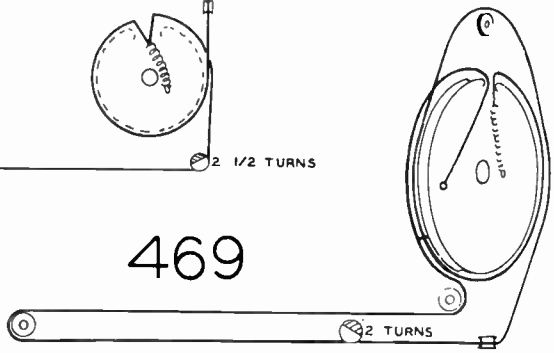
466

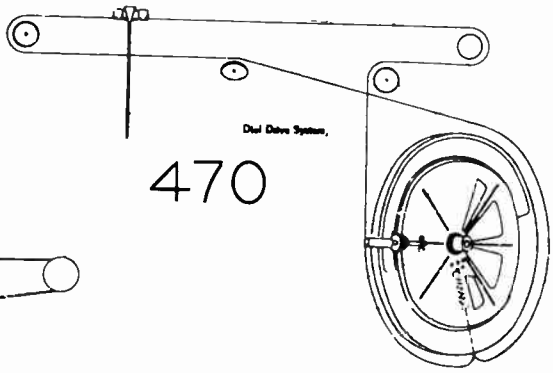


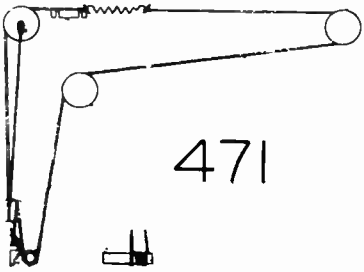
467

1 1/4 TURNS


468
VOLUME CONTROL SHAFT
2 1/2 TURNS


469
2 TURNS


Dial Drive System,
470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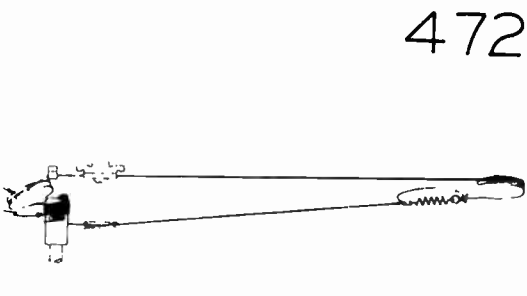
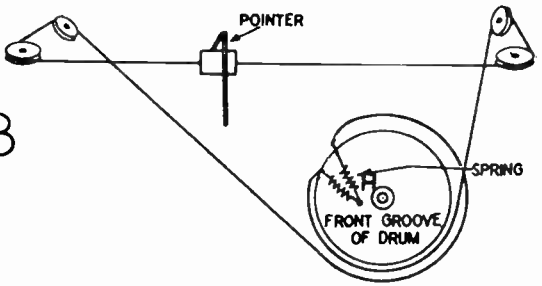

472
9 TURNS



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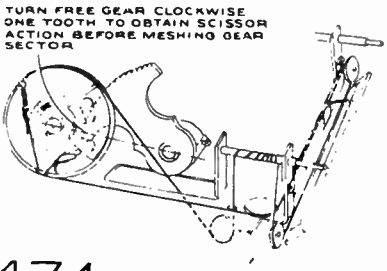
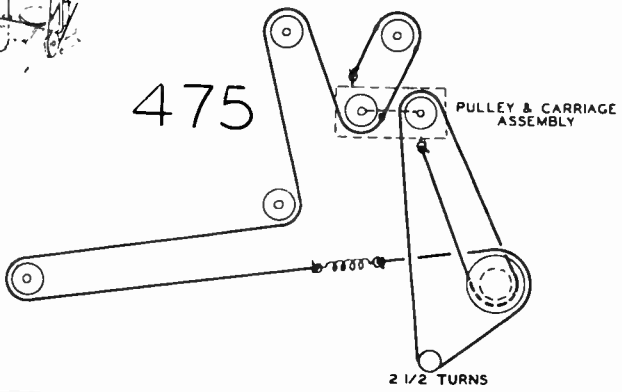
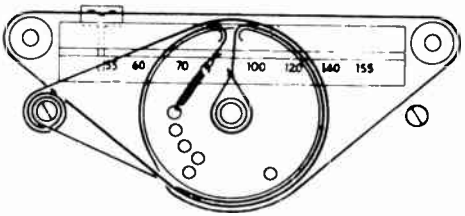


474

475





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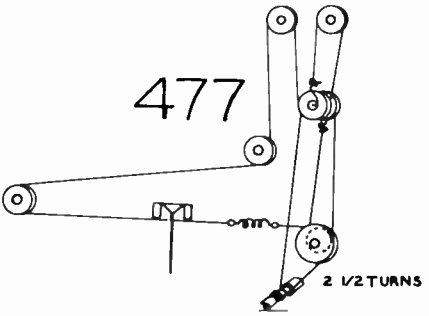
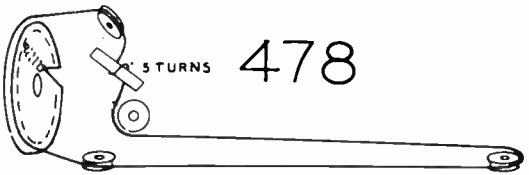
477





