

The
DIAMOND

"UTILISCOPE"

*Enables you to SEE
Where you can't LOOK*

WIRED TELEVISION

For
INDUSTRY, RESEARCH, COMMERCE,
EDUCATION, SCIENCE, etc.

Whenever it is

TOO DANGEROUS

TOO DIFFICULT

TOO EXPENSIVE

TOO INCONVENIENT

TOO INACCESSIBLE

TOO TIRING

TOO FAR

TOO HOT

TOO COLD

TOO HIGH

TOO LOW

TOO DARK

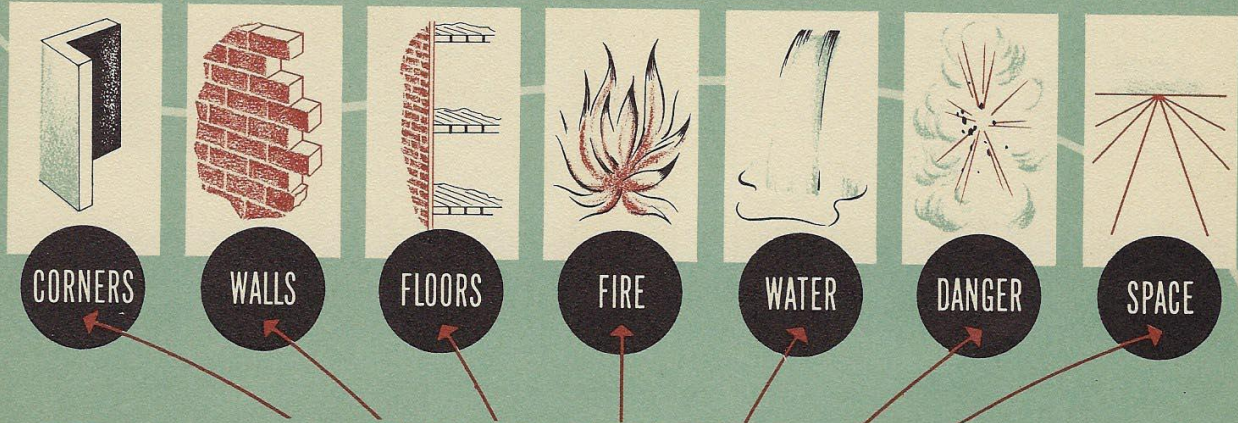
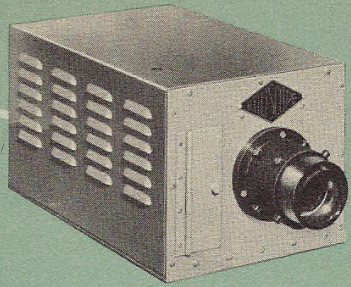
TOO SMALL

to observe directly,

Use the "UTILISCOPE"

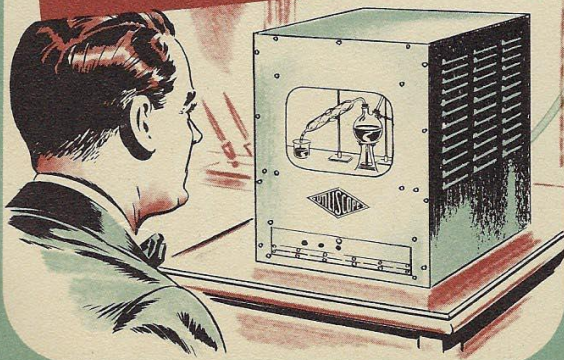
Your Object, Operation or Condition
is Observed Continuously by

"UTILISCOPE" CAMERA

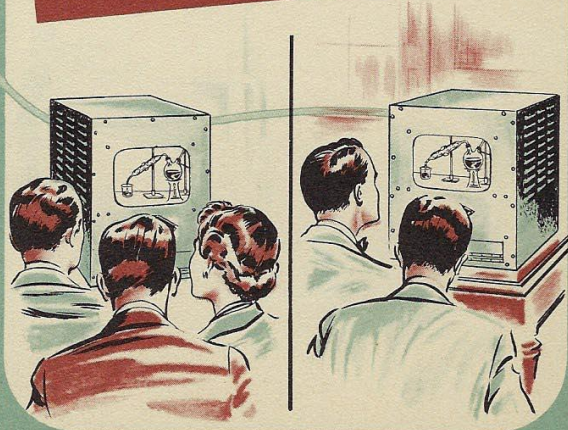


*These are NO LONGER obstacles to
seeing exactly what is happening*

*You see it here exactly as it
happens...in perfect safety,
comfort and convenience on
"UTILISCOPE"
RECEIVER*

