

TECHNICIAN ENGINEER

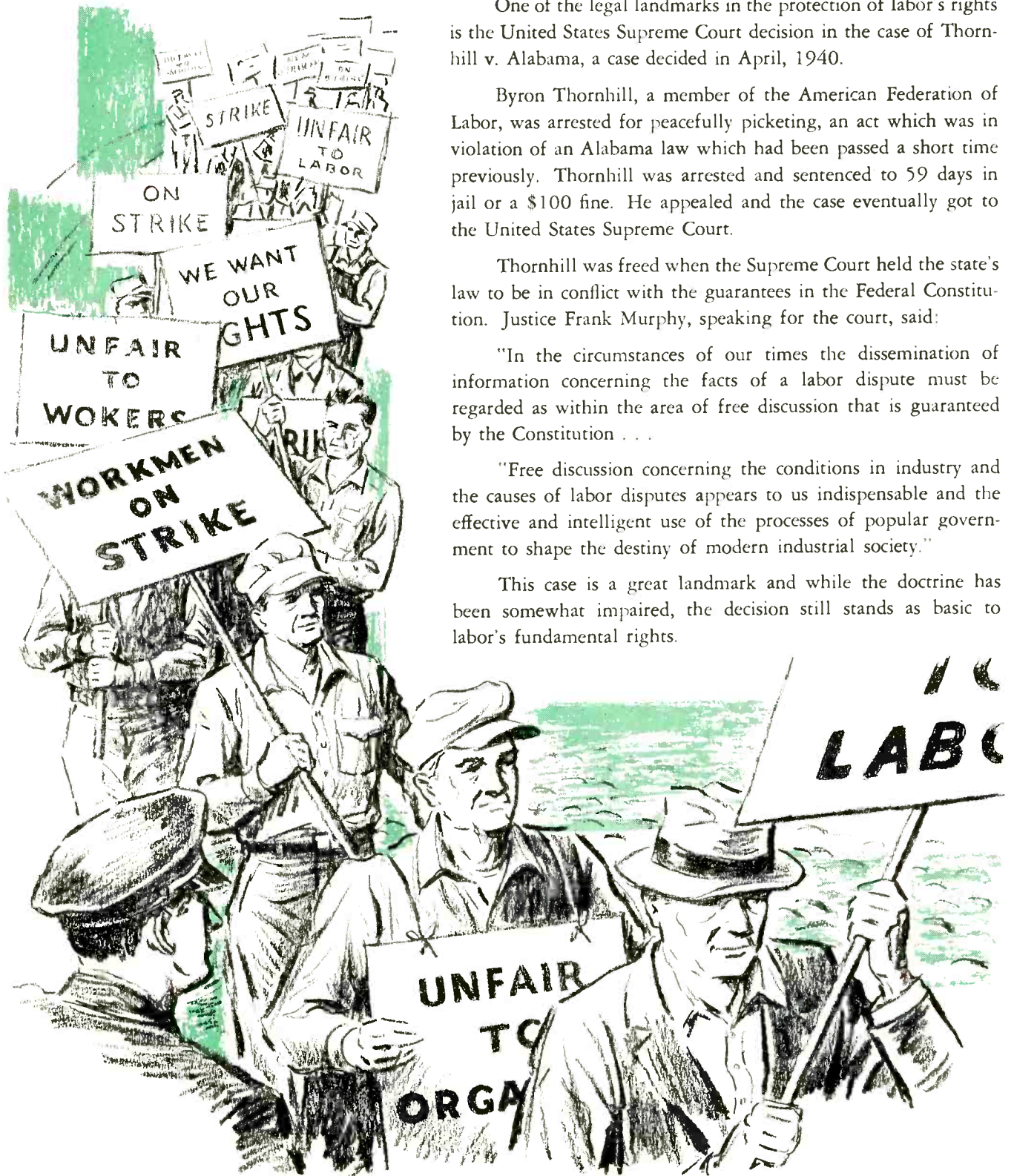
DECEMBER, 1964

Published for the Employees of the Broadcasting, Recording and Related Industries

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO

PEACEFUL PICKETING RIGHT

Held Constitutional by Supreme Court April, 1940



One of the legal landmarks in the protection of labor's rights is the United States Supreme Court decision in the case of *Thornhill v. Alabama*, a case decided in April, 1940.

Byron Thornhill, a member of the American Federation of Labor, was arrested for peacefully picketing, an act which was in violation of an Alabama law which had been passed a short time previously. Thornhill was arrested and sentenced to 59 days in jail or a \$100 fine. He appealed and the case eventually got to the United States Supreme Court.

Thornhill was freed when the Supreme Court held the state's law to be in conflict with the guarantees in the Federal Constitution. Justice Frank Murphy, speaking for the court, said:

"In the circumstances of our times the dissemination of information concerning the facts of a labor dispute must be regarded as within the area of free discussion that is guaranteed by the Constitution . . .

"Free discussion concerning the conditions in industry and the causes of labor disputes appears to us indispensable and the effective and intelligent use of the processes of popular government to shape the destiny of modern industrial society."

This case is a great landmark and while the doctrine has been somewhat impaired, the decision still stands as basic to labor's fundamental rights.

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The INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS

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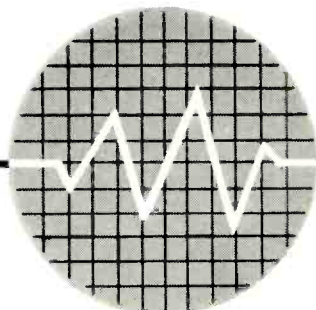
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TECHNICIAN ENGINEER

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ALBERT O. HARDY, Editor

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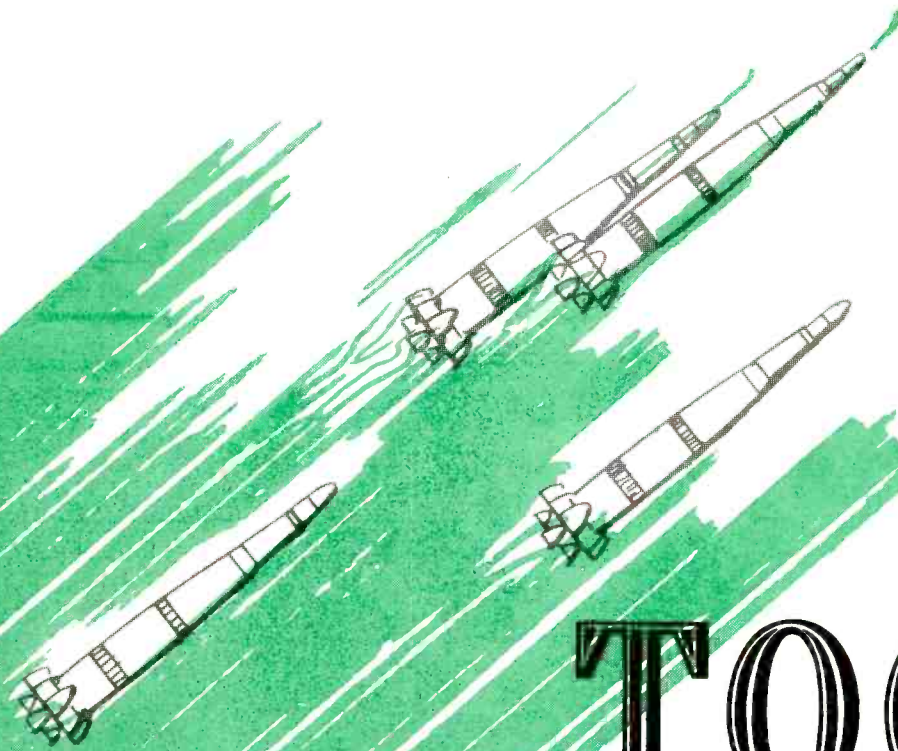
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the cover *The etching of the Nativity on glass, the growing of Christmas plants, the wrapping of gifts, and the checking of light circuits for midnight church services are just a few of the many jobs to be done in preparation for Christmas. These tasks are joyfully completed with the hope that this Christmas and the New Year will bring the world a little closer to the ultimate goal of world peace and understanding.*