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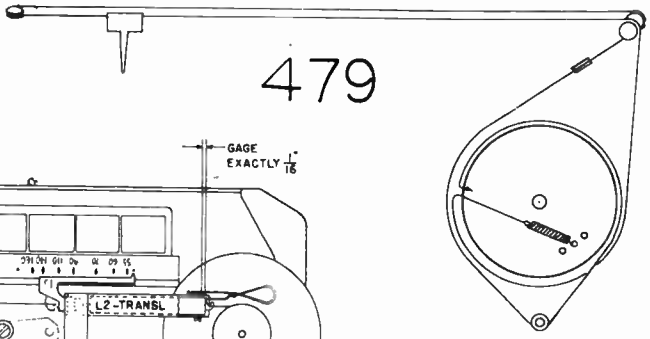
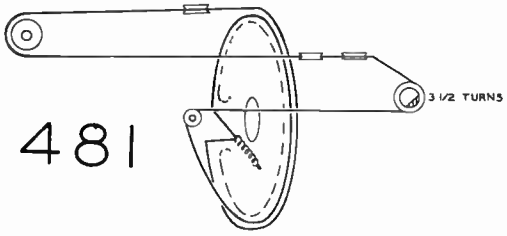
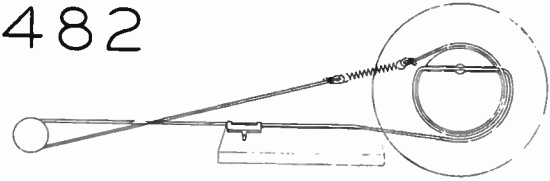


479

480



481



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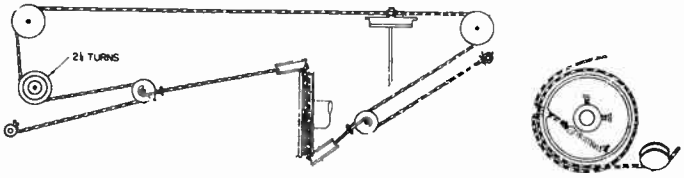
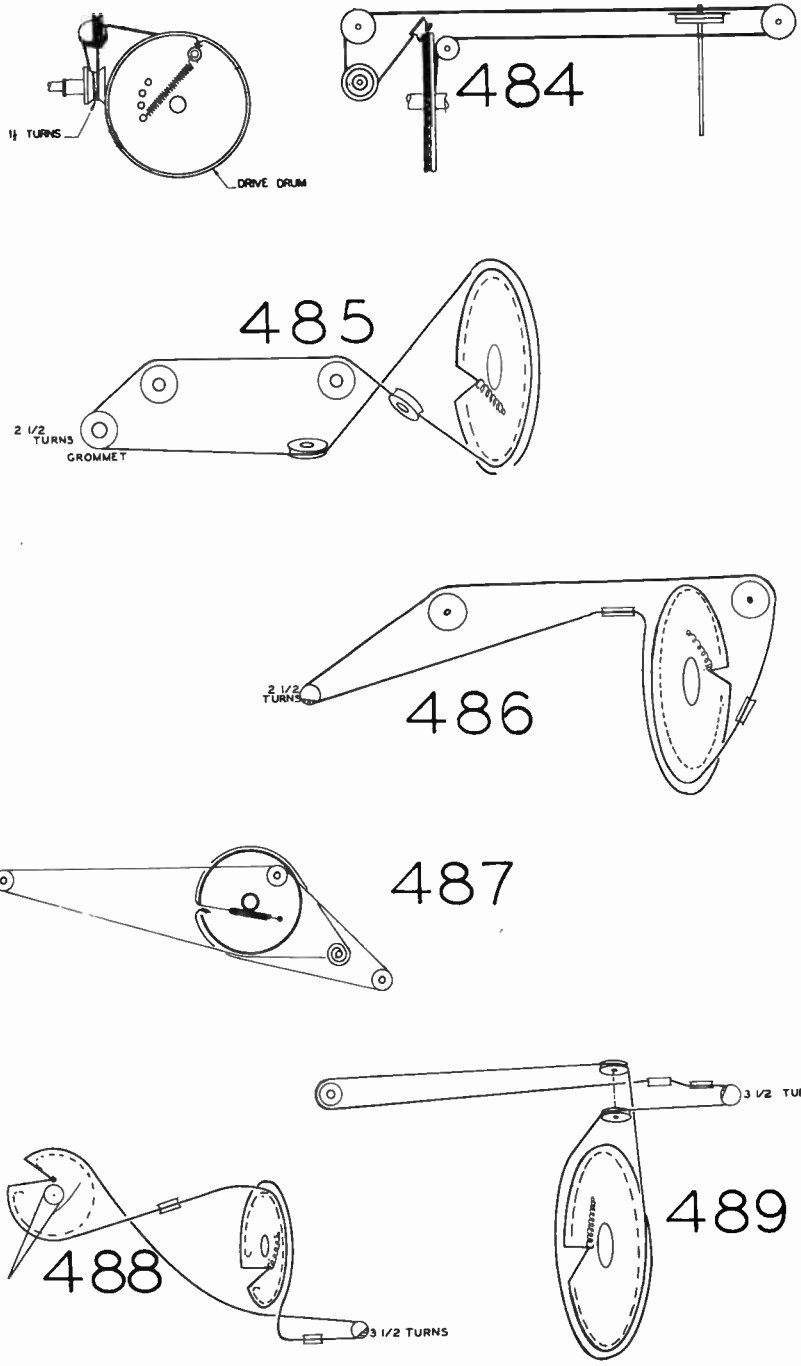
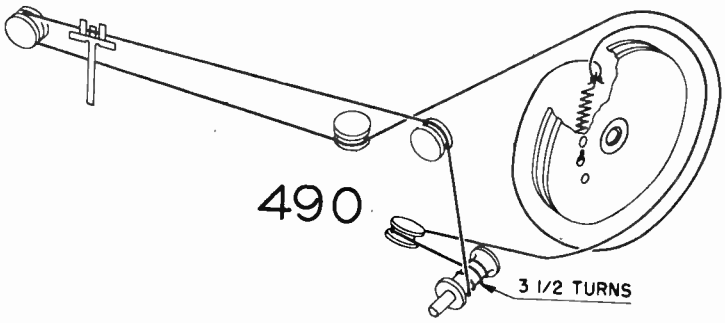
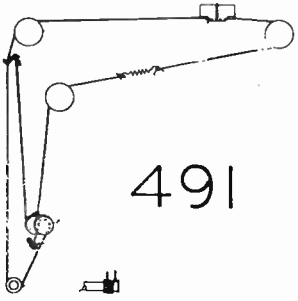
483