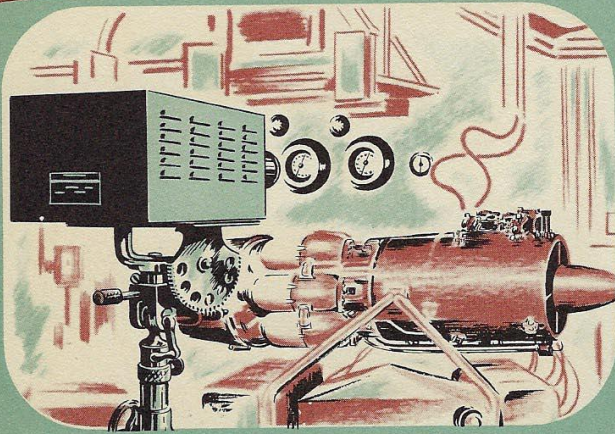


*Many others can watch too,
on additional receivers in
different locations*

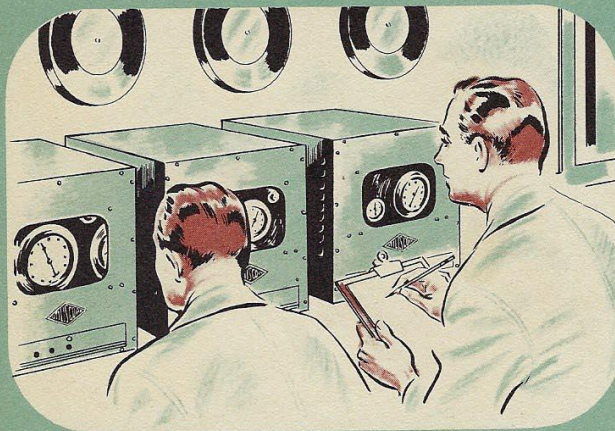


The DIAMOND "UTILISCOPE"...WIRED TELEVISION...

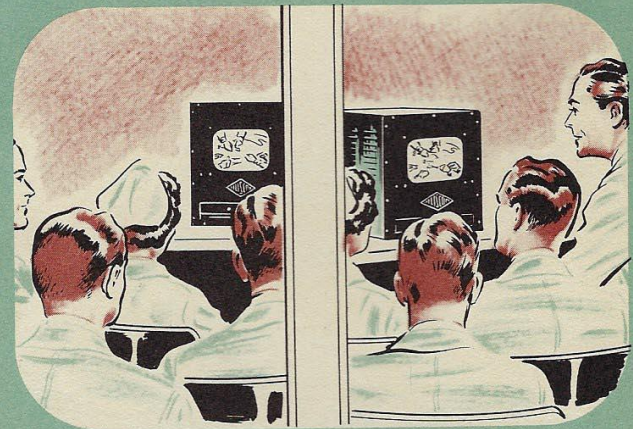
*Dangerous Tests
become
Perfectly Safe*



*A FRONT Seat for
Every Student*



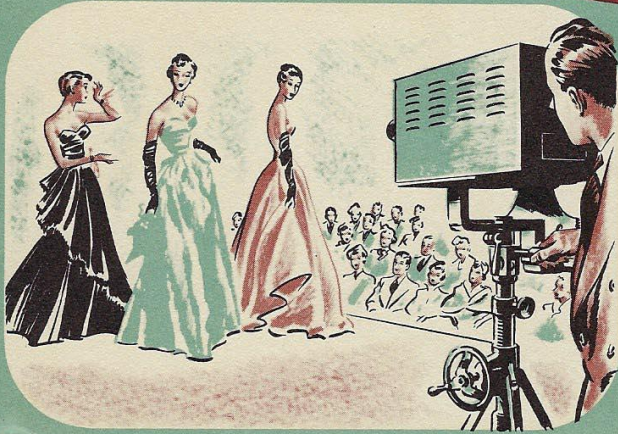
Studying destructive tests of machinery . . . the action of explosives . . . the launching of rockets, etc., is perfectly safe with the help of the "Utiliscope." Observers at a safe distance, and completely protected by barriers have a closer, clearer view on the "Utiliscope" screen than is possible in any other way. The "Utiliscope" camera lens will observe accurately and continuously wherever the human eye cannot and dare not be.



Students of surgery learn much of their operating technique by watching veteran surgeons at work. In the past, students had to watch from a gallery . . . had much trouble seeing everything. And small space was a rigid limitation on numbers. A "Utiliscope" camera is easily placed to see everything, without impeding the operating surgeon. By means of multiple viewers any number of watchers can get a much better view of the operation than they could otherwise have.

..... Now you can SEE where you can't LOOK

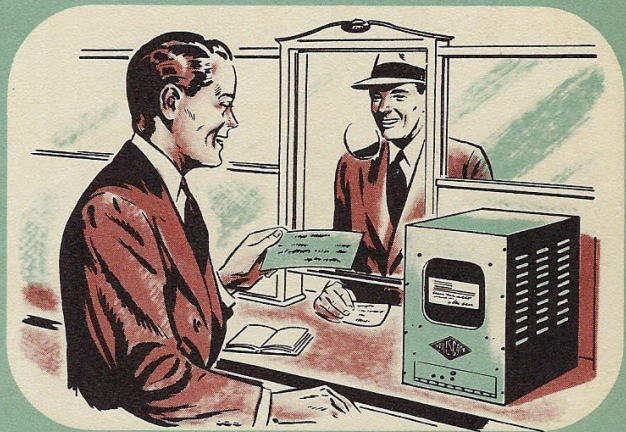
Increasing Sales by Building Store Traffic



