

TECHNICIAN ENGINEER

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INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO

LANDMARKS OF LABOR NO. 18

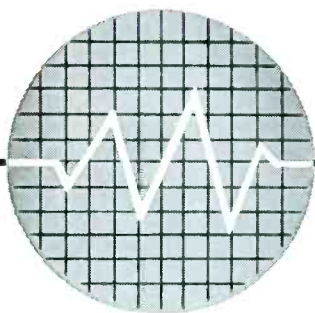
BUREAU OF LABOR CREATED IN THE FEDERAL GOVERNMENT—1884

Organized labor leaders in the early days of the union movement realized that facts and figures and information about working people, their wages, hours and conditions, were important. They sought to have the United States Government give some recognition, through establishment of a Federal agency.

In 1884 a Bureau of Labor was established in the Department of the Interior. This bureau later developed into a Department of Labor without cabinet rank, and subsequently was returned to the status of a Bureau as part of the Department of Commerce & Labor which was created in 1903. There it remained until the present day Department of Labor was established in 1903.

The Department, as we know it today, however, had its origin in the small Bureau which was destined to have its place in labor history — a landmark of labor in terms of Federal recognition of the role of working people.





TECHNICIAN ENGINEER

VOL. 9 NO. 10

ALBERT O. HARDY, Editor

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the cover

The panorama of a broad housing development spreads out below the television tower of Post-Dispatch Station KSD-TV, St. Louis, Mo. The big beacon at left covers a portion of Laclede Station Road, a thoroughfare which intersects U. S. Highway 66 at lower right of the picture. More pictures from the KSD-TV tower will be found on Page 8. Technicians and engineers at this station belong to Local Union 4.

index

For the benefit of local unions needing such information in negotiations and planning, here are the latest figures for the cost-of-living index, compared with 1959 figures: September, 1959—125.2; September, 1960—126.8.

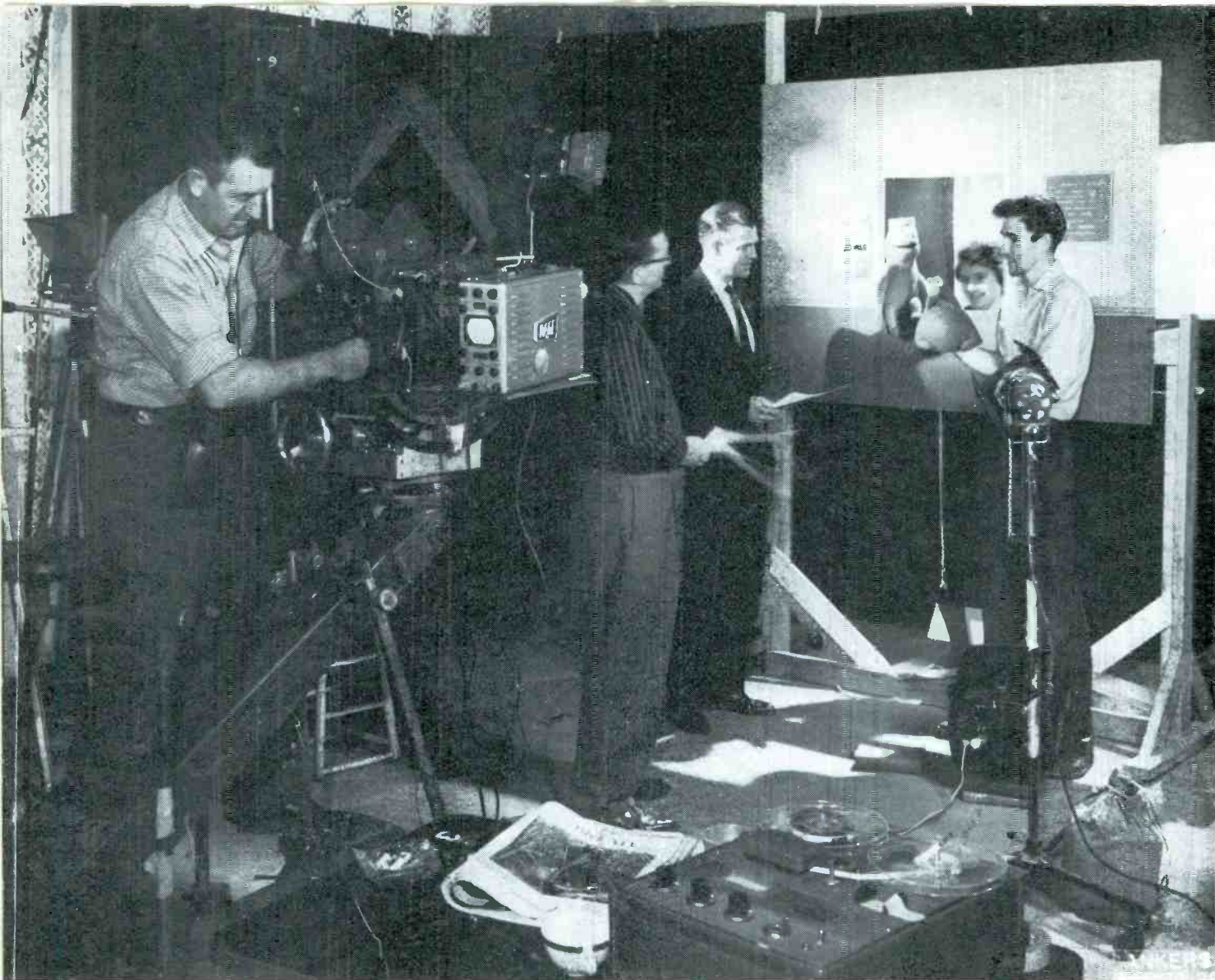
COMMENTARY

A prominent trade magazine has recently gone to some length to comment editorially and to deplore the action of the FCC which sets up rules and standards for transfer or sales of radio and television stations. The new rule would effectively limit the frequency of such transactions, in terms of the regular three-year license periods. The editorial points out that the so-called *Avco* rule of some 15 years ago was subsequently found impractical and the rule was repealed.

We have complained for several years that one of the basic problems of the industry springs from the presence of speculators and traders in the ranks of ownership.