May this Holiday season bring health, happiness and prosperity to all.

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 1963 figures: October, 1964—108.5; October, 1963—107.3.*

commentary *That time is upon us when one grows desperate. All the days since the first frosts brought the miracle of autumn the postal service has bustled and burst with planning and preparations for the Christmas rush everybody knew was coming, and now it is in its zenith and somewhere over there beyond the lowering crest is Christmas. So much to do and so much to be done for others, that one almost forgot there was something to do for one's self—personal shopping—and in spite of all the resolves and good intentions for others, in this necessary duty most postmasters have failed—or almost. Comes the vexatious hours when the spirit of giving swells and begins to haunt us miserably. We turn to the public print for ideas for gifts for those hard to please or who have everything. Things like electric socks with dry-cell batteries for heating in the hip pocket, automatic spaghetti winders, a leash for pet turtles, a plug-in electric back scratcher. None of these seem to suit, and the hours are ticking away. So in desperation—or is it just gracious thoughtfulness—we hurry out to buy a picked-over lot of Christmas cards, and send them on first-class, of course, and then—why didn't we remember?—let the wife do the rest of shopping, buying and mailing. She always has.—The Postmasters Gazette.*



TOOLS

for the Troubleshooter in Space

Sooner than most of us really think believable, man will ride the first thundering rocket into a prolonged stay in a topsy-turvy world of no gravity, on the road to the moon. Before he goes, engineers must consider the most minute details of space man's need. A critical one is the tool kit required for repair and maintenance of his equipment.

OUT IN SPACE, on the long, lonely voyage to the Moon, Venus, Mars and beyond, man must take with him the capability of maintaining and repairing his equipment. Even on-board attention to the essential electronic equipment which will help him calculate the progress of his journey, and communicate with Earth, poses some very special problems. There simply won't be room for an inexhaustible supply of spare parts. The equipment must be built to exceptional standards of reliability, and maintained to stay that way.

Members of the crew must be able to make adjustments and repairs in the shortest possible time. On a space journey, bare seconds of rocket control may make the difference between making target or drifting past to become a perpetual lifeless space derelict.

In addition to the mental challenge of in-space maintenance and repair responsibilities, man will find the simple mechanical manipulation a trial too. This is because most of the journey will take place where the gravitational pull of the planets is so intermingled, and so weak, that gravity virtually ceases to exist.

At home on terra firma, we take gravity for granted, but without it, we would find ourselves topsy-turvy over some of the most simple tasks.

When we turn a panel screw with a screwdriver down here, the reaction of the muscular force applied to the screwdriver handle is overwhelmed by the resistance of our weight. Feet stay glued to the floor, and the screw turns.

But when the human body is weightless, the reaction would be enough to rotate us about the screwdriver handle, most likely without even budging the screw. A light tap with a finger on a bulky meter face could start an astronaut off on a short journey to the back side of the compartment.

Hanging in a simulated space-world, an engineer demonstrates use of the power Zert. The back pack contains life-support systems to provide oxygen, heat and air conditioning.



Pulling a printed-circuit card would not be much of a problem, because the astronaut would be pulled against the cabinet by the reaction. But inserting a card would produce the same unpleasant side effect, probably more violent, than tapping the meter dial.

Other jobs anticipated for space crews—opening and closing valves, operating external doors and inside compartment closures, adjusting life-support systems, adjusting couches and instruments, and trouble shooting equipment—these jobs will require special tools.

Right now, scientists of the Air Force, NASA, the Navy, and the aerospace industry are actively searching for the ultimate space tool designs. They have developed a number of interesting and unusual tools, but still feel they are a long way from finding all of the answers to problems which will arise.

One scientist, employed by the Lockheed-Burbank Corporation, recently put himself through a series of simulated, space-craft external repairs and reported that they won't be practical until further developments take place.

The researcher, George Hanff, was strapped into a free-swiveling, stand-up rack, supported from overhead by a complex of gimbals and bearings which freed him from much of the restrictions of gravity, about as much as is possible on Earth.

Because he was investigating external repairs, Hanff was additionally handicapped by a heavy pressure suit, necessary for life in the near-total vacuum and near-absolute zero temperature of space. The suit restricted freedom of movement rather severely. Gloves "made my fingers like sausages", he said later. The reduction in sensitivity and dexterity prevented handling some small nuts and bolts, and others were manipulated only with great difficulty.

Jobs such as removing and replacing panels took as much as five times longer than they would have outside of the swiveling rig and suit. The lack of gripping force, Hanff said, also complicated work with squeeze-type tools, such as pliers.

Even so, the gripping hand suggests to space engineers one of the most promising possibilities for designing unusual tools which impart no reaction to the operator. One already developed, called a "plench," to indicate its heritage from both pliers and wrench, uses a squeeze to turn a ratchet mechanism. This can be used to turn nuts, screws and a variety of other components.

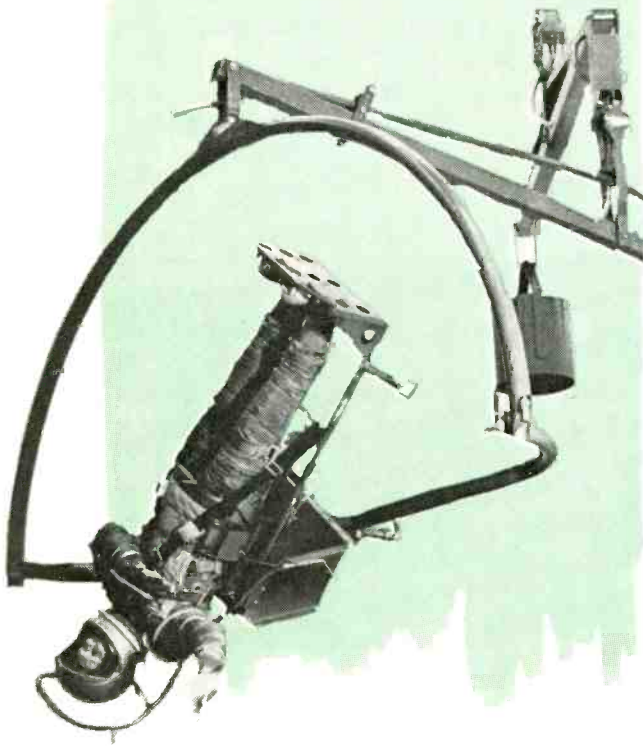
Similar manual devices for turning nuts and bolts are called "zerts"—for zero reaction tool—although all of the space tools are designed principally to avoid the reaction force.