Quick Signature Verification at Distance from Record Files



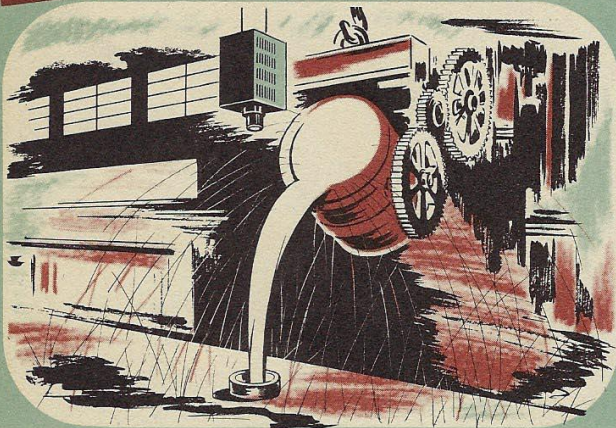
The multiple floor store always faces the problem of getting people to move from the ground floor and expose themselves to attractive merchandise on other floors. By using the "Utiliscope," style shows, demonstrations, exhibits, etc., can be held anywhere in the store and seen where the crowds are most dense. Thus, people are easily attracted elsewhere in the store. The "Utiliscope" makes it possible to feature any merchandise before the maximum number of people.



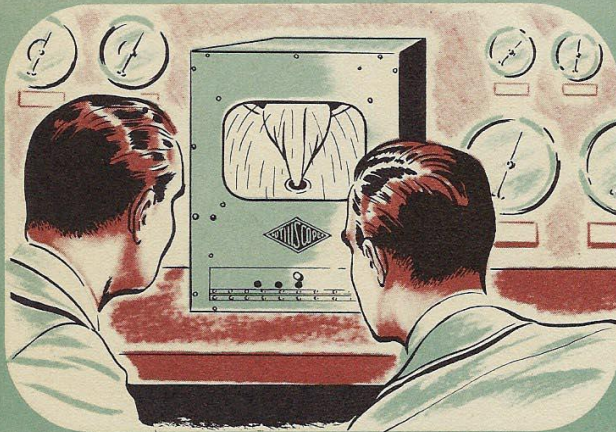
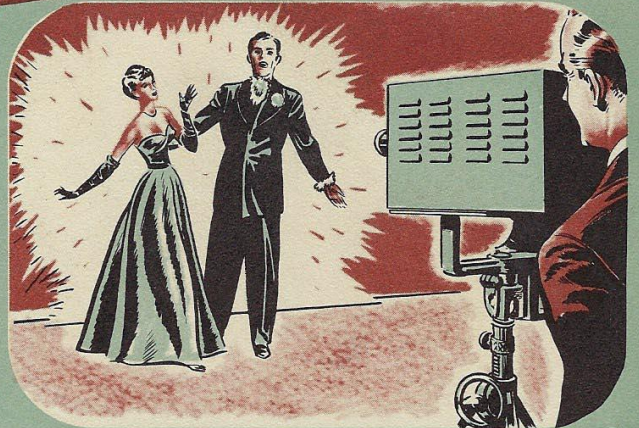
Accurate and fast signature verification is vital to banks and many other businesses. It is also often important to check files of securities, inspect documents, etc. Frequently, it is impossible (or too expensive) to store necessary files and documents at the point where they must be checked. The "Utiliscope" easily overcomes this difficulty. The camera is located at the distant files. The viewer screen, which shows the object instantly and accurately, is handy to the verifier. Savings in time and money are very substantial.

The DIAMOND "UTILISCOPE"...WIRED TELEVISION..

Eliminating Hazards and Reducing Costs in Steel Making



Reducing the Cost of TV Rehearsals



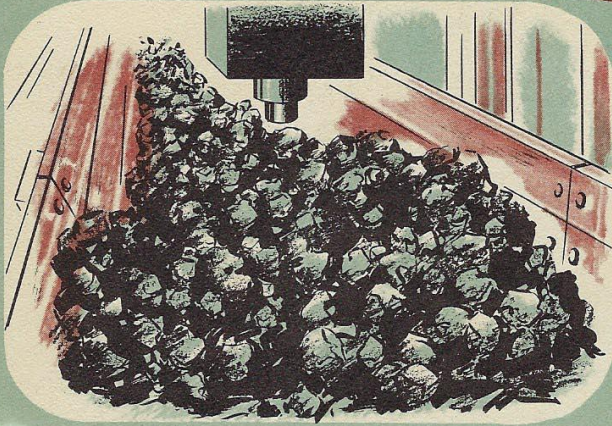
In the continuous casting of steel billets, a man formerly had to stand close to the stream of molten steel . . . watching the surface of the metal in the mold and ready to signal the operator 50 feet away. The hazard was very high, and the discomfort from radiant heat quickly became unbearable. Now a "Utiliscope" camera with long focal length lens is placed above the metal surface. The viewer is placed at the control panel. The operator can see everything that happens at close range in comfort and safety.