For the years 1957-1959 an average of 555 stations changed hands each year. From January 1, 1960 to October 1, the FCC processed sales of 287 AM stations, 45 FM and 23 television stations; in 67 cases the properties had been owned by the seller for less than a year and in 129 cases, less than three years. One recent case involved ownership of less than six months, according to the Commission.

The minority involved in wheeling and dealing—now proposed to be stopped by the Commission—presumably will have to settle down as serious broadcasters or find some other business receptive to speculative dollars.



Scene "onstage" as a "muppets" commercial is put together. At left on camera is Del Ankers, member of L. U. 1200. At center Jim Young, left, account executive, confers with the customer's representative. At right are Jane and James Henson, who manipulate the muppets during their popular sales-talks.

The Muppets In Split-Second Time

IN WASHINGTON, D. C., TV viewers virtually stand in line to watch a commercial produced with the services of IBEW technicians.

The commercial is for a coffee, Wilkins; the two hand puppets which voice the commercials are brain-children of a young genius named James Henson and the IBEW technicians are from Rodel Productions, the firm which records and films the spot commercials.

In addition to the Wilkins account, the puppets also advertise, in non-competing areas, four other coffee brands, a soft drink, a milk and petroleum products.

All this began when James Henson, a student at Northwestern High School in suburban Hyattsville, Md., began to paint backgrounds for a puppet club. He heard of a show being put together at WTOP-TV in Washington, made up five or six puppets and tried out for the show. He was placed on the Saturday morning children's program but it folded after a few weeks. With his puppets, which Henson called "muppets," under his arm, he knocked on the door of WRC-TV in early 1954. After an audition his muppets went on spot announcement duty. After a year of spots he

Technician-Engineer

***Members of Local 1200
help to prepare
popular filmed
commercial which
must fit exactly into an
eight-second segment.***



James Henson and his wife Jane manipulate the muppets in "Fair Damsel" sketch. Wontkins is in prison for refusing the advertised coffee. Wilkins decides it is only just!

was given a five-minute sustaining program he called "Sam and Friends." This program is still running, but with a very devoted sponsor because viewers were enthusiastic about it. Among the viewers was John H. Wilkins, president of the coffee company. He called up Henson and asked him if he could "come up with something for his coffee." Henson developed a cheerful, optimistic, Wilkins-coffee-lovin' muppet called "Wilkins" and another muppet who is grumpy, ugly and pessimistic. While he drinks coffee, he is satisfied with any-old-brand and, as a result, is always getting his lumps in some unexpected manner to the delight of viewers of all ages. His name is "Wontkins."

These spot announcement commercials last a total of eight video seconds and not a split-second over. One station turned down one because it went three frames over! The plan is for $1\frac{1}{4}$ seconds of video before any speech, then $6\frac{1}{4}$ seconds of audio maximum, followed by $\frac{1}{2}$ second of video before the screen goes black. The total is a maximum of 192 frames and, in planning, the studio actually deals with syllables rather than words.

Planning is intense and rehearsals are exact. Henson comes up with an idea, polishes it up with executive producer James Young, who oversees the program for M. Belmont Ver Standig, Inc., the ad agency, and the dialogue is taped on $\frac{1}{4}$ -inch tape. Nelson Funk, member of L. U. 1200, then dubs in any sound effects. Now Henson and his wife, Jane, whom he met while both were art students at the University of Maryland, study the words and rehearse their muppets in mouthing and interpreting, watching themselves in mirrors. The action is photographed on Eastman Plus-X 16-mm film. The speech and sound effects are combined on 16-mm constant-speed tape. These are then sent to a



Here the labor hearings on Capitol Hill are tied in; when Wontkins asks Wilkins if he hasn't had enough coffee, he says he refuses to answer because he is "taking the fifth." In all, there have been 93 different "situations" filmed.



"Sam and Friends," the original muppets, run five minutes daily. They are, from left, Sam, Harry and Kermit. In the foreground is the cadaverous, sepulchral-voiced Yorick.



Rodel Productions, staffed by members of L. U. 1200, begins to film jungle sequence. Two prop men are moving "cannibal" background back and forth as muppets are in the stew pot (but with a happy ending!).

laboratory where they are combined in sound-on-film. Sometimes the crew, headed by Del Ankers, president of Rodel, runs the film through two or three times for special effects. Other special effects and lighting problems are the province of William Engstler, the third L. U. 1200 member of the production crew.

It is considered a good day's work if, in eight hours, three of the eight-second commercials can be completed. There are rehearsals, learning to synchronize the muppets' mouths with the words and then several "takes" are made. As Ankers said, "At this stage of the game, fifty cents' worth of film is a darn good investment!" Henson, incidentally, also builds his own sets, paints his own backgrounds and takes the parts of all the muppets, both male and female, in the commercials and in his daily "Sam and Friends" program.

The coffee-lovin' muppets, who also sell soft drinks, milk and gasoline, are seen on TV screens all over the nation. "Sam and Friends" have now "gone network"; a two-station network which now includes WBAL-TV in Baltimore. Inquiries about the possibilities of putting the muppets on TV screens in England, West Germany and Canada have been made and negotiations are now in progress to the end that Sam and the muppets may "go international."

At the present time there have been 93 different situations filmed. Other advertisers in other sections of the country can view them and buy those which they particularly like for use in advertising their products. Each sale makes more employment for the L. U. 1200 members, since each must, of course, be re-filmed for the secondary buyer.

The fresh approach to selling, wherein the product is never taken too deadly seriously, has proven popular with the viewing purchasers. The muppets and their master seem destined for long runs in millions of living rooms.



Will Engstler, member of Local Union 1200, who works on production of muppet commercials, primarily concerning himself with the sound recording and special effects, is shown at one of the cameras used in filming the sequences. The muppets have become popular on widespread TV stations.

If You Buy Union

The Boot and Shoe Workers Union (AFL-CIO) advises that the following shoes are produced in NON-UNION shops: Jarman, Flag Brothers, Fortune, and W. L. Douglas.

FCC Commissioner Would Shift All Television Transmission to UHF

A move which would have the effect of making obsolete most existing television sets was proposed by Federal Communications Commissioner Robert E. Lee, this month, as a means of making transmission channels available for some 200 stations now kept off the air for lack of broadcast frequencies.