1½ TURNS
DRIVE DRUM
484
485
2 1/2 TURNS
GROMMET
2 1/2 TURNS
486
487
488
3 1/2 TURNS
3 1/2 TURNS
489


490
3 1/2 TURNS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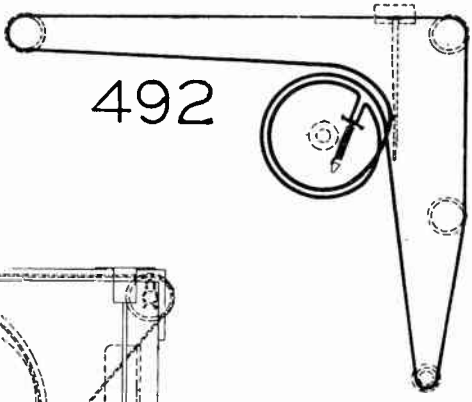
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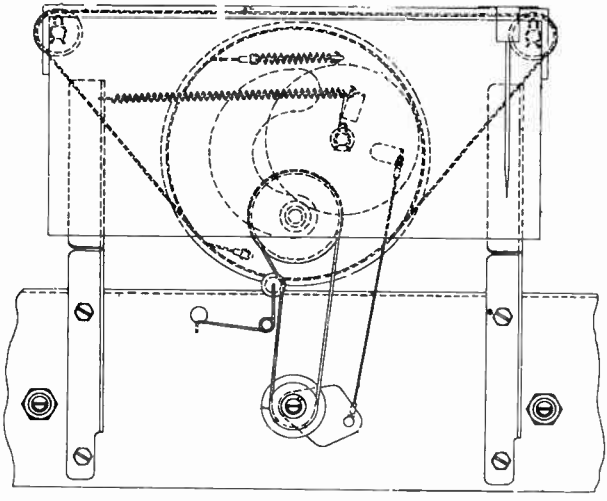
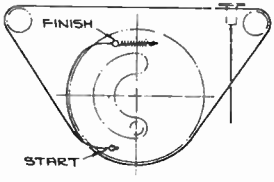
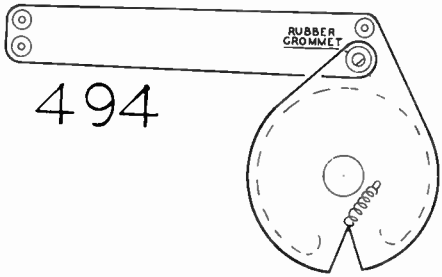
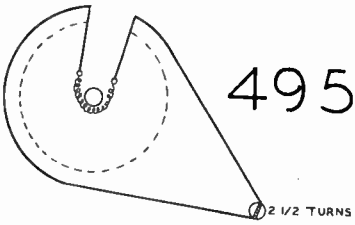
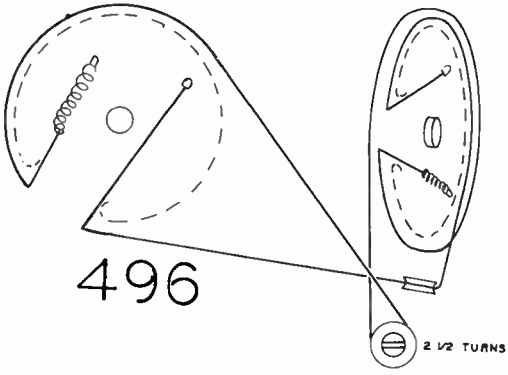
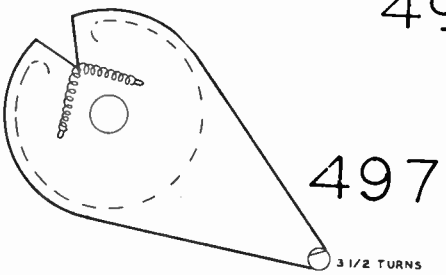