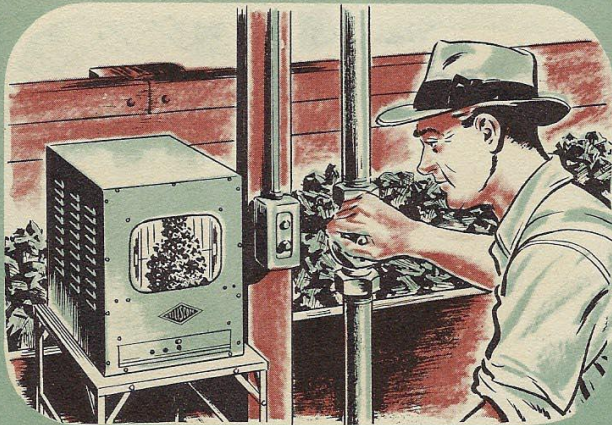
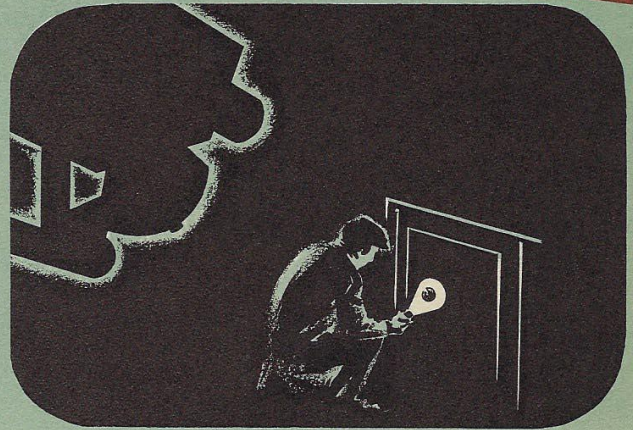
Using television broadcast equipment for rehearsal is like operating a whole automobile factory to produce an experimental model . . . far too costly . . . it ties up equipment needed elsewhere . . . and it is unnecessary. The "Utiliscope" can televise rehearsals and provide a perfect check on all technical aspects as they relate to action on the screen. The "Utiliscope" costs very little in comparison with broadcast equipment; its long camera tube life further reduces rehearsal costs. Lens equipment is as versatile as needed.

..... Now you can SEE where you can't LOOK

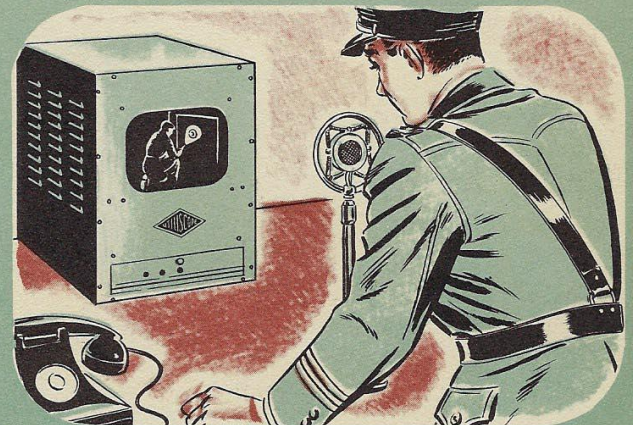
Cutting Labor Costs in Coal Tipples



Watchman Who Sees in the Dark



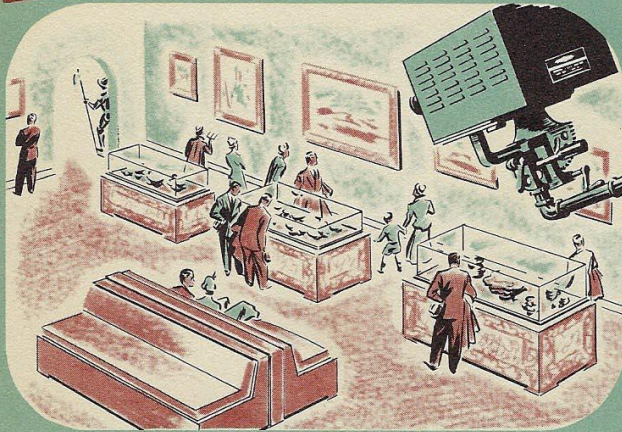
Coal in many tipples is water borne after leaving the washer. Chutes must be watched to prevent coal piling up. Often watchmen must be placed at two or more points along the chute. If coal piles up at any point, the watchman opens a valve to add more water. With the "Utiliscope," one man can watch two or more points . . . one point directly . . . other points on the viewing screen. By means of remote control valves, he can add water at any point needed. This affords a substantial labor saving.



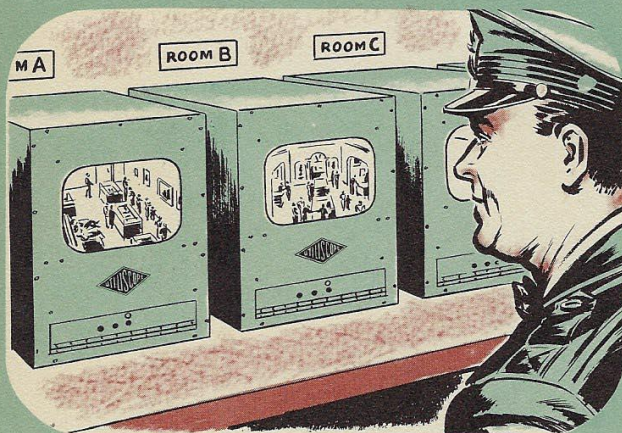
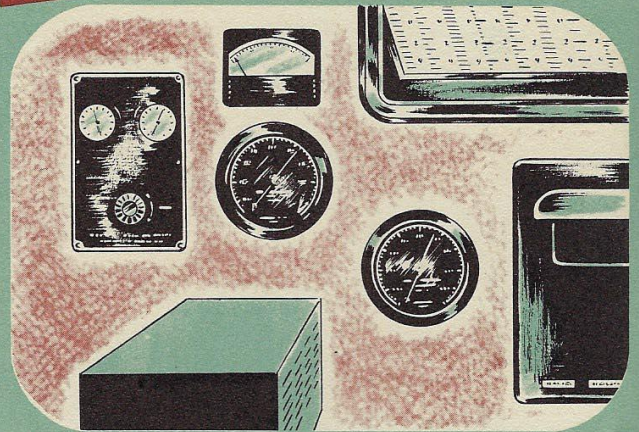
The "Utiliscope" camera is sensitive to infrared light which is invisible to the human eye. Safes, show cases, etc., when illuminated by infrared at night, are apparently in total darkness, yet every detail is visible on the "Utiliscope" viewing screen. A watchman placed in another room can observe a number of scenes. Any intruder shows up at once. Security possibilities for banks, stores, museums, etc., are tremendous.