Specifically, the commissioner advocated, in a speech before the winter conference of the Electronic Industries Association in San Francisco, shifting all TV transmission into ultra high frequency (UHF) bands within 5 to 7 years, or approximately the life of TV receiving sets. Most TV transmission now is at very high frequency (VHF) and only about 6 percent of the approximately 60 million TV sets now in use can receive UHF signals.

The military services, he pointed out, twice have turned down FCC pleas for more VHF space "in no uncertain terms and for good and sufficient reasons." The commission's long-range-50-channel VHF plan, he said, "is definitely out the window."

"I have yet to find an FCC engineer who does not believe that the only answer to the problem of getting new TV channels is a gradual shift to UHF," the commissioner said.

He added that crowding more stations into presently available frequencies through channel splitting, as has been proposed, would result in interference which, in the opinion of engineers, would be "intolerable."

Mr. Lee said that there is a "good chance" Congress will pass FCC-sponsored legislation which would have the effect of requiring TV manufacturers to produce only sets capable of receiving both UHF and VHF signals. He admitted the proposal runs counter to his opposition to government interference with private enterprise, but contended the legislation to be justified in view of the "critical nature of the present situation."

The 12 channels now being used by TV, he said, could be assigned, following the shift to UHF, to mobile radio communications services now badly needed by industry, police, fire, forestry, educational institutions and "innumerable private and public agencies which touch upon our welfare in every conceivable way."

The commissioner gave the EIA meeting a progress report on the FCC's \$2 million experiment with UHF in New York City—"the worst signal propagation area in the country." The test, which will involve the use of a transmitter on top of the Empire State Building and scientific reception studies with about 100 commer-

cial receivers, is now being arranged. Mr. Lee said he hoped the project would be on the air by next September.

Local Union 202 advises that its members are contributing to the KXTV strikers, on a voluntary basis, and it would be glad to accept donations from anyone else who cares to participate. Such donations should be designated "KXTV Strike Assistance Fund" and sent to Local Union 202's office, Room 302, 2450 17th Street, San Francisco 10, California.

KXTV Strike Continues

At November 17, the eight week old strike was still in progress at KXTV, Sacramento, Calif. Both NABET and AFTRA have filed unfair labor practice charges against the station and a jointly-maintained picket line protests the injustice of the union-busting tactics of the management.

The Sacramento Labor Council has backed the strikers and several NABET locals are lending financial support.

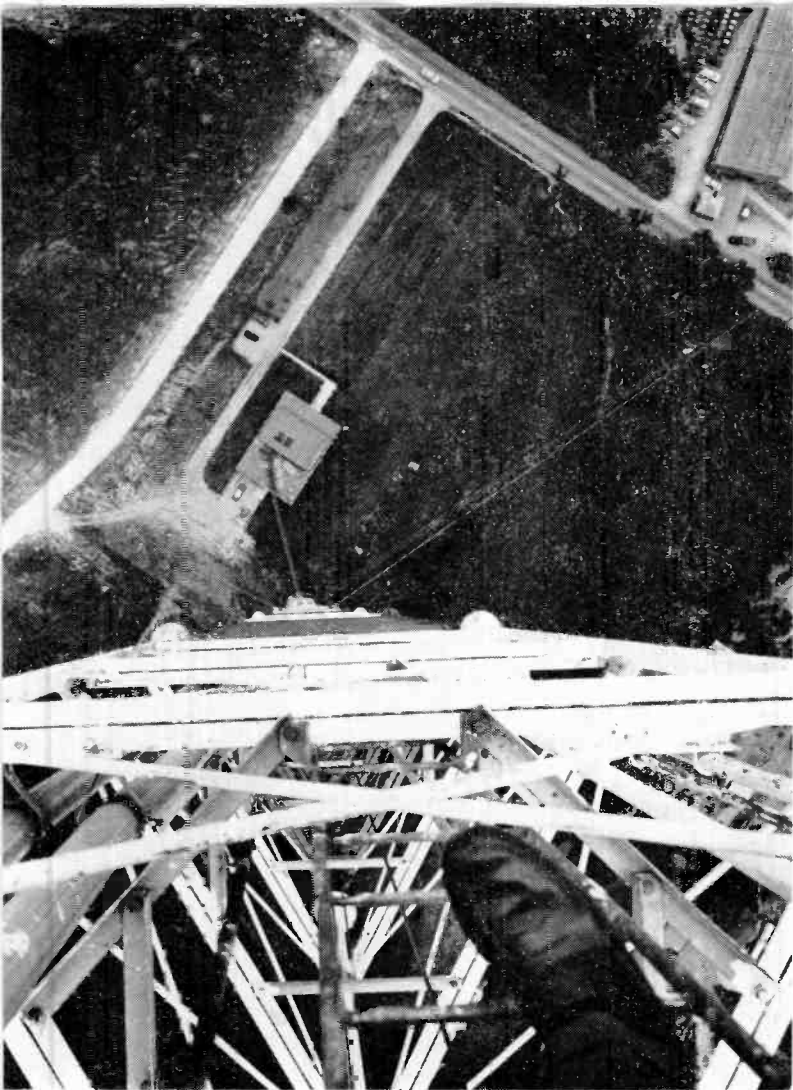
It Could Be Worse

If you are tired of seeing TV spots run back-to-back, console yourself with the thought that several Mexican stations are now running as many as 7 in a similar sequence. Surprisingly, some of these spots are for directly competitive sponsors, according to an American team of observers who recently returned from South of the border.

Another interesting fact turned up is that despite the relative scarcity of receivers in many low-income areas, the viewers-per-set are very high. Seems that one family will purchase a receiver and then the neighbors are invited to watch it—for a fee.

We're Consistent—(And Wrong)

When we goof, we do a thorough job. Our last issue managed to come out with Miss Washington's name misspelled (our cover girl)—it's Miss Ruth Rea, not Rae. And in Brother Clucas' writeup on the Spotmaster, the original copy showed a frequency response from 70 to 12,000 cycles which somehow got printed as 70 to 1200. Our astute readers no doubt recognized the lost zero, but this corrects the record (no pun intended). Our apologies for the types.



Cars move along Heege Road at upper right like so many ants, as a technician looks down from the KSD-TV tower. The station's transmitter is housed in the building at center, and the thin lines across the center of the picture are guy cables which help to hold the tower up!