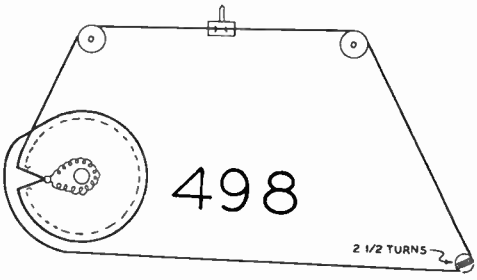

493
FINISH
START

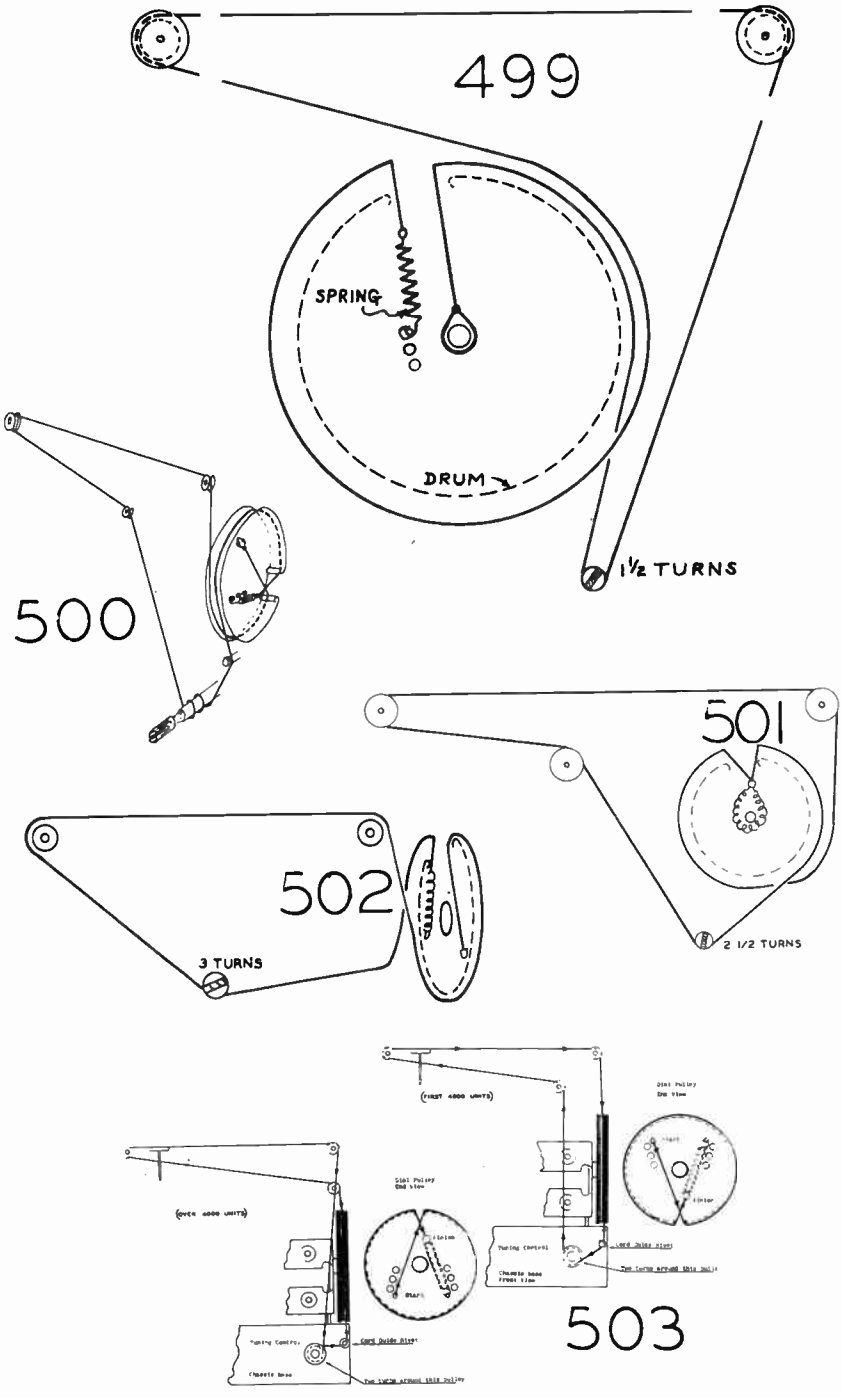

RUBBER GROMMET
494

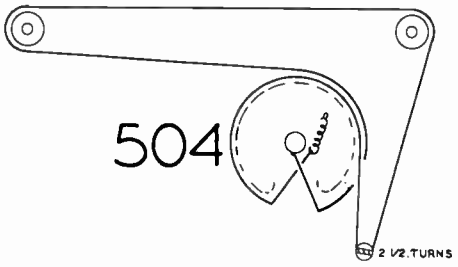

495
2 1/2 TURNS

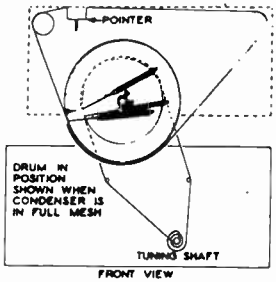

496
2 1/2 TURNS

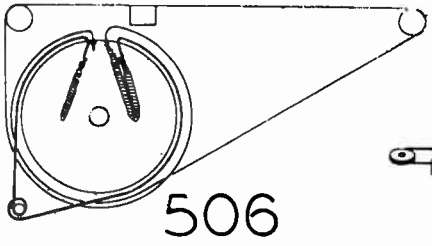

497
3 1/2 TURNS

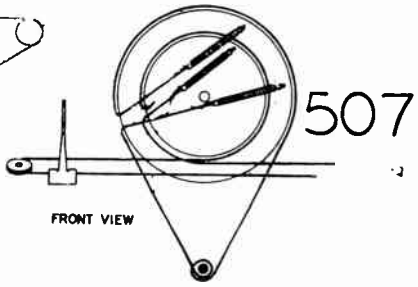

498
2 1/2 TURNS

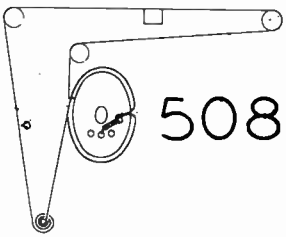

499
SPRING
DRUM
1½ TURNS
500
501
2 1/2 TURNS
502
3 TURNS
503


504
2 1/2 TURNS


POINTER
DRUM IN POSITION SHOWN WHEN CONDENSER IS IN FULL MESH
TUNING SHAFT
FRONT VIEW
505


506


507
FRONT VIEW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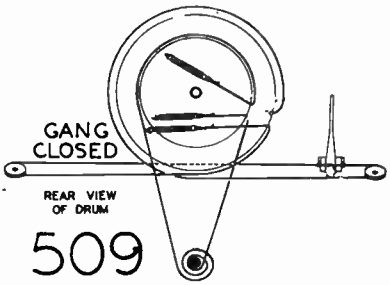
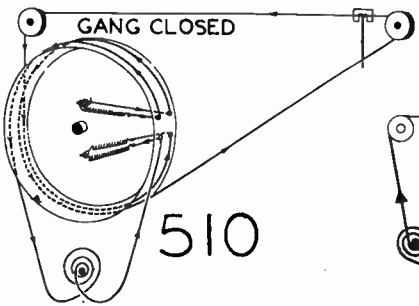
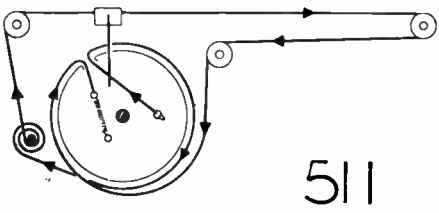
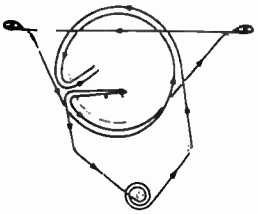
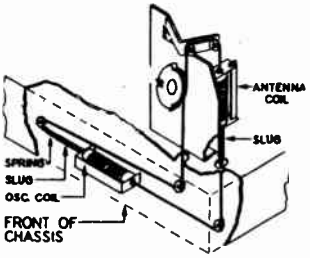