The DIAMOND "UTILISCOPE"... WIRED TELEVISION.

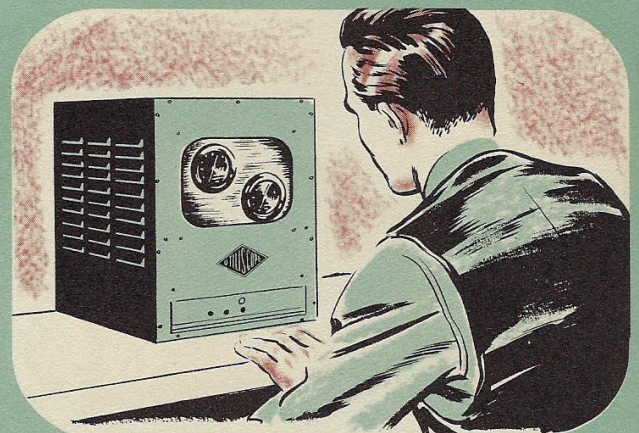
Saving Money on Protection



Seeing a Needle 1000 feet away



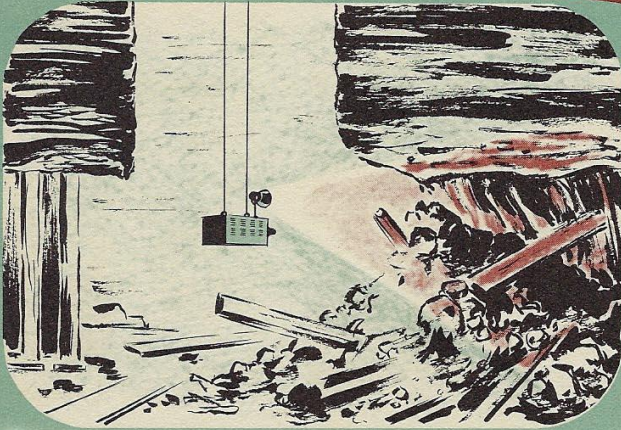
Most museum visitors come to admire or study, but a few come to steal or destroy. Thieves everywhere try to prey on legitimate enterprise. Placing watchmen to overlook every valuable object is costly. "Utiliscope" cameras at strategic points transmit images to a central room where a single watchman can see what is going on in a number of areas. When the situation warrants, small placards can warn the public that television is keeping watch. This is a powerful deterrent to theft.



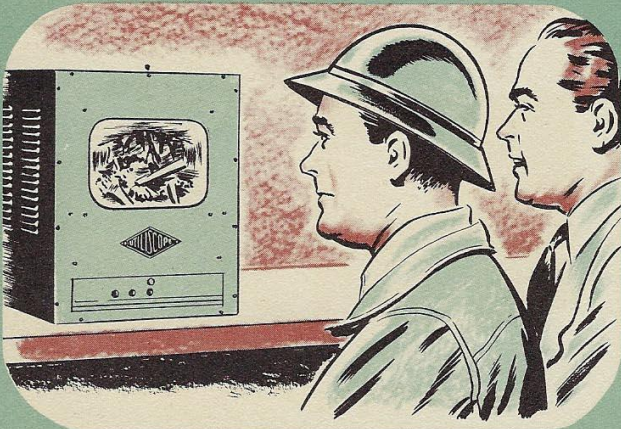
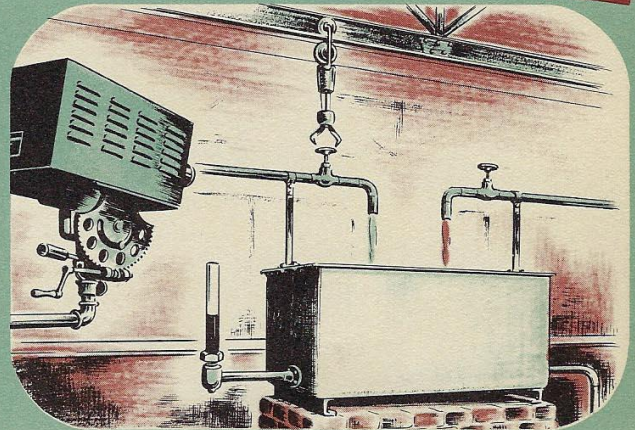
To the unaided human eye, a needle 1000 feet distant is lost as effectively as though it were in a haystack. That is true of instrument indicating needles as well as the kind mother uses for darning socks. But with the help of a "Utiliscope," instrument needles are clearly visible 1000 feet away. The "Utiliscope" camera watches steam gauges, ammeters, voltmeters, and other instruments located at a distance; the viewer brings accurate information to any point desired.