Braces and girders form converging lines in dizzying perspective of the tower's interior. Two coaxial cables lead to the 83-foot antenna.

Photos by Black Star

VIEWS from a TOWER

THE top of the 1,149-foot-high transmitting tower of St. Louis Post-Dispatch station KSD-TV is not exactly a convenient place from which to take a picture, but it does afford some spectacular views. From the base of the antenna, reached by a small elevator, the photographer can scan the horizon, focus on acres of rooftops of nearby subdivisions (what the ad agencies call "the market area"), or get a thrill by looking down to the transmitter building far below.

Every brace, every rod has been placed with careful calculation. The tower has the strength and resiliency to withstand winds of 120 miles an hour. Fifteen guy cables hold the structure rigid.

The tower, which stands 1,648 feet above sea level, went into operation in April, 1958. (The tower itself is 1,062-feet tall, with the sides 7½-feet wide both at the base and at the top.) It is located at 6871 Heege Road, one and a half miles southeast of the city limits of St. Louis. The station's signal extends 85 miles and beyond, covering a 21,000-square-mile area of Missouri and Illinois.

Engineering employes of the station have been members of Local Union 4 for many years. KSD-TV went on the air in 1947. It operates on Channel 5, 100 kw visual and 60.3 kw aural. The radio affiliate, KSD, has been broadcasting since 1922.

SERVING THE PEOPLE



Reprinted from LABOR newspaper, Nov. 19.

A FEW TIDBITS OF HISTORY

Facts You've Probably Forgotten — or Ignored

WE SOMETIMES get so involved in our own little worlds, the past history of high-frequency generation and propagation slips away. Some time ago, the Navy Department resurrected a little history which may ring a bell.

Heinrich Hertz is generally credited with being the first pioneer in the microwave field. Ever stop to think that his first experiments were at about 60 megacycles? He later extended them to the 500 megacycle region—and this was about 1890-1894! Hertz' untimely death at the age of 37, in 1894, can probably be said to have been a set-back in microwave development; although some of his contemporaries had access to his notes and theories, perhaps they lacked his insight and his genius for exploration.

In 1920, Barkhausen found that with a certain range of positive voltages on the grid and somewhat smaller negative voltages applied to a tube then in limited use in Germany, he could produce small but, nevertheless, measurable high-frequency oscillations. By a suitable

modification of the electrodes, but following Barkhausen's experiments, Kohl produced 6,000 megacycle power as early as 1928.

Care to venture how many people knew of magnetrons prior to World War II and radar? Magnetrons were proposed initially by A. W. Hull in 1921 and despite its early limitations, Eleetson and Williams, at the University of Michigan, produced useful continuous oscillations at 50,000 megacycles in 1936. In passing, it is interesting to note that this c.w. frequency limit had been brought to substantially the same point that had prevailed for damped waves some 40 years earlier.

ELECTRONICS AT SEA

During World War II, the USS Springfield was a light cruiser and carried 297 pieces of electronic equipment on board. This same ship is now a guided missile cruiser and has more than four times as many pieces of electronic equipment—which cost almost eighteen times as much.

Reading Time

Television and Radio News, by Bob Siller, Ted White, and Hal Terkel, The Macmillan Company, 60 Fifth Avenue, New York 11, N. Y. 227 pages, \$5.95.

Three news writers from ABC, WOR, and CBS, respectively, have combined their talents to give a complete insight into the job of preparing the news for presentation to the television and radio audiences. Though they do not go into the engineering problems in detail, they indicate the sequence of work involved for all crew members and indicate the number of people needed.

The news operations of several stations manned by IBEW members are discussed. WBZ-TV, Boston, for example, is called a station which relies heavily on camera correspondents, or stringers. Station WLWC-TV, Columbus, Ohio, has an in-station educational program under which newsmen are taught the fundamentals of photography.

In a chapter entitled, "Television News Operation," it states: "among WBAP-TV's news staff are four full-time cameramen who carry both silent and single system sound cameras."

The book is equally divided between radio and TV news and is a valuable asset for anyone going into broadcast journalism.

●

101 Key Troubleshooting Waveforms for Horizontal-Sweep Circuits, second in a new series by Bob Middleton (Catalog No. WFM-2), Howard W. Sams & Co., Inc., 1720 East 38th Street, Indianapolis 6, Ind., 128 pages. \$2.00.

This book is second in a new series by Bob Middleton, and will appeal to servicemen who need quick reference material on the causes for horizontal sweep troubles.

The four most popular horizontal-sweep circuits—90°, 110°, direct-drive, and primary-secondary transformer types—are analyzed. Like the first volume, this one is profusely illustrated, utilizing 136 waveform photos.

The book portrays 101 abnormal waveforms obtained when various circuit components become defective. By comparing waveforms obtained at various circuit points with those shown in the book the reader can readily spot the defective component. The waveforms are accompanied by circuit symptoms, tests and evaluations of results. Supplementary notes provide background information.

Eliminating Man-Made Interference, by Jack Darr, Howard W. Sams & Co., 1720 East 38th Street, Indianapolis 6, Ind. 160 pages. \$2.95.

This is a long-awaited, practical book on noise and interference problems, which are among the most perplexing confronting the service technician.

Twelve chapters cover the entire field of man-made interference—what it is, how it is transmitted, how it originates, how to track it to a source, and how to eliminate or minimize its effects in home radios and TV's, audio amplifiers, two-way mobile-radio systems, auto, aircraft, and marine radios, electromechanical apparatus, geophysical equipment, etc.

Two whole chapters contain actual case histories of many types of interference, as well as many out-of-the ordinary types of noise and interference from the files of the FCC.

Among the 173 illustrations are photographs of many types of interference as they appear on TV screens. Other illustrations show how to build a noise filter, and how to eliminate noise from small AC motors.

LABOR FACTS AND FIGURES

In 1834, the National Trades' Union was formed in New York City—the first attempt toward a national labor federation in the United States. But the union failed to survive the financial panic of 1837, according to "Important Events in American Labor History," published by the U. S. Labor Department.

* * *

In 1958, 1 out of every 6 of the Nation's population aged 22 years or over had a bachelor's degree, compared with only 1 out of 50 in 1900, according to data published by the U. S. Labor Department's Bureau of Labor Statistics.