GANG CLOSED
REAR VIEW OF DRUM
509


GANG CLOSED
510


511



512



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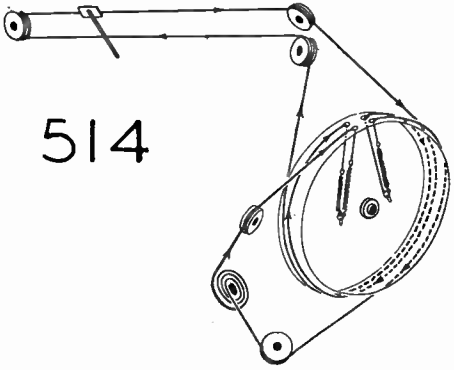
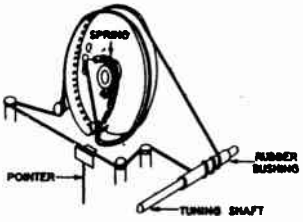
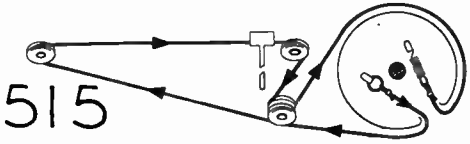


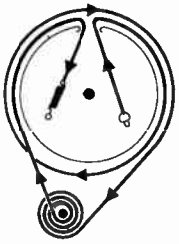
514

DRUM SHOWN WITH SLUGS IN FULL OUT POSITION

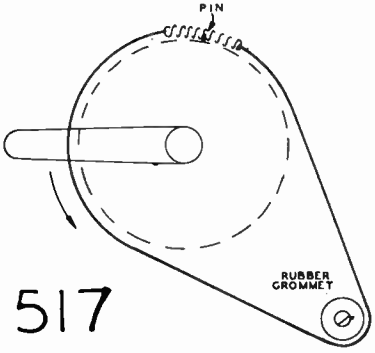




515



516



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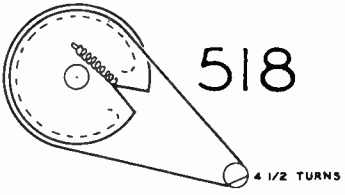

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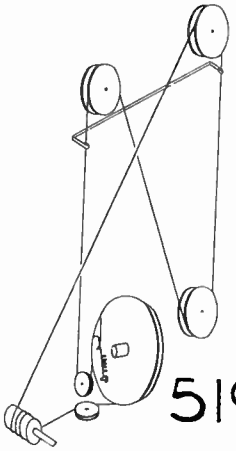

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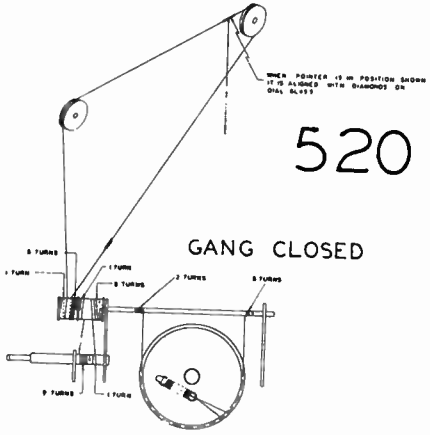
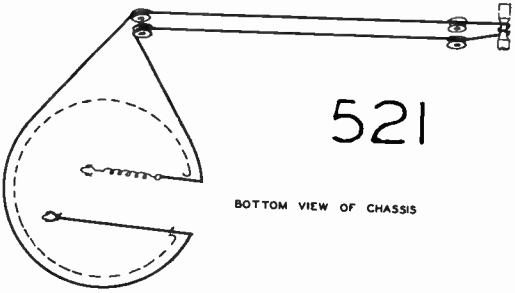
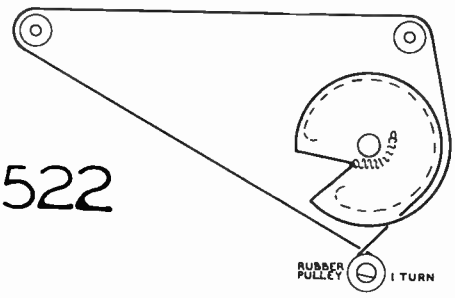


520



521

BOTTOM VIEW OF CHASSIS



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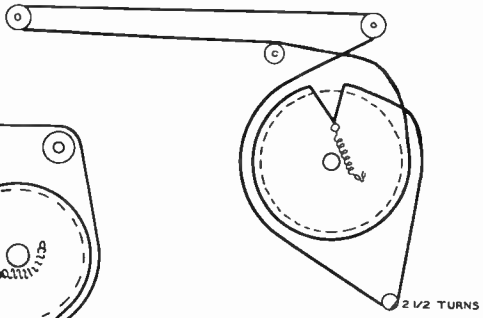
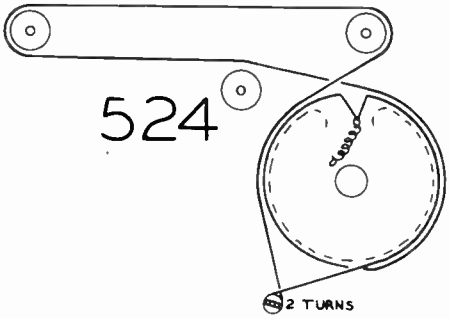
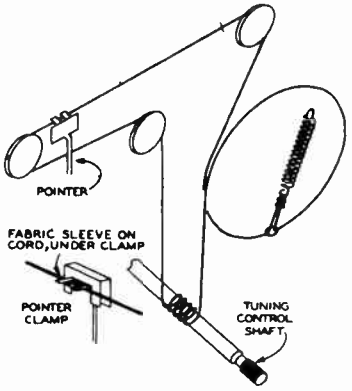
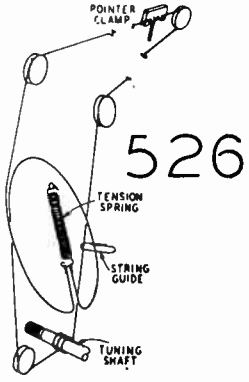
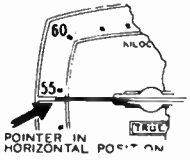