There is a spring-loaded "spammer"—SPACE-haMER—which operates on the same rough principle as a riveter's gun, but without the objectionable backward push.

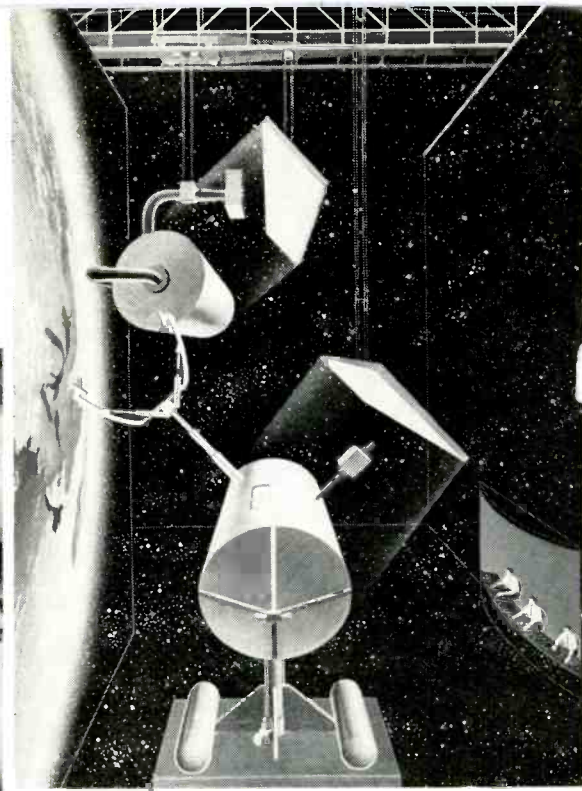
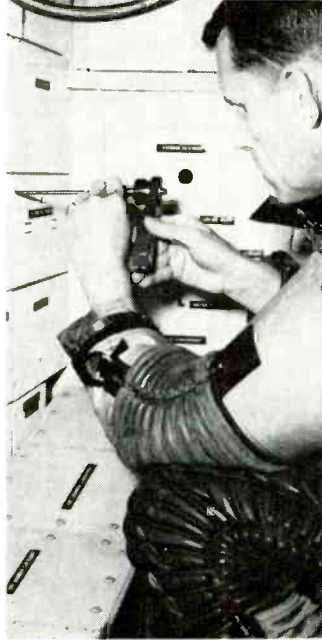
All of these show promise of helping man in his space

Proposed nine-story-tall simulated space-world (right) would test designs for heavy space repair and maintenance work.

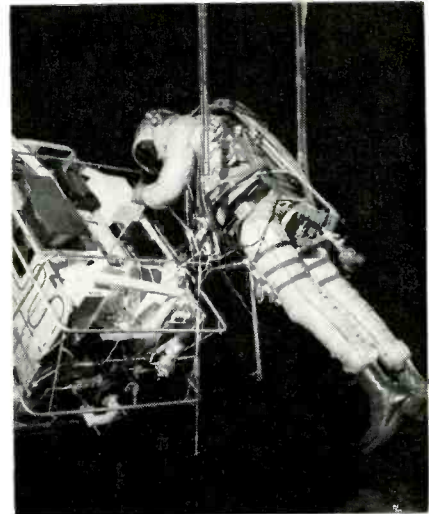
Multi-purpose tool designed for NASA's Apollo program (below) weighs 12 ounces, performs many maintenance jobs.



Swivelled and gimballed like the rotor in a gyroscope, engineer George Hanff tests body control by air jets attached to his gloves.



Working on a full-scale mockup of a biological satellite, researchers found joint movement difficult.



work, but one of the more interesting tools is a power zert, which looks much like a standard power drill. Developed by Black and Decker under subcontract to the aerospace firm of Martin-Marietta for the Air Force's Aero Propulsion Laboratory, this tool is not truly without reaction.

Applying forces from 180 inch-pounds to 480 inch-pounds, the power zert reacts with a force of less than one inch-ounce. This is so low that for all practical purposes, the spaceman can use it without difficulty.

To simulate zero-gravity for testing the proposed tools, Air Force scientists generate some of the real thing with conventional cargo-transport jets. To give researchers brief but genuine doses of no-gravity working conditions, scientists, mockup work panels, and tools are flown in KC-135 aircraft. The planes build up speed in a dive and then pull upward and over into a coasting arc. During this arcing flight, which lasts about 30 seconds, everything aboard becomes weightless. Cords coiled on the floor seem to come alive, uncoiling and springing upward as the wire is relieved

of its own weight. Parachute packs gently lift off the floor, and move gracefully about the cabin until pinned down by a crew member.

In a recent test, airmen tried out conventional box end wrenches on a simulated hydraulic system repair job. Any constructive work was impossible. As soon as muscular effort was applied, the airmen went spinning around the nut helplessly.

But the new power tool proved capable of loosening and tightening nuts with little trouble.

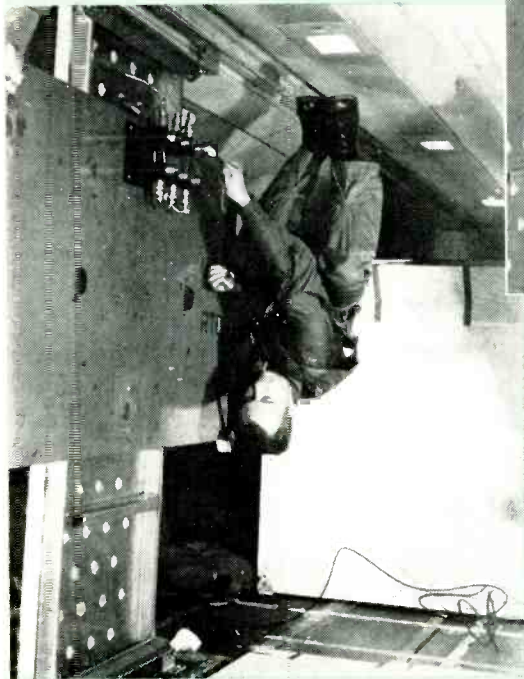
The challenge of producing such a power tool with practically no reaction to the turning bit was met ingeniously. The whole motor and case rotate on ball bearings, and a controlled internal restraint system transfers motor reaction to the output shaft. In addi-



(above) A simple hand squeeze is translated into rotating motion by the ratcheted Plench.