* * *

Industries with the highest proportions of workers with paid vacations (80 per cent or more) include transportation, manufacturing, and finance, according to the U. S. Labor Department's Bureau of Labor Statistics.

* * *

The number of employed in agriculture in 1960 will account for only about 8 per cent of the total employed, compared with 11 per cent 5 years ago and about 20 per cent 20 years ago, recent U. S. Labor Department figures indicate.

* * *

In 1806, members of the Philadelphia Journeymen Cordwainers were tried for criminal conspiracy after a strike for higher wages. Charges were combining to raise wages and to injure others. The union was found guilty and fined. Bankrupt as a result, it disbanded. This was the first of several unions to be tried for conspiracy, according to the U. S. Labor Department publication "Important Events in American Labor History."

* * *

Approximately 150,000 appliance servicemen are employed this year. They generally receive from \$95 to \$115 for a 40-hour workweek.



The Radio Anniversary Display prepared by the Dry Docks Savings Bank. After Election Day, November 8, it was moved from the bank's main office to its branch at 518 Seventh Avenue at 38th Street.

New York Bank Salutes Radio's Birthday

RADIO broadcasting is enjoying its fortieth anniversary this year. Its birthday was November 2, the date of the initial scheduled broadcast of KDKA, Pittsburgh, which on that date in 1920 dedicated its new station with an all-night report of the Harding-Cox presidential election returns.

First in New York to recognize and publicly commemorate this historic event is the Dry Dock Savings Bank, 59th Street at Lexington Avenue, which recently installed on its Banking Floor a nostalgic display as a salute to radio, which started as a series of experiments in a small home laboratory and in four decades has grown into a billion-dollar industry with more than 150,000,000 receiving sets in use across the nation.

The Dry Dock display, made up of photographs of radio's pioneer broadcasters and scenes of historic broadcasts which serve as milestones during radio's first 40 years, is a parade of great personalities. It is an array which likely will stir pleasant memories of those who manipulated the "cat's whisker" of the primitive crystal sets of the early twenties and with Spartan fortitude combatted the static to tune in such early day entertainers as Eddie Cantor, Will Rogers, Billy Jones and Ernie Hare, the original "Happiness Boys" and May Singhi Breen and Peter DeRose, "Sweethearts of the Air," all of whom made their radio debuts in 1923.

Included in the picture parade are such radio pio-

neers as the famous "Roxy" (R. S. Rotheffel) and Major Bowes; Geraldine Farrar, Milton Cross, Weber and Fields, Lum and Abner, Myrt and Marge, Vincent Lopez, Paul Whiteman and Fred Waring; Arthur Tracy, the "Street Singer," Kate Smith, Singing Sam, Bing Crosby, the Pickins Sisters, Jessica Dragonette, Vivien Della Chiesa; Walter Winchell, H. V. Kaltenborn, Graham MacNamee, Ted Husing and so on, down a long and distinguished roster.

Highlights depicted include the sensational Orson Welles invasion from Mars broadcast which panicked the New Jersey countryside which took it for real, and the memorable abdication address of King Edward VIII. Another highlight was the report of the tragic Hindenburg Zeppelin disaster, broadcast by Ted Husing.

Included among the relics of the early days on display is the WGN microphone which was used in the Scopes "Monkey Trial" broadcast from Dayton, Tenn., in 1925, and later in the movie, "Inherit the Wind," which was based upon the famous trial, which was the occasion of the first radio broadcast of a court proceedings. Other interesting souvenirs are the first commercial Crosley radio receiver—a small crystal set—and the first Crosley loud speaker.

The Dry Dock display, arranged with the cooperation of the broadcasting industry, is from the Sam A. Cousley Collections, Englewood, N. J.

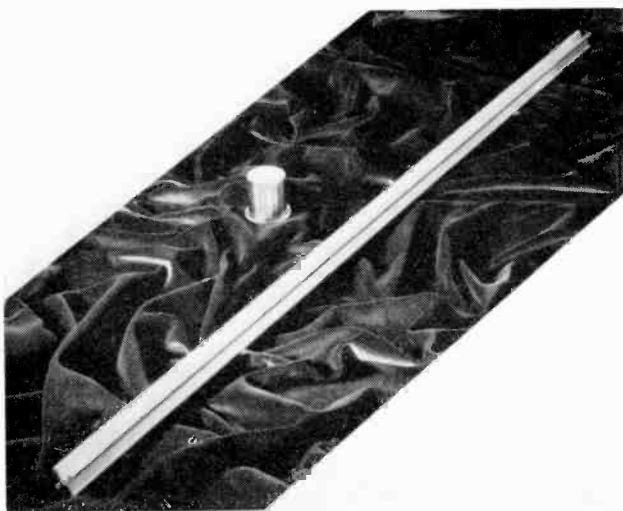
ASURE

LIGHT

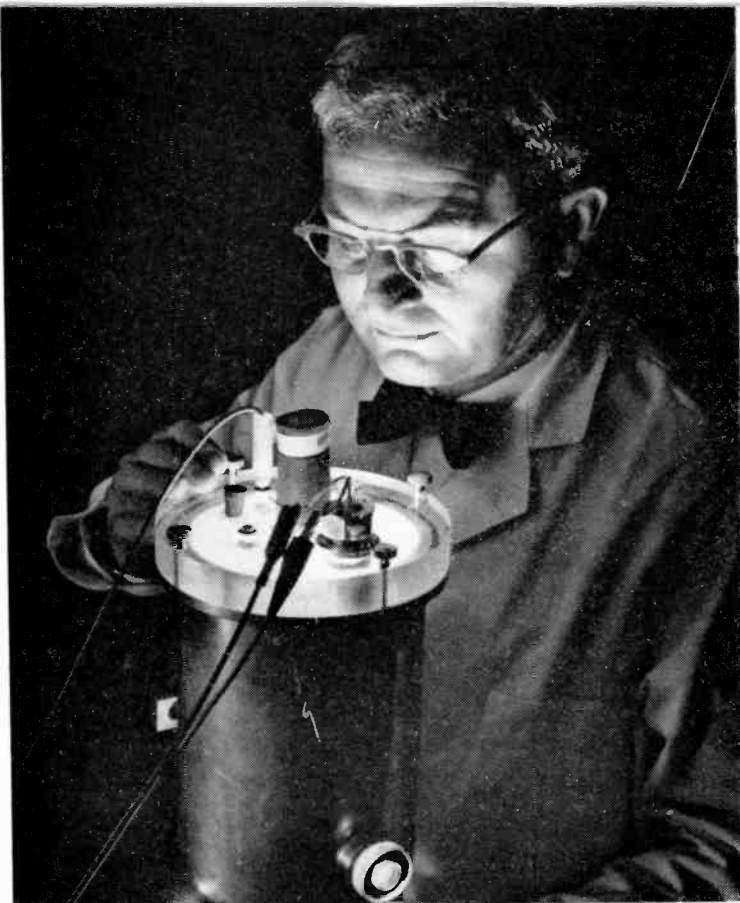
How long is a piece of string?