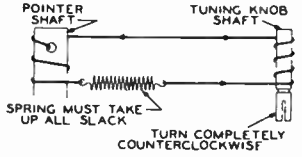
523


524
2 TURNS

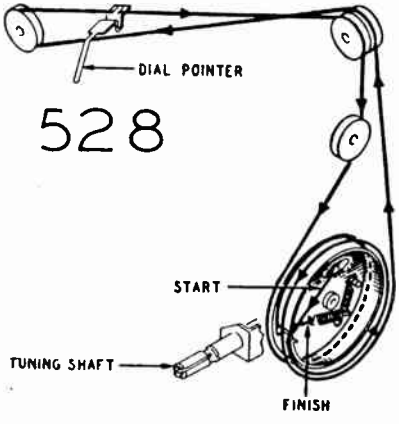

POINTER
FABRIC SLEEVE ON CORD, UNDER CLAMP
POINTER CLAMP
TUNING CONTROL SHAFT
525

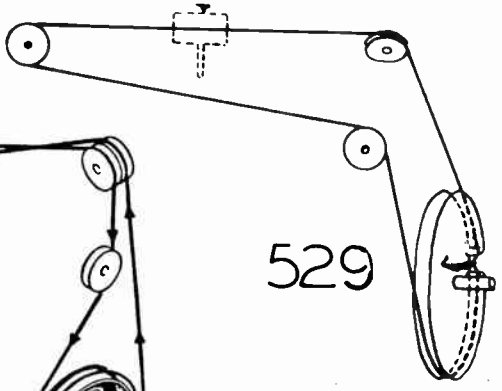

POINTER CLAMP
526
TENSION SPRING
STRING GUIDE
TUNING SHAFT

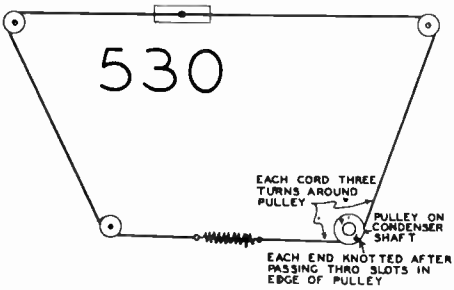

60
55
TRUE
POINTER IN HORIZONTAL POSITION

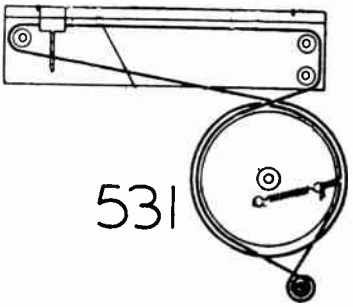

POINTER SHAFT
TUNING KNOB SHAFT
SPRING MUST TAKE UP ALL SLACK
TURN COMPLETELY COUNTERCLOCKWISE

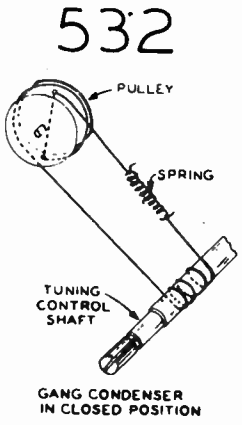
527

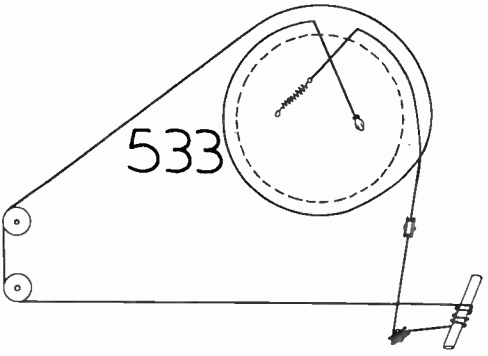

DIAL POINTER
528
START
TUNING SHAFT
FINISH


529


530
EACH CORD THREE TURNS AROUND PULLEY
PULLEY ON CONDENSER SHAFT
EACH END KNOTTED AFTER PASSING THRO SLOTS IN EDGE OF PULLEY


531


532
PULLEY
SPRING
TUNING CONTROL SHAFT
GANG CONDENSER IN CLOSED POSITION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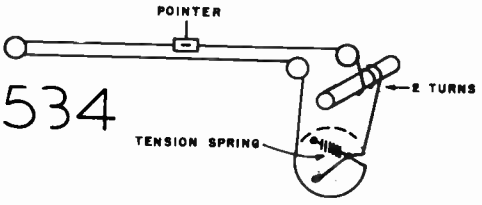
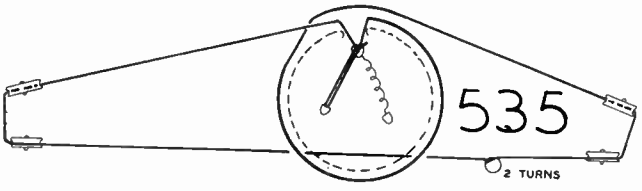
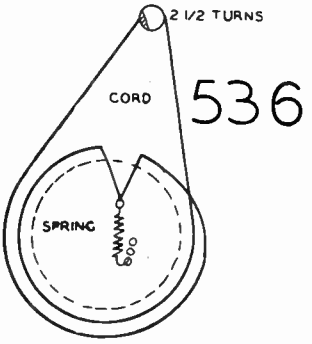
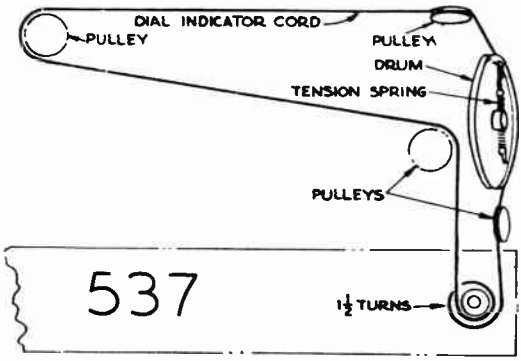