Aboard an Air Force jet in actual zero-gravity conditions, an airman tries conventional box wrench on a simulated hydraulic unit. In the photo at left, he has just fastened the tool on the nut and is about to apply force. The reaction throws him out of position, (above) and finally separates him from the work completely (right).



tion, to provide maximum force with minimum bulk, energy is stored in a spring mechanism over a long period of time and released during short bursts of maximum effort.

For the Apollo space program—this nation's first manned venture to the moon, North American Aviation produced a tool kit specifically tailored to the mission. One of the key items is a manual multi-purpose tool, weighing just about 12 ounces, which will be used in the command module for a dozen or more adjustment tasks and an anticipated 30 maintenance jobs.

Even farther down the interplanetary road than in-flight adjustment and minor interior maintenance, there will undoubtedly be occasions when repairs and construction work must be performed in the black void outside the space vehicle. Sooner or later, ways will have to be found to inspect, adjust, repair or capture orbiting satellites . . . hook up space vehicles . . . construct and maintain space stations.

Eventually, scientists will create an artificial gravity *inside* space craft and relieve the problems of weight-

lessness there, but the free-floating problems outside a space ship will take longer to solve.

Plans are being laid right now to develop some of the special tools and equipment to handle this work. Scientists are considering telescoping booms with arm-like grasping devices, magnetic heads or adhesive attachments. There are special ring and cone mechanisms under consideration for the job of mating spacecraft, and even a kind of cable lasso for retrieving space-traveling mavericks.

Despite the difficulties, it's a safe bet that before an astronaut makes a journey to the Moon or Mars, he will have a tool kit capable of handling the job. Mundane as a zert may seem beside a million-pound-thrust rocket motor, in space as nowhere else, man must be able to keep his electronic and mechanical equipment in perfect working order. Simple hand tools, specially designed for space, are indispensable. And in the process, the earth-bound technician at a console is likely to benefit by a new design originally created to satisfy the new space role of man.

THE UPSIDE-DOWN POLL

Election Results Shatter Claim Voters Favor 'Right-To-Work'

WASHINGTON (PAI)—A poll which is supposed to “prove” that the American people favor “right-to-work” laws by a two to one margin has been vigorously denounced by the anti-“right-to-work” National Council for Industrial Peace.

The NCIP called attention to a publicity release circulated by the so-called “National Right to Work Committee,” an organization frequently identified as the propaganda “front” on right-to-work laws drives for the National Association of Manufacturers and the U. S. Chamber of Commerce.

The press handout claims that “two out of three Americans” favor enactment of the law that is designed to destroy labor-management collective bargaining. It is based on a poll of 1,025 persons and purports to represent the considered judgment of 180,000,000 Americans.

“This is something new in the books,” the National Council for Industrial Peace said in a statement.

“Polls are usually conducted before the fact to predict

what may happen in an election. But the right-to-work committee is now using a poll, conducted after the fact, to say that what happened in a series of elections was not what the voters intended, at all.

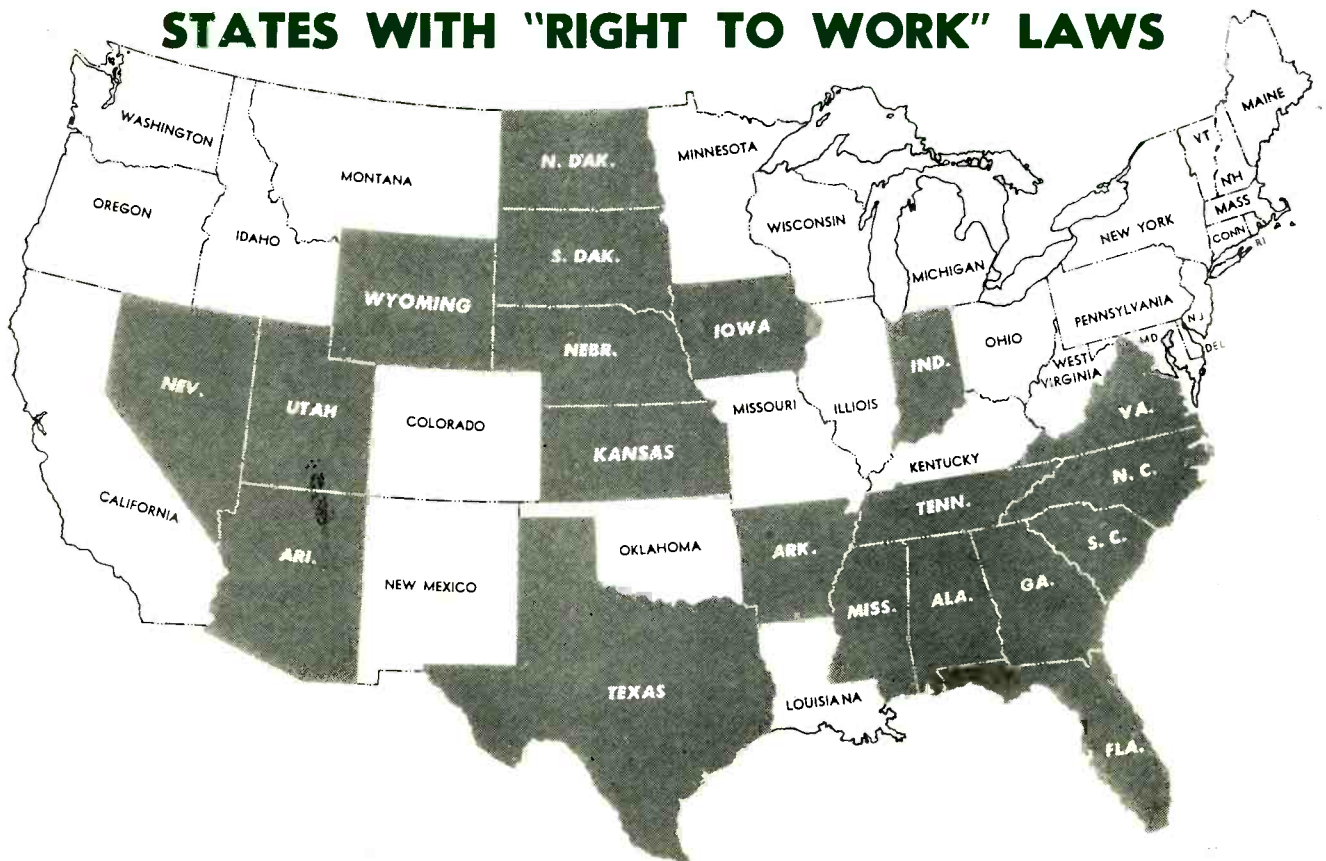
“But the real fact is that voters in every state that has voted on the issue in recent years, except one, have decisively rejected this anti-collective bargaining law.

“And in several of the states, voters have rejected the ‘right-to-work’ law by virtually the same percentage this right-to-work committee claims favors such legislation.”