..... Now you can SEE where you can't LOOK

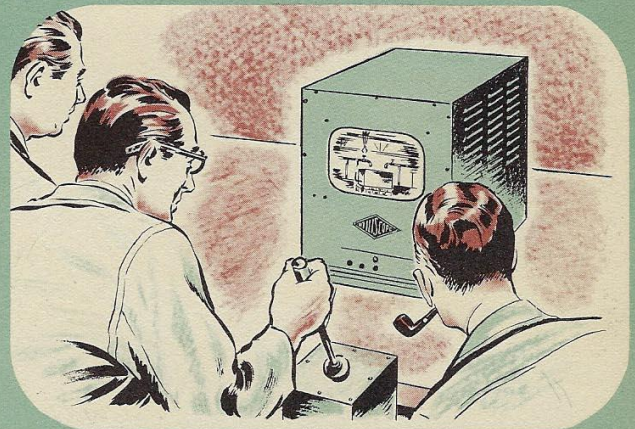
Improving Rescue Work in Disasters



Safety in Nuclear Research



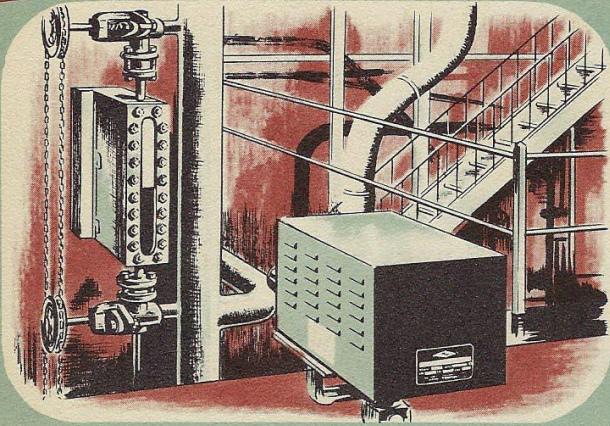
The "Utiliscope" can render important services in mine or other disasters. In a mine, for example, if there is an explosion or fire which endangers the miners, it is often important to know the conditions at the bottom of the shaft to determine whether rescue crews can be sent in. When direct observation is impossible, a "Utiliscope" camera can be lowered for a good look. Observers are not endangered and if infrared light is used, the "Utiliscope" can see through smoke much better than the human eye.



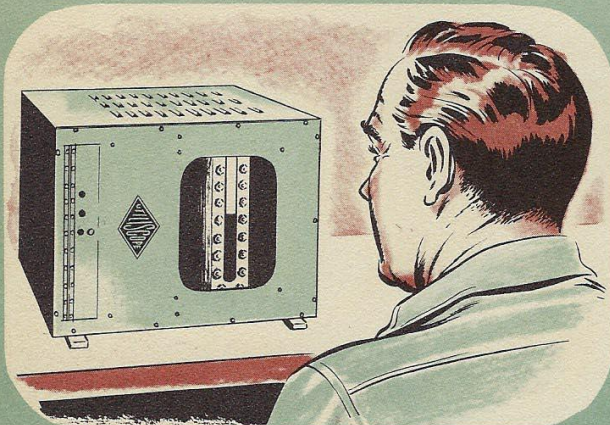
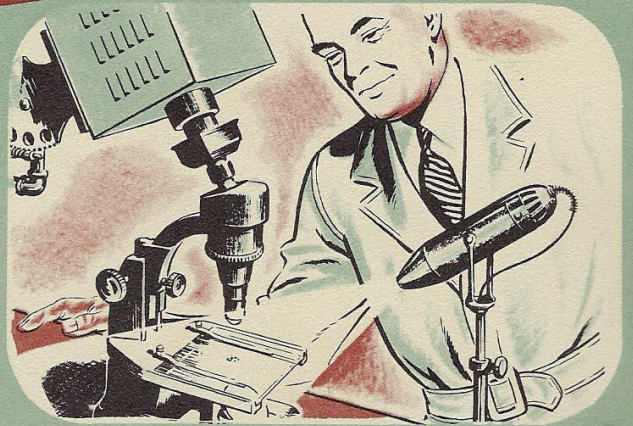
Nuclear physics involves work with dangerously radioactive materials. Operations must be performed behind radiation-proof barriers, and manipulations by remote control. Exposure of operators must be prevented at all costs. The "Utiliscope" gives the operator a clear view yet cannot transmit deadly emanations. Powerful X-ray machines used in radiation therapy also are dangerous to operators. With the "Utiliscope" on the job, all possibility of exposure is easily avoided.

The DIAMOND "UTILISCOPE" . . . WIRED TELEVISION . . .