POINTER
534
2 TURNS
TENSION SPRING

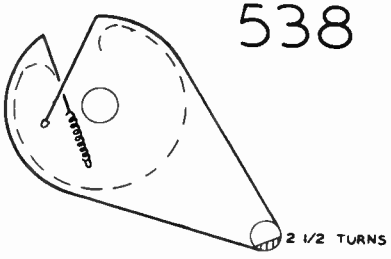

535
2 TURNS



536

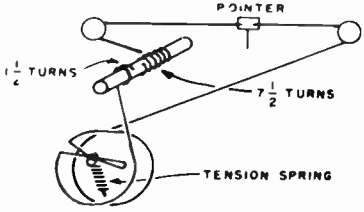


537



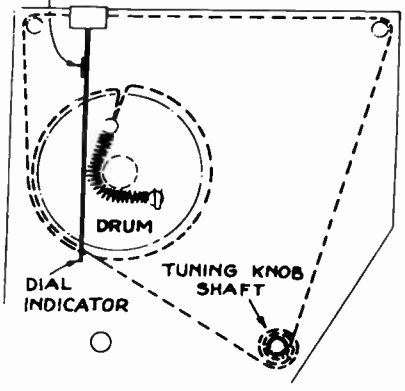
538

539



540

WITH CONDENSERS FULLY MESHED, AND DRUM IN POSITION SHOWN, INDICATOR SHOULD COINSIDE WITH THIS LINE.



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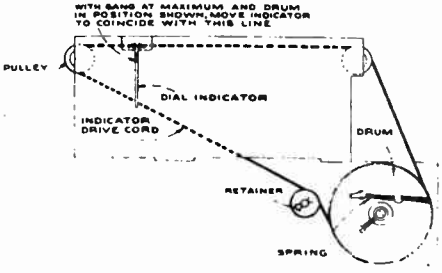
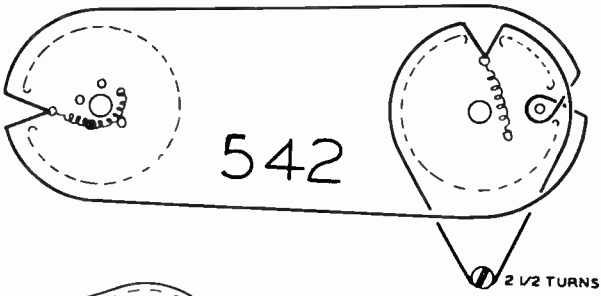
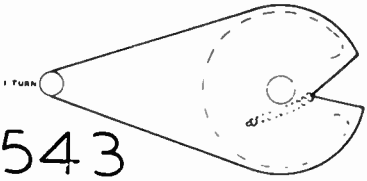


DRUM SHOWN WITH GANG AT MAXIMUM CAPACITY



542



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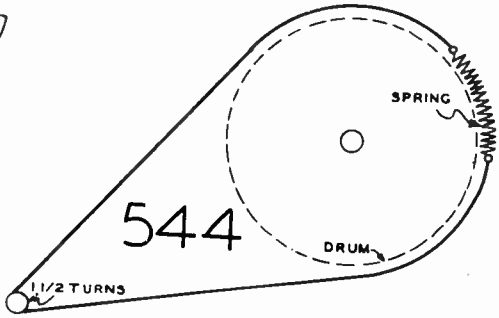

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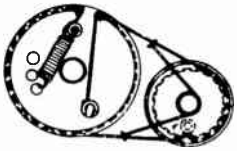

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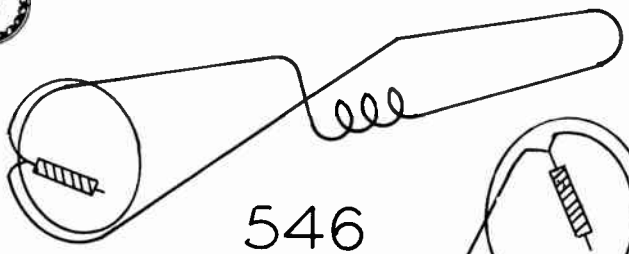

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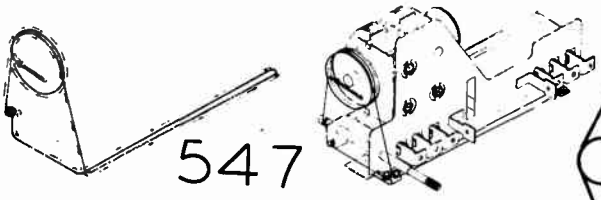

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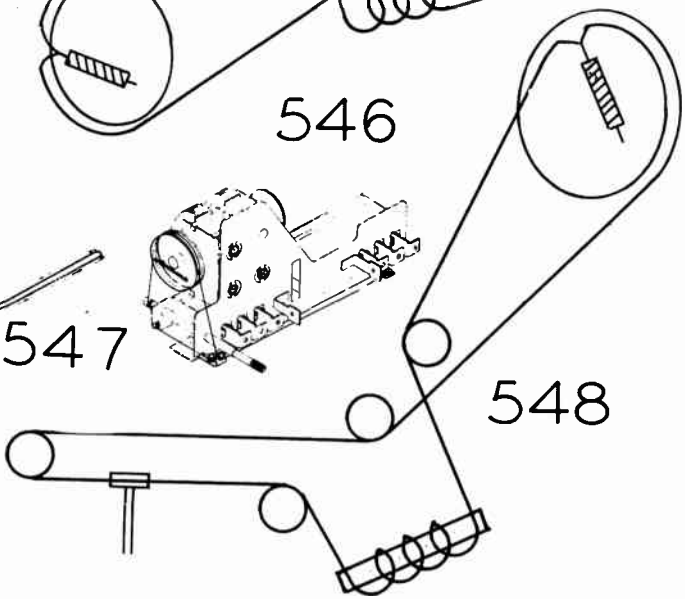