This question, phrased to underline ambiguity, can now be resolved with almost infinite exactitude by laying down a beam of light along the twine in question.

Modern technologies have caused physicists to abandon, as a standard of measurement, the platinum-iridium meter bar which has been the world's standard since 1889. This 30-inch bar has been kept in a vault in Paris since that date and all length references have been made to it. Prototypes of it have, from time to time, been sent back to the "master bar" for recalibrating and sometimes have been found to be off by micrometric distances.



This platinum-iridium bar, Prototype Meter Number 27, has been replaced as the national standard of length by the wavelength of the orange-red light emitted by the krypton isotope 86. The meter bar, shown here with the national standard of mass, Prototype Kilogram Number 20, will remain important as a secondary standard because of the ease with which it can be used for certain types of measurements.



A National Bureau of Standards scientist adjusts a krypton-86 lamp in its liquid nitrogen bath. The wavelength of the orange-red light emitted by the lamp has just been adopted as the International Standard of Length. The lamp is operated at liquid nitrogen temperatures to increase stability of the standard wavelength.

The new definition of the meter is "1,650,763.73 wavelengths of the orange-red line of krypton" as seen on an optical instrument called an interferometer. The decision to change the basis of measurement was made by the 11th General Conference on Weights and Measures which met recently in Paris.

It is estimated by the National Bureau of Standards that the changeover may shorten the meter and consequently the distance between a point in New York and a point in Washington would be shortened by less than three inches. However, by adoption of the new definition, the standard of length which has been used by spectroscopists for the past 50 years is brought into agreement with that used in other branches of science, thus increasing the unification of systems of measurement throughout the scientific world. The actual shortening will be less than 1/5,000th part of the thickness of a well-worn dime. An inch is now equal to 41,929,399 wavelengths of krypton light.

The new definition of the meter relates it to a constant of nature, the wavelength of a specified kind of light, which scientists believe to be completely immutable. It can be reproduced with great accuracy in

any well-equipped laboratory. However, the meter bars which have served as references for the past 70 years will not be discarded or placed in museums. They will remain important because of the ease with which they can be used for certain types of measurements.

The question naturally arises: how can light waves, a form of energy, be used to measure length, a physical quantity? Light is a form of visible radiant energy, emitted by atoms and propagated as waves. Two light waves with the same wavelengths travelling in the same direction may interfere with each other and, if out of phase by a half-wavelength, will cancel out each other and darkness will result. Optical measurement of this interference permits extremely accurate determinations of length and, when these wavelengths resulting from a known type of light are "laid down alongside" a bar of known length (known approximately), physicists can then determine to a fractional part of a wavelength of light how far the bar is "off" the defined length.

The same session of the world conference confirmed the action of the International Committee on Weights and Measures in defining the second in time as $1/31,556,925.9747$ th of the tropical year 1900. This is they believe, a great improvement over the previous estimate of how long a second should be, which was $1/86,400$ th of the mean solar day.

One thing about these conferences: they should be able to start on time!



A krypton-86 lamp is lowered into its liquid nitrogen bath. Its light is "laid" alongside the meter bar that has already been mechanically determined to an accuracy of less than one wave-length.

Life of a Union Official

If he talks on a subject, he is trying to run things. If he is silent, then he has lost interest in the organization.

If he is out on the property, then why doesn't he stay in the office and get the work done.

If he does not agree that the boss is a skunk, he is a company man, but if he calls the boss a skunk, then he is ignorant.

If he is not at home at night, he must be out drinking. If he is at home, then he is ducking.

If he doesn't beat his chest and yell strike, he is a conservative. However, if he does beat his chest and yell strike, then he is a radical.

If he doesn't stop to talk, his job has gone to his head. If he does stop to talk, then that's all he has to do anyway.

If he can't put a member to work who got into trouble, he is a poor chairman. If he does get him back to work, then that is what he is paid to do.

If he should give someone a short answer, "we'll get him in the next election," but if he gives a lengthy answer, then, "He is trying to talk us out of something."

If he tries to explain something, he is playing politics. If he doesn't explain, then he is dictator.

If he gets a good contract, he should have asked for more.

If his suit is pressed, he thinks he is a big shot, but if the suit is unpressed, then he is a bum.

If he is on the job a short time, he is inexperienced, but if he has been a long time on the job, then it's time for a change.

If he pleases most of the men, he is seeking reelection, but if he doesn't please most of the men, then he is a "dead duck."