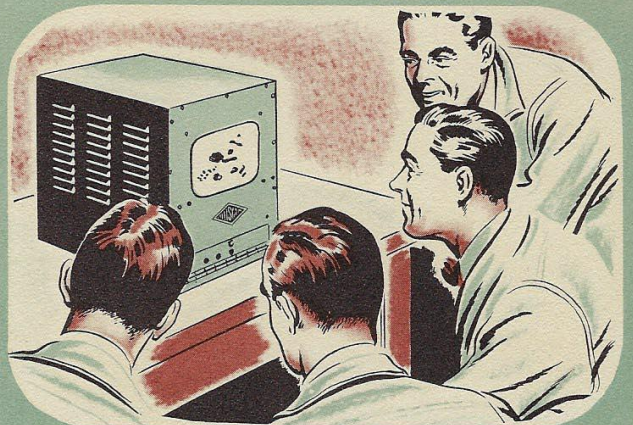
Protecting Boilers against Low Water Level



Multiplying the Number Who Can Watch



On giant, modern central station boilers, the water gauge is high in the air . . . out of sight of the operator. Costly accidents have proved that the only way to be sure there is enough water in the boiler is for the operator to have a view of the water level gauge at all times. The "Utiliscope" brings a clear image right to the control panel. Changes in water level are instantly visible. There can be no mistake because the "Utiliscope" shows either a *correct* reading, or none at all.

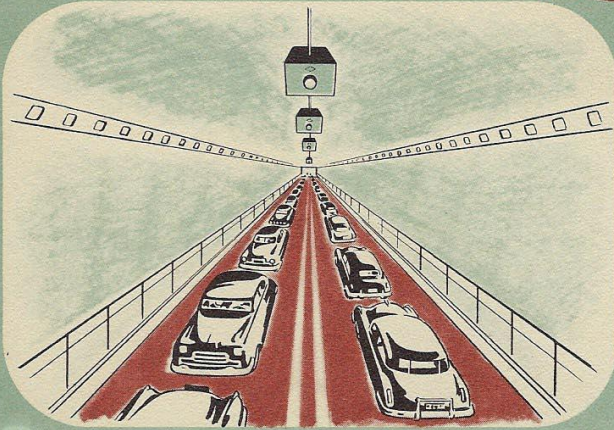


Only one person can see through a microscope at any given time . . . endless repetition is necessary to demonstrate to a large number of people. With the "Utiliscope," the drama at the bottom of the microscope is made clearly visible to a group of people at the same time . . . permitting instructive discussion. Multiple viewers served by one camera multiply greatly the number of people who can see.

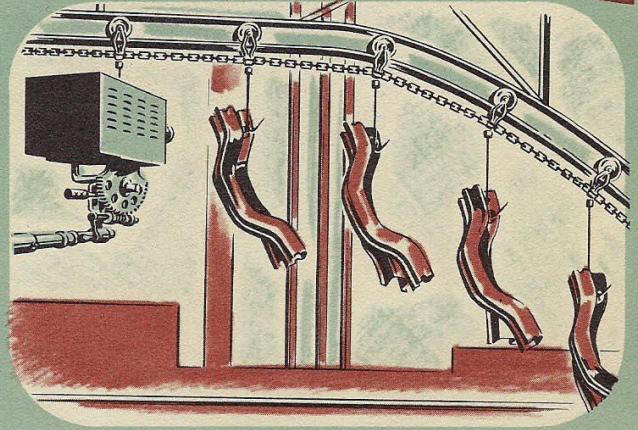
..... Now you can SEE where you can't LOOK

Seeing Everything

that happens in a mile-long,
under-river, vehicular tunnel
Without Leaving a Chair



Reducing Production Costs



Guards stationed at intervals in such a tunnel must be relieved frequently due to noise and carbon monoxide. Every inch can be watched closely and continuously by means of the "Utiliscope." Cameras spaced at intervals show a clear picture of what is happening . . . on viewing screens in a comfortable room above ground. Combined with a loud speaker system, this provides instant control of difficult situations . . . makes entry into tunnel unnecessary except in extreme emergencies.



For economical scheduling and pacing of assembly in large mechanized plants, the supervisors must be able to see what is going on. The "Utiliscope" can watch feed lines and assembly conveyors at any number of remote points. Images brought right to a dispatcher's desk enable him to give direction before production delays occur. Shortages are caught before they become serious. Pile-ups are straightened out while still small. Misdirected materials are redirected.

*A Few More
Possibilities
for the
"UTILISCOPE"*

Watching Plant Gates—The "Utiliscope" can keep constant watch of distant plant gates to prevent entry of unauthorized persons. Identification of person or inspection of badge or pass is easy and positive.

Psychiatric Examinations—Student psychiatrists need to watch examinations for training purposes. But patient reactions are different and misleading before a room full of people. A concealed "Utiliscope" camera plus concealed sound pickup solves the problem.

Watching Furnace Ignition—Flame conditions in large powdered coal-fired boilers need close watching. In one installation, a single "Utiliscope" watches six "catseyes" focused on pilot burners.

Watching Combustion and Slag—The "Utiliscope" can look directly into a furnace and transmit a clear view of combustion and slagging conditions, etc.

Infrared Observation—Infrared light enables the "Utiliscope" to see through fog and smoke much more easily than the human eye. It is also used in high temperature metal testing. The "Utiliscope" is highly sensitive to near infrared.