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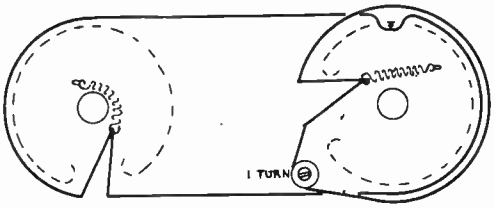

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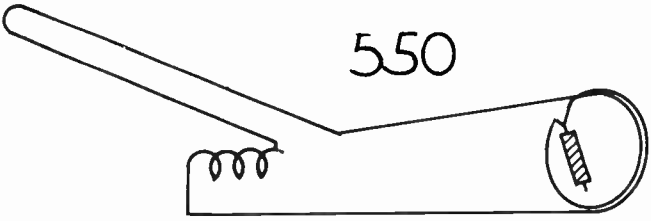

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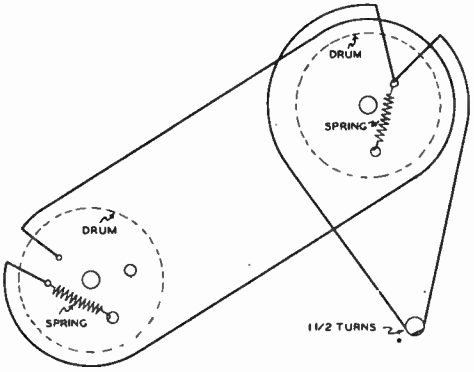

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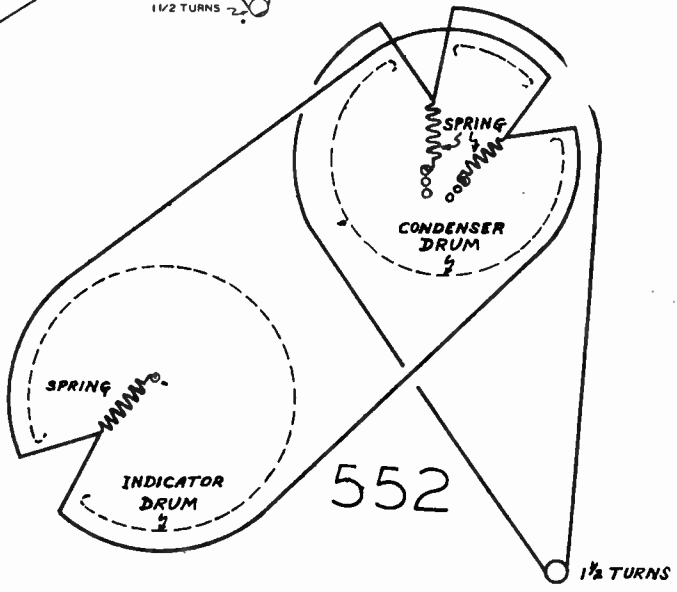

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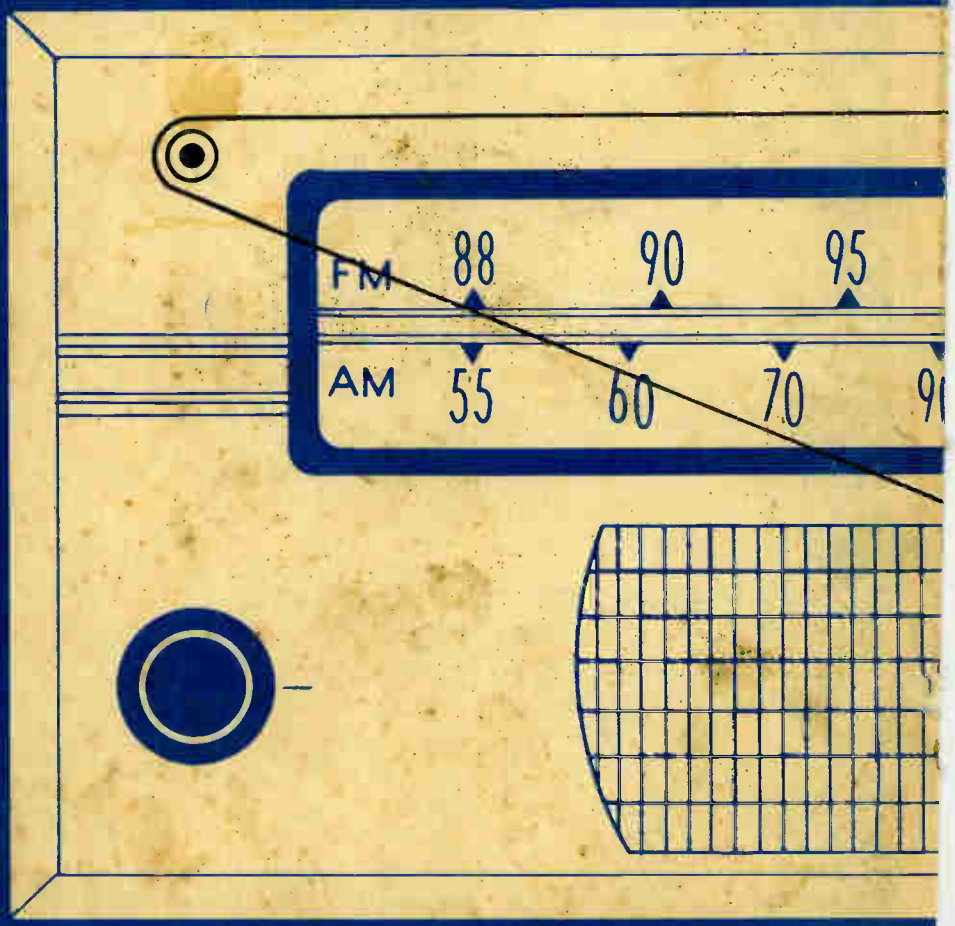
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