Oklahoma voters last May 5 decisively rejected a “right-to-work” constitutional amendment proposal. Earlier, in 1958, the proposal was defeated by voters of California, Ohio, Washington, Colorado and Idaho. Kansas is the single state in recent years that has approved such an amendment in an election.

“This is another case of the upside-down thinking of these right-to-work propagandists,” the National Council for Industrial Peace said. “Their poll claim should fool no one.”

STATES WITH “RIGHT TO WORK” LAWS





Broadcast Facilities For The Coming Inaugural Approach Completion

IN mid-December, a crew of carpenters directly across the street from the White House labored heavy 8x8 timbers into place and fastened them with huge bolts, to support a temporary vantage point for radio and television crews covering the Presidential Inaugural Parade.

The structure looked unusually massive, and it was. To be absolutely sure that no mishap mars the inaugural events, the District of Columbia Government, which specifies construction details, asked for a greater margin of safety than ever before.

The reason is clear. Supported over the heads of parade spectators will be a two-deck press stand over a hundred feet long. The bottom level, open to the chill January Washington weather, will accommodate still photographers. The upper enclosed level is for radio and TV coverage.

Back up the parade route, at one of the best locations for getting a straight shot down the longest stretch of the parade, another large press stand will be built. There are two other small stands, strategically located at corners, for additional coverage.

At the Capitol Plaza, where the President will take the oath of office this January 20, a second massive press box had been almost completed by mid-December. Also built extremely ruggedly, it will give newsmen and technicians an excellent vantage point for zooming in on the swearing-in ceremonies and some of the world's notables.

Joining the President and Vice President will be foreign ministers and ambassadors, state governors, the President's cabinet, the Supreme Court, members of Congress and the nation's top military leaders.

After the ceremonies—which will break tradition this year and begin with the swearing-in, instead of waiting until introductory remarks and a prayer have been offered—the inaugural parade of states and military units heads down Pennsylvania avenue.

There is no doubt which state will be leading the show. As specified by tradition, Texas will field the first unit. Then follows Minnesota, honoring the Vice President's state. After these two honorary positions come the other states in the order of their admission into the union.

The parade attracts thousands to Washington. All told, 50-60,



Almost silhouetted against the bare trees of Washington's winter, workmen (top left) put together the framework for a two-tier press box across from the White House. While they worked, the press box at Capitol Plaza was receiving finishing touches. In the 1961 inaugural, the Capitol press box was brimming full (above).

000 temporary seats will be erected, along with the press coverage facilities, for the few hours it takes to conduct the formalities and parade. This year, the Inaugural Committee, which is responsible for arranging events, hopes to trim parade time to 2 hours and 20 minutes, History casts some reasonable doubt on the prospect, but Committee Chairman Dale Miller is optimistic.

In an effort to keep down the length of the parade, and get it past the end of the route before nightfall, the Committee is rationing each state's share of the parade. One band, one marching unit, and one float will be allowed.

No matter how long the parade takes, however, there will be spectators to fill all the seats, and then some. It will be one of the high spots of a week-long celebration. Two or three days before the inauguration, affairs of state and government honoring the Johnsons and the Humphreys will be held in many of Washington's most attractive hotels and public facilities. There are uncounted receptions, and parties, and dances—official and unofficial—which make Inaugural week Washington's once-every-four-year Mardi Gras.

The cost of the official functions alone runs close to \$1.5 million. But, surprisingly, all of this and more is raised by the Inaugural Committee. In 1961, after all the receipts from souvenirs, ball tickets, programs and other income-producers were totalled, there was a \$250,000 profit. \$222,000 went to charity, and the rest was used to kick off activities for this inauguration.

In all of the scattered, spectacular events there will be small armies of broadcasting personnel, bringing to the viewers virtually all over the world a share of the celebration.



Survey Rates IBEW High In Political Aptitude

WASHINGTON (PAI)—A survey of Press Associates indicates that more union members are being elected to state legislatures than ever before.

The PAI study of 12 representative states from coast to coast shows that not only is the number of union-member legislators growing, but that a large number of unions are involved.

Hereunder is the breakdown on the number of union members serving:

State	Senate	House
Delaware	2	5
Kansas	4	3
Ohio	3	3
Oregon	5	10
Massachusetts	1	11
Minnesota	4	16
Missouri	3	15
Montana	1	9
North Dakota	—	5
South Dakota	—	1
Washington	6	14
West Virginia	4	15

Relatively few of these states are considered heavily union. Yet, for the most part, a fair number of unionists were elected to office.

The total shows that in the 12 states, 33 union members are in the state senates and 107 in the state houses, for a total of 140 unionists in the legislatures.

In heavily industrial sections the total picture would probably be altered, but there were more members of the American Federation of Teachers elected to the legislatures in the 12 states than members of any other unions.

Also rated high are the Steelworkers, International Brotherhood of Electrical Workers, Teamsters, United Auto Workers, Typographical Union and members of the various railroad brotherhoods. Members of 37 international unions were elected to the 12 state legislatures.

The material used in the PAI survey was provided by officials of the State AFL-CIO Councils in the states represented.

In Ohio, Frank King was re-elected to the state senate. He is president of the Ohio AFL-CIO, as well as a member of both the Bricklayers and Teachers unions. He is, in addition, the minority leader of the state senate.

Squeakers Again Prove That One Vote Counts

It's been proved as often as it's been said: One vote counts!

While everyone's eyes were on President Johnson's landslide election as results poured in November 3, scores of races—for the U.S. House, U.S. Senate and governor's seats—were being decided by a relative handful of votes.

In 63 contests, the winner emerged with 52 percent or less of the total vote. In all, 495 contests were held, so it works out to a ratio of one in eight where a razor-thin margin decided the outcome.

Seven of these were Senate races, and they were real squeakers. In Nevada, liberal Sen. Howard Cannon (D.) held his post with a bare 50.1 percent of the vote. The outcome resulted from a recount. In Ohio, pro-labor Sen. Steve Young (D.) withstood the challenge of Robert Taft Jr., capturing 50.2 percent of the total vote. And in Oklahoma, Fred Harris (D.) scored against former Oklahoma University football coach Bud Wilkinson to win with 51.1 percent.

In Pennsylvania, incumbent Sen. Hugh Scott (R.) regained his seat with 50.6 percent of the vote, defeating liberal Genevieve Blatt.

In three other Senate races, extreme conservatives won out over liberals. Delaware Sen. John J. Williams (R.) was returned for a fourth term, notching 51.7 percent of the vote. In California, President Kennedy's former press secretary Pierre Salinger, was defeated by ex-movie star George Murphy who won 51.3 percent of the vote. The same margin put Goldwater friend and supporter Paul Fannin into the Senate from Arizona.

In governor's races, six contests were decided by less than 52 percent of the total vote. In the closest of them, John Volpe (R.) won in Massachusetts with 50.5 percent. Volpe knows how much one vote counts. He was governor of the Bay State from 1960 to 1962. He lost two years ago to Endicott Peabody by 50.1 percent of the vote.