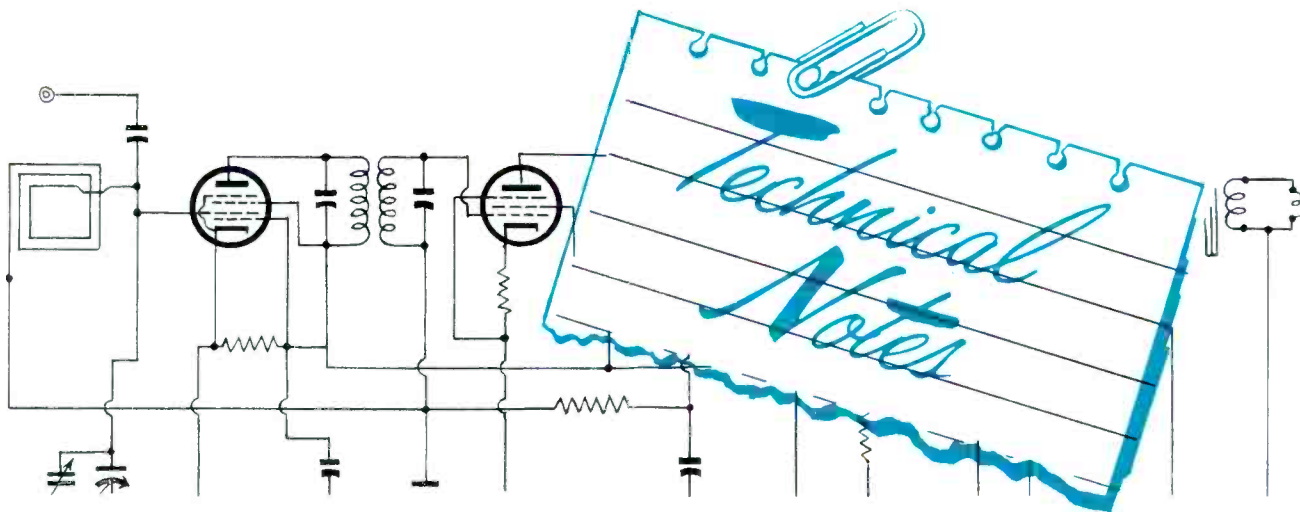
Notice of Available Employment

Experienced television technicians are currently being recruited by the Voice of America for employment in the Washington, D. C. studios. Applicants must have at least six years of technical experience in radio, television or other related fields. At least three years of this experience must have been in the area of full-time, professional employment as a television broadcasting technician.

These positions are permanent, offer the usual benefits of Federal Government employment as to leave, etc., and the rates of compensation range from \$3.08 per hour upon initial employment, with 40 cents per hour annual increases to \$4.68 per hour after 4 years' service.

Initial applications for this employment should be made on Form 57—available at any Post Office, forwarded to:

Employment Branch
U. S. Information Agency
1776 Pennsylvania Ave., N. W.
Washington 25, D. C.



FM Stereo Field Tests

On October 24 the Electronic Industries Association filed with Federal Communications Commission the report of the National Stereophonic Radio Committee on tests conducted last summer in Uniontown, Pa., of six proposed FM stereo broadcasting systems.

The tests were made at the request of the FCC, and the report will be made a part of the record in the Commission's rule-making procedure (Docket 13506) preparatory to issuing transmission standards for FM stereo broadcasting.

The report makes no attempt to recommend any one of the six systems tested. It contains, however, voluminous technical data which are expected to assist the Commission in selecting the standards. The six systems tested were proposed by Crosby-Teletronics Corp., Calbest Electronics Co., Multiplex Development Corp., EMI Electronics, Ltd. (Percival), Zenith Radio Corp., and General Electric Co.

Eight systems were referred to Panel 5, the report explains, but the Philco system and one General Electric system were not included in the field tests at the request of the proponents. In addition, the tests did not include any systems proposed by either RCA or CBS as these organizations declined to participate in the NSRC activity for legal reasons.

Panel 5 and the field tests were under the chairmanship of A. Prose Walker, Manager of Engineering of the National Association of Broadcasters. Ross H. Beville, of Stations WWDC and WWDC-FM, Washington, was Vice Chairman.

The report is probably the final one to be submitted by the NSRC. Its earlier and more comprehensive findings were submitted to the FCC on March 14, 1960, and NSRC, except for Panel 5, has been on an inactive status since.

All of the tests were conducted from one site in Uniontown using signals from Station KDKA-FM in Pittsburgh through the cooperation of the Westinghouse

Broadcasting Company. The special broadcasts were made during off-hours and using the call letters KG2XIU.

The FCC has indicated it will act promptly in its rule-making proceedings so that FM stereo broadcasting may be authorized as soon as possible. It has not stated whether hearings will be held. The closing date for filing initial comments was October 29.

The NSRC was established by EIA upon recommendation of Dr. W. R. G. Baker, former Director of the EIA Engineering Department. All of the studies, including the field tests, were financed by EIA. Industry representatives on the various committees, however, donated their time. Panel Chairman Walker estimated that 40 engineers devoted 1,300 man-hours to the field tests alone. Many hours were consumed in the earlier studies.

Radiation Warning

A three-bladed purple propeller on a yellow background has been officially adopted as a danger sign warning of radiation hazards. The American Standards Association adopted the sign now used by the Atomic Energy Commission. It will be used in areas where radiation is a danger, on all types of containers of radioactive materials, on equipment which generates radiation and on materials or substances contaminated with radioactivity.

Jazz on X-Ray Film

There have been many phony "discoveries" claimed by Russia, but now we can list one that is not only genuine but actually shows signs of real genius . . . the making of phonograph records on used x-ray film.

American observers have noted in the Russian press complaints against this type of black-market recording, which the Russians call "jazz on the ribs."

The practice has sprung up because there is a short-

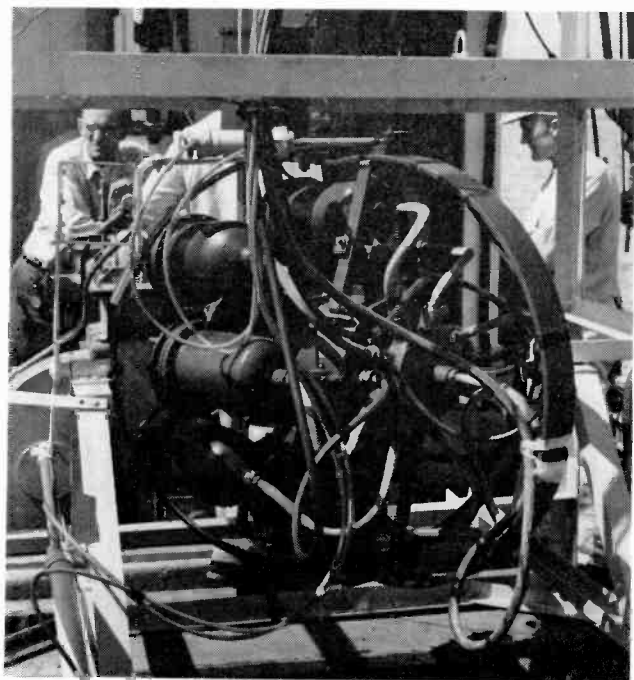
age of western-type jazz records for the jazz-loving Russians. Black-market suppliers fill this desire for jazz by cutting the records on used x-ray film, obtaining much of their music from the Voice of America broadcasts.