Airport Information—Weather maps, bulletins and other information are easily transmitted from control tower to pilot rooms. Exact and instantaneous reproduction eliminates error.

Under-Water Observation—Study of cavitation by propellers, the action of water turbine blades, the movement of fish, etc., are easy by use of the "Utiliscope."

Smoke Observation—Smoke stacks can be watched for objectionable emanations when they cannot be seen directly . . . by using the "Utiliscope."

How can YOU use the

"UTILISCOPE"



The "UTILISCOPE" has Many Advantages



COMBINED WEIGHT: 118 LB

COMPLETELY DEPENDABLE

The "Utiliscope" cannot give a wrong image or misleading information. There are 60 individual image fields per second . . . so changes in the object viewed are seen instantly.

CLEAR, STEADY PICTURE

Camera and monitor are synchronized to the power line and held steady . . . like an electric clock.

CONTINUOUS OPERATION

"Utiliscope" installations are regularly operating 24 hours a day, seven days a week . . . week in and week out. It has proved exceptionally reliable in continuous operation.

SIMPLICITY OF DESIGN

The "Utiliscope" has fewer tubes than many good radio sets. All electronic tubes, except the camera pickup tube, are standard types easily available.

RUGGED CONSTRUCTION

Shock resistant construction enables the "Utiliscope" to stand shocks and vibration unavoidable in industry. Cases are metal of ample strength. The "Utiliscope"

will operate at an ambient temperature as high as 150°F continuously. Average industrial dirt does not affect it.

WIDE VIEWING ANGLE

Images may be seen clearly through a viewing angle of nearly 150 degrees. This is important in many applications.

EASY INSTALLATION

Just plug "Utiliscope" into any 105 to 125 volt, 60 cycle circuit—connect cables and it is ready to operate. Aside from external illumination, power requirement is only 245 watts. Special models can be supplied for other power conditions.

STABILITY

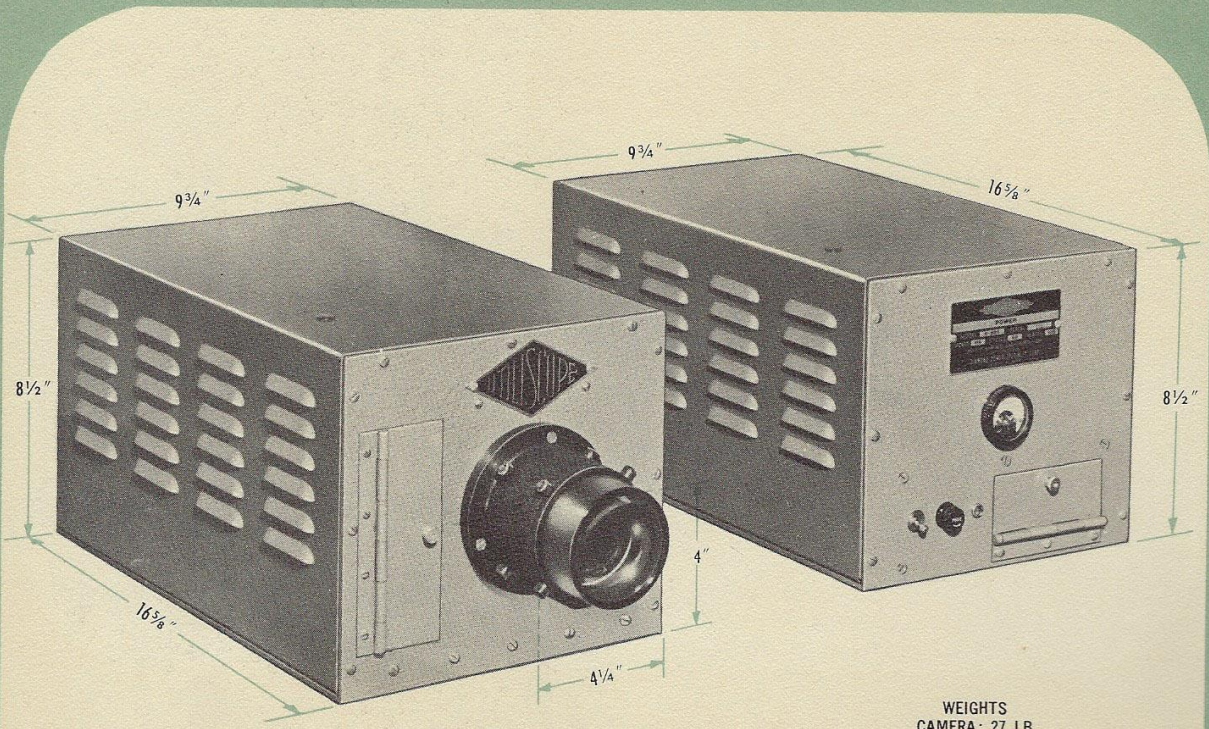
Operation is so stable that once adjustment is correct, the "Utiliscope" can be turned off and on without further adjustment.

SIMPLE CONTROL

Only a screwdriver is needed to adjust focus, brilliance and contrast. All other controls can be locked in adjustment to prevent tampering.

The "Utiliscope" is a product of the Capehart-Farnsworth Corporation and the Diamond Power Specialty Corporation

The DIAMOND "UTILISCOPE"...WIRED TELEVISION..