Liberal Gov. John Reynolds (D.) of Wisconsin was nosed out by 50.7, but in neighboring Illinois Gov. Otto Kerner (D.), with 51.9 percent, defeated Charles Percy's bid for national recognition as a possible GOP presidential nominee in 1968.

In Montana, extreme conservative Gov. Tim Babcock (R.) retained his job with 51.3 percent, and in South Dakota another incumbent conservative, Gov. Nils Boe, held on by the fingernails with 51.5 percent. In Delaware Charles Terry won with 51.4 percent.

Fifty House contests fell into the 52 percent or less category.

The closest of them came in New York's 30th District, where incumbent reactionary Carleton King (R.) was reelected with only 50.03 percent of the vote. He won

by just 148 votes out of nearly 200,000 votes cast.

Time Magazine claimed that one major factor in the Ohio elections was organized labor's thirst for revenge against the son of the man who cosponsored the Taft-Hartley Law in 1947:

"Heavily unionized areas, such as Lucas County (Toledo), bludgeoned Taft by giving Young a 33,000-vote

plurality out of 179,900; Nixon lost that county by only 8,000 votes.

Said young Bob (Taft) in an election post-mortem: "The organized-labor vote was very effective in the Ohio campaign. It was just about the whole campaign organization. I suspect they were effective because they stayed behind the scenes and ran things quietly."



Merry Christmas and a Happy New Year

As we again approach the time for commemoration of the birth of Christ, it is our sincere hope that the coming year will bring us closer to peace, understanding and good will throughout the world. We would like to extend to every officer and member of our organization and their families best wishes for a most joyful Christmas and a happy and prosperous New Year.

GORDON M. FREEMAN
International President

JOSEPH D. KEENAN
International Secretary

and your International Representatives

ALBERT O. HARDY
KENNETH D. COX
RUSSELL D. LIGHTY
O. E. JOHNSON
WALTER REIF

FREEMAN L. HURD
HAROLD J. BECKER
TAYLOR L. BLAIR, JR.
PETER IPPOLITO
HENRY M. CONOVER

A. R. BREWTON



Participants in the New York meeting, seated, left to right are: Donald F. Conaway, executive secretary, AFTRA; T. L. Littlewood, British Association of Broadcasting Staff, London; A. J. Forrest, director, ICFTU, Brussels; Herman Kenin, president, AFM; Richard F. Walsh, president, IATSE, Frederick O'Neal, president, Actors' Equity. Standing: Albert O. Hardy, IBEW; Harold Berg, AGVA; Stanley Ballard, AFM; George V. Clancy, AFM; Milton Weintraub, ATPAM; Arthur Hjorth, NABET; Angus Duncan, Actors' Equity Association. Absent at luncheon because of prior commitments: Irving Brown, ICFTU representative at the United Nations; Harold Hoffman representing Screen Actors and Screen Extras Guilds, and Hy Faine, executive director, American Guild of Musical Artists.

IFEW Affiliates Meet in New York

ON November 5th the United States affiliates of the Inter-American Federation of Entertainment Workers met in New York with Mr. T. L. Littlewood from the British Association of Broadcasting Staff and Director A. J. Forrest of the International Confederation of Free Trade Unions.

Mr. Littlewood came from London and Mr. Forrest from Brussels to discuss the formation of an International Trade Secretariat within the I.C.F.T.U. by expansion of the present Western Hemisphere organization. The conferees were guests of the American Federation

of Musicians, at the Musicians' new headquarters office, and continued their discussions through the luncheon hour at a nearby dining room.

The participants, in concert with free and democratic trade unions around the world are attempting to block and counteract the Communist-spawned Federations of entertainment workers known as F.I.M., F.I.A. and F.I.V.A. The AFL-CIO and the ICFTU are solidly behind their efforts and activities. The agenda established by the conference in New York will be submitted to a Brussels conference of ICFTU members in March 1965.

IBEW Wins Crucial Injunction Ruling

THE International Brotherhood of Electrical Workers has won a highly important decision with a ruling by the United States District Court in Des Moines, Iowa, against a State-imposed injunction.

The decision was significant because the Norris-LaGuardia Act, which is applicable to Federal courts, drastically restricts Federal court power to issue injunctions in labor disputes while State courts are inclined to go much further.

Judge William C. Hanson of the U.S. District Court in Iowa held that his court had jurisdiction in an injunction suit brought by the Iowa Power and Light Company against the IBEW and its Local 499. He rejected the company's efforts to have the case sent back to the Pottawattamie County Court in Iowa where it first began.

The suit arose from a dispute over the meaning of a collective bargaining agreement between the Iowa Power

and Light Company and the IBEW. The company, claiming that the IBEW had breached the agreement, brought suit in the Pottawattamie County Court in Iowa and succeeded in getting an injunction against strike action. The injunction was issued without giving the union notice of it or an opportunity to be heard by the court. The union opposed the injunction, contending that strike action was permissible because the contract had expired.

Pending action by the Iowa legislature on the AFL-CIO resolution, the IBEW moved to have the Pottawattamie County injunction suit transferred to the Federal Court in Iowa. The company resisted this move, contending that the Federal Court was not a proper forum to hear the case. The Federal Court rejected the company's contentions and agreed with the union that the case should be taken out of the hands of the Pottawattamie County Court.

**THE
LABOR-
MANAGEMENT
WHIRL**

The Label Is A Must

• *IN WASHINGTON, D. C., when Mrs. W. Willard Wirtz, wife of the U. S. Secretary of Labor, goes to buy Christmas cards she always looks at the back first. The Washington Star explained why. "No roly-poly Santa or gleaming Christmas tree can tempt Mrs. Wirtz if the card lacks a label—a union label, that is," the Star reported. "This little mark of union workmanship stands between her and an avalanche of complaints from irate labor leaders who'd flip an eyebrow over a non-union Christmas greetings from the Secretary of Labor and his wife. Recently Mrs. Wirtz found her favorite card—a white dove of peace against a blue and gold field. Just as she was about to place her order she discovered the union label was missing. So now the store is trying to learn whether it was union made."*

Lie Detectors Help Some Find Jobs

• *IN PALO ALTO, CALIF., organized labor's opposition to lie detector tests was given one of its biggest boosts on record. One of the country's outstanding intelligence experts, Stephen T. Possony, now of Stanford University's Hoover Institution, declared that lie detector tests, instead of weeding out dangerous characters, can actually make it easier for them to find employment. When it comes to sensitive government jobs, pro-Communists and homosexuals may find it easier to get positions. The latter show no reaction because they have no feeling of guilt about themselves; and as for Communists and spies, they learned long ago that swallowing a half-dozen tranquilizers is the easiest way in the world to frustrate a lie detector.*

Despite this and other evidence, however, U. S. employers continue to pay millions of dollars a year to administer lie detector tests to their workers. "For too many bosses," said one disillusioned detective last month, "lie detectors are gimmicks and gadgets, and they shouldn't be allowed to play around with these toys."