One Western observer said the fidelity of the records thus produced was comparable to a 10-inch record before the hi-fi era. The particular record he heard was cut from an x-ray of somebody's chest. It was a square piece of film with the circular grooves cut in the middle.

The February 17 issue of *Komsomolskaya Pravda* described a vacant lot in Lvov as "a black market department store . . . where they sell things in a whisper, with many careful glances around. . . ."

The closest approach to true fidelity might be obtained on x-ray film by cutting "I've Got You Under My Skin."

Bridge Anchor Inspection



Rear view of the light and camera array for underwater inspection of the floating bridge.

A remote-controlled closed circuit TV camera is being used to do an inspection job on the Hood Canal Floating Bridge anchor system (located in the State of Washington) that deep sea divers could not achieve.

A converted fishing boat, *Sonar Belle*, dangles a camera, eight 500-watt lights and an electric compass down into 300-foot depths. The 1,050-pound package is maneuvered by steel lines running through four 40-pound anchors placed 1,000 feet apart on the points of the compass. Techniques have improved so the camera can be positioned within a few inches' tolerance. It takes about four or five hours to completely examine one of the 42 anchors, each 19 feet wide, 40 long and 16 deep, and weighing 550 tons apiece. The

anchors are already covered with marine growths, but the pictures are good enough for the engineers.

The camera unit also measures the depth of the silt in which the anchors lie. A steel probe is pushed out of the camera package by a hydraulic motor. When it hits solid bottom, the picture tips.

The Hood River Bridge, still uncompleted, has been damaged by storms and collisions. When completed it will be composed of 23 reinforced concrete pontoons, each 50 feet wide, 14 feet deep and about 360 feet long. The anchors which are being inspected by television are designed to hold the pontoons in place.

America's Voice Extended

The General Electric Company has been awarded a contract from the United States Information Agency to build six super-power radio transmitters for the Voice of America station near Monrovia, Liberia. This installation will give the Voice effective radio coverage of Africa and supplemental coverage of other areas. In addition, it will serve as an around-the-world relay station for programs originating in VOA's Washington headquarters.

The 250,000-watt transmitters will be almost identical to the six the Company is furnishing USIA for its consolidated East Coast VOA broadcast facility near Greenville, N. C. These are the largest high-frequency, short-wave transmitters built by G-E in its 40 years in the communications field.

The latest electronic devices and techniques—including some aimed specifically at filling unique VOA needs—are packed into the super-power transmitters. They are designed to give high-reliability performance at relatively low maintenance cost. One reliability factor is the use of silicon rectifiers in the main power supplies, an innovation pioneered by General Electric in the broadcast industry.

The equipment is especially suitable for rapid change in frequency—vital to VOA as it switches broadcast coverage areas during the day. Other advancements include harmonic filters to avoid interference with other communication services and special devices to meet VOA requirements for increasing reception intelligibility.

The transmitters being built for the USIA also are equipped with vapotron cooling, the first American-built units using this system. This French-developed method is simpler and more efficient than others and can be used without blowers or pumps. The amount of water needed to cool a transmitter tube is decreased by 40 times. Besides reducing initial transmitter cost, Vapotron also minimizes many maintenance problems, such as leaks and high water-pressure troubles, and appreciably cuts down acoustical noise. The waste heat is carried away by steam, which is then condensed and returned as water to the tube.



STATION BREAKS

Stockholder 'Democracy'

In Harrisburg, Pa., State AFL-CIO Secretary Harry Block decided he was sick and tired of employer cracks about the lack of democracy in unions because fewer and fewer members get lured away from their television sets to attend union meetings. Block undertook some research into the amount of democratic participation that big business and industry allow in their own stockholders' meetings. What he uncovered about democracy in the nation's multi-million dollar corporations ought to make the propagandists for big business keep their mouths shut for a long time, at least on attendance at union membership meetings. Here are a few of the corporate paragons of democracy that Block discovered:

1—Coca-Cola Co., with more than 26,000 stockholders, had fewer than 30 individuals, including officers and directors, attending its 1960 stockholders' meeting; 2—Southern Pacific, with more than 70,000 stockholders, entertained exactly six stockholders at this year's meeting; 3—McGraw-Edison Co., with 12,000 stockholders, held its 1960 stockholders' meeting with exactly one stockholder, a nice elderly lady, turning up; 4—Sterling Drug, with 44,000 stockholders, had a crowd of 10 at this year's governing session; 5—Getty Oil, with 14,000 stockholders, drew nine of them to the 1960 parley; 6—Burlington Industries, with 30,000 stockholders, really gave democracy a workout with a throng of 11 stockholders attending the 1960 stockholders' meeting. The record, however, Block discovered, is held by Servel, Inc., which has 8,000 stockholders and succeeded in getting no stockholders at all to its annual policy-making conclave. Perhaps one reason for this success was that Servel carefully held its 1960 stockholders' meeting in a small clapboard house in Dover, Delaware.

Repeatable Quotes

"The test of progress is not whether we add more to the abundance of those who have too much; it is whether we provide enough for those who have too little."—Franklin D. Roosevelt.

Sidewalk TV Clause

In London, England, a new clause turned up in the contracts negotiated by union construction workers. Architects and builders, acceding to requests by "sidewalk superintendents," decided to put in closed-circuit television to let the watchers enjoy close-ups of the work. In short order, however, the employer discovered that he'd have to have union permission. Union members weren't going to be turned into performers without their permission. As a result, all future contracts with construction unions will specify no television without the union's stated permission.

Licensed Networks?

A renewal of the proposal to license the radio and television networks may be expected at the opening of the next Congress. Rep. Bennett (R-Mich.) has been promoting the proposal to license the networks. The FCC has gone along with a middle-ground approach which would subject the networks to some degree of regulation although without the formality of licensing. The networks object to the licensing proposal; point out that they are already licensed in every part, since every station is licensed.

How Was That Again?

When Khrushchev met with the bosses of other Communist lands during the U. N. session, a newsman suggested the following headline: "Red Bloc Heads Confer With K."

The year ahead will bring new problems for your local union. Attend every local union meeting and be an active participant in the deliberations. Your support is needed.

LAST LAUGHS



"I need more money, Horace, and save that 'hard-up' routine for the union negotiating committee!"

Technician-Engineer