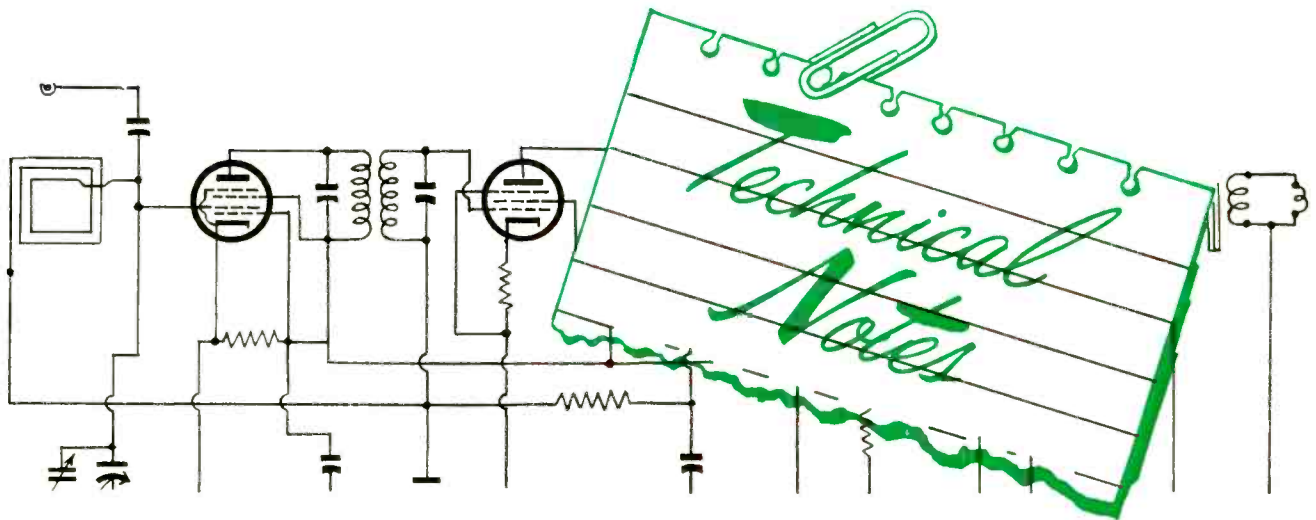
Watch Those Restrictive Covenants

• *IN NEW HAVEN, CONN., until recently restrictive covenants were assumed to be gimmicks inserted in real estate bills of sale or leases. But suddenly Connecticut courts and union officials have found that restrictive covenants have become a gimmick used by employers against workers—a sort of modern day yellow-dog contract.*

The Connecticut Superior Court discovered the existence of the new kind of restrictive covenant when it agreed to review the case of a switchboard operator for a telephone answering service. The girl worked for four months before she was fired for refusing to sign a restrictive covenant which the employer decided to require his workers to sign as a condition of continued employment. The astonished State Unemployment Compensation Commission found that "The restrictive covenant would prevent her from working in an answering service either as owner or an employee for a period of two years after the termination of her employment with the Answering Service, regardless of time, manner, cause or lack of cause of termination."

The issue came to a head when the switchboard operator was fired for refusing to sign the restrictive covenant and then discovered, when she applied for unemployment compensation, that her former employer was opposing the application.

In handing down its decision the State Superior Court declared: "The switchboard operator certainly was under no obligations to thus restrict her manner of earning a living, and her refusal to sign cannot be considered 'misconduct' in any sense of the word, even if deliberate. Had she signed and immediately thereafter been discharged for no fault of hers, the resulting inequities are too obvious to require comment." The Superior Court told the girl she could start picking up her unemployment compensation checks any time she wanted—and the new type of restrictive covenant was tossed on the judicial trash pile.



FREQUENCY PROBLEMS FOR ETV

The FCC is considering a request by Midwest Program for Airborne Television Instruction, Inc. (MPATI) to allocate six UHF channels on a regular basis. Operating experimentally on Channels 72 and 76, MPATI rebroadcasts educational programs from aircraft flying at 22,000 feet to 2,000 schools in Indiana, Ohio, Kentucky, Illinois, Michigan and Wisconsin.

During hearings before the commission in October, opponents of the proposed channel allocation expressed fears that assignment of the six new channels—72, 74, 76, 78, 80 and 82—would reduce the midwest UHF spectrum by 40 percent. MPATI claims that airborne rebroadcasting on the six channels would cover as much area as 114 ground-base ETV stations.

The FCC, according to *Broadcasting* magazine, appears to favor assignment of channels in the 2500-2690 mc band, established last year specifically for point-to-point ETV. MPATI says the band lacks ability to do the job.

AIRBORNE BIG BROTHER

An airborne system to rate TV audiences was planned to check viewer preference in Chattanooga, Tenn. in November. Special airborne equipment—carried in light twin aircraft capable of instrument flight for bad-weather monitoring—detects signals given off by the local oscillator in the TV set. Separate airborne receivers, matched to the oscillator frequency for each channel in the subject area, feed simple data processing equipment, which translates signals into information on the number of tuned TV sets.

The proposed test was to be carried out by Television Audit Corp., Winter Park, Fla. The audit firm has been in business about a year, although the idea can be traced back seven or eight years. Dave Nicholson, president of TV Audit, said the principle was first

discovered during studies of TV set interference with the instrument landing system of the Philadelphia airport.

Audit flights are flown over selected target tracts. At an altitude of 2,500 feet, the airborne equipment can pick up sets in a one-mile-wide path. Measurement is independent of the distance of the transmitting station. As long as the signal can be tuned in by the local receiver, a measurable oscillator signal can be detected.

BRIGHTER COLOR VIDEO

A new rare-earth red phosphor for color CRT's has been introduced by *Sylvania*. The new phosphor, europium, is reported to be 40 percent brighter than the material now used, and is not subject to color change at higher beam currents. This makes it possible to increase current for all three color guns, producing a brighter image. Red phosphors in current use limit brightness because of an occasional color shift toward orange as current increases. Developed from *Sylvania* laser experimentation, the new red phosphor has stimulated interest in finding new blue and green phosphors for even better performance.

FCC EXAMINES STEREO TV SOUND

The Federal Communications Commission has asked for industry comments on the practicality of stereo sound for television broadcasts. The primary interest of the Commission is in possible effects on picture quality and sound reception on normal TV sets as well as stereo-equipped sets.

DETECT TWO WIRES RUBBING?

Some super-sensitive detectors are being built by the U. S. Bureau of Standards, in a research program aimed at sensitivities of .0001 db. So far, Bureau

scientists have come up with a detector capable of responding to a signal 210 db. below one volt—a sensitivity of 36 picovolts. They're within 17 percent of the theoretical limit of 29.9 picovolts for the circuit.

AUTOMATED SWITCHER-MIXER

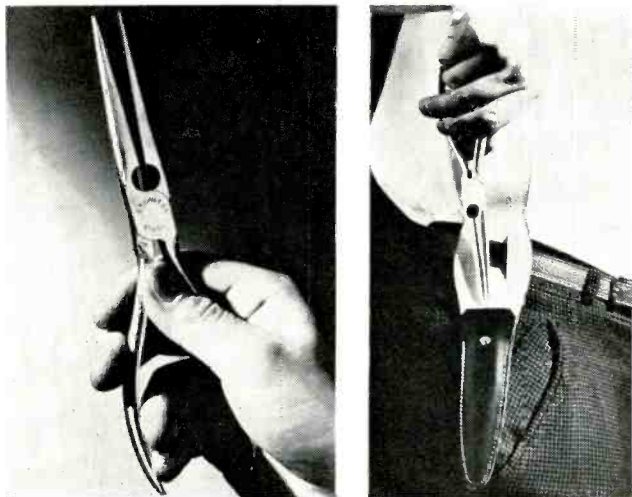
A new computerized switching system has been announced by Sarkes Tarzian, Bloomington, Ind. Operating from program log input, the system is capable of integrating a variety of audio-video sources, from live cameras and recorders to film and slides, according to *Broadcasting* magazine. The equipment is reported to be capable of handling cuts, fades and dissolves automatically.

MEDICAL CHECKS BY PHONE

The U. S. Government recently tested a new method for getting medical heart information on greater numbers of people. A portable, seven-pound machine was taken to subjects' homes by nurses, connected to the patient and the telephone. Electrocardiograms were transmitted over the telephone lines to a certain station for analysis.

The Government's interest is in finding ways to locate a higher percentage of people in need of medical attention and getting better measurements of the incidence of heart disease in the entire population.

STAINLESS STEEL PLIERS



The new all stainless steel pliers shown above are the first rustproof, corrosion-proof stainless pliers to be offered commercially. They are fully drop forged and precision hardened and tempered for rugged service. The jaw serrations are precision machined for full interlock, enabling the thinnest objects to be securely held. The cutter will easily cut the toughest wire. These pliers will always open and close freely; no binding, stiffening, freezing or rusting. This is said to be an ideal tool for boat owners, fishermen, hunters, gardeners, motorists, mechanics, electricians, plumbers, repairmen and handymen. The pliers come complete with a leather cloth wallet-belt holster from Witherby Products Division, John H. Graham & Co., Inc.

December, 1964

Labor Research Internship

The AFL-CIO announces the continuation of its Labor Research Internship for the year beginning July 1, 1965.

ELIGIBILITY: The internship is open to any college graduate who is a citizen of the United States and who will have completed at least one year of graduate work by June 1965.

TERMS OF INTERNSHIP: The intern will be expected to become a regular staff member of the AFL-CIO Research Department in Washington, D. C., for one year beginning July 1, 1965. He will be working with senior staff members and on his own initiative on a variety of problems in the general field of economic analysis, labor legislation, foreign trade, taxation, collective bargaining developments and related issues. He will also have the opportunity to attend meetings, conferences and workshops with other representatives of labor and government officials.

Although it is not a prior condition, it is hoped that the intern will elect to embark upon a research career in the American labor movement at the end of the year.

SALARY: In accordance with qualifications but not less than \$6,000 a year.

APPLICATIONS: Applicant should submit to the AFL-CIO Department of Research, 815 16th Street, N. W., Washington 6, D. C., the following information as soon as possible, *but not later than March 1, 1965:*

(1) Two copies of a special application form (if not available at your school, write to the AFL-CIO Department of Research for blanks).

(2) Transcript of the applicant's college and graduate record (through January 1965).

(3) A statement of not more than 500 words explaining the applicant's interest in organized labor plus some indication as to his plans for a future career.

SELECTION: Selection will be made by April 1, 1965.

The test, coupled with other telephone-line services now being initiated, suggests manifold new ways to serve humanity.

Doctors are using central computer-service bureaus to handle their monthly billing over telephone lines. Stores are using the same idea to run rapid credit checks on customers. The telephone companies now offer several desk-top automatic-dial gadgets. One does the dialing at the press of a pre-set button, saving time for often-dialed numbers. Another uses coded cards, inserted into the dialing component, to generate the dial signal.

Doctors are also experimenting with long-range diagnosis systems, where the examining physician feeds symptom information into the network, receives remarkably accurate disease possibilities from computer storage.

Some of these systems, of course, are developmental, and need exhaustive testing before they are put into regular service. But the day may not be too far away when we can pick up our telephone, insert our coded voter registration card, and cast a ballot for president from in front of the living room TV set.



STATION BREAKS

FCC REAFFIRMS FIRST-CLASS RULES

In turning down two recent requests for a relaxation of AM station operator requirements, the Federal Communications Commission voiced concern with increasing interest of broadcasters in loosening directional antenna phase and current control.

In the recent cases, a broadcaster asked for permission to let a third-class radio telephone operator handle some aspects of the job. Pleading that third-class operators can easily be instructed to handle minor adjustments, the broadcaster noted that at the present time, chief engineers sometimes tell duty operators to shut down the transmitter and call the chief in if phases and currents vary beyond prescribed limits.

The second petitioner claimed that modern directional arrays are extremely stable, and really need no operator at all. This station owner called for an outright cancellation of the first-class requirement for stations with directional antennas.

Refusing both requests, the FCC pointed out that protection of the rights of all users of the airspace demands employment of well-qualified operators, and particularly in events of malfunction. The Commission also noted that, despite advances in antenna design, none are capable of unattended operation.

RENT-A-COLOR TELEVISION

Insiders in the appliance field report that the auto-leasing firm, Hertz, is considering going into the business of renting color television sets. Customers would be given the option to buy the sets when the rental period is up. The sets, 21-inch RCA table models, would be rented for a minimum of six months, at \$23 monthly. With one-year rentals, the \$35 installation charge would be waived. First cities due for the offer would be New York and Chicago.

NEW EUROPEAN 'PIRATE' STATION

Germany's first privately-owned commercial broadcast station will go on the air soon, transmitting from a ship anchored in the estuary of the Elbe river, near Hamburg.

NEW DETROIT UHF STATION

Kaiser Broadcasting Corp. will air WKBD-TV via Channel 50 in Detroit by January 1, according to *Broadcasting Magazine*. One of four new stations authorized for Kaiser, the station will be heavy on sports. Kaiser plans to complete the other three authorized stations within the next 18 months: KHJK-TV, San Francisco, on Channel 44; a Channel 52 station on Mt. Wilson to cover the Los Angeles area, and WKBT-TV, Burlington, N. J., covering Philadelphia.

SHE BEEFS ABOUT \$15

Not satisfied with a 13-week vacation pay check for \$1700, a woman in Pennsylvania complained to her union about a deduction of \$15 for her dues. Not to be one-upped, headquarters responded courteously—with an offer to swap a \$15 check for the \$1700 model. At press time, the union was still waiting for her response.

LAST LAUGH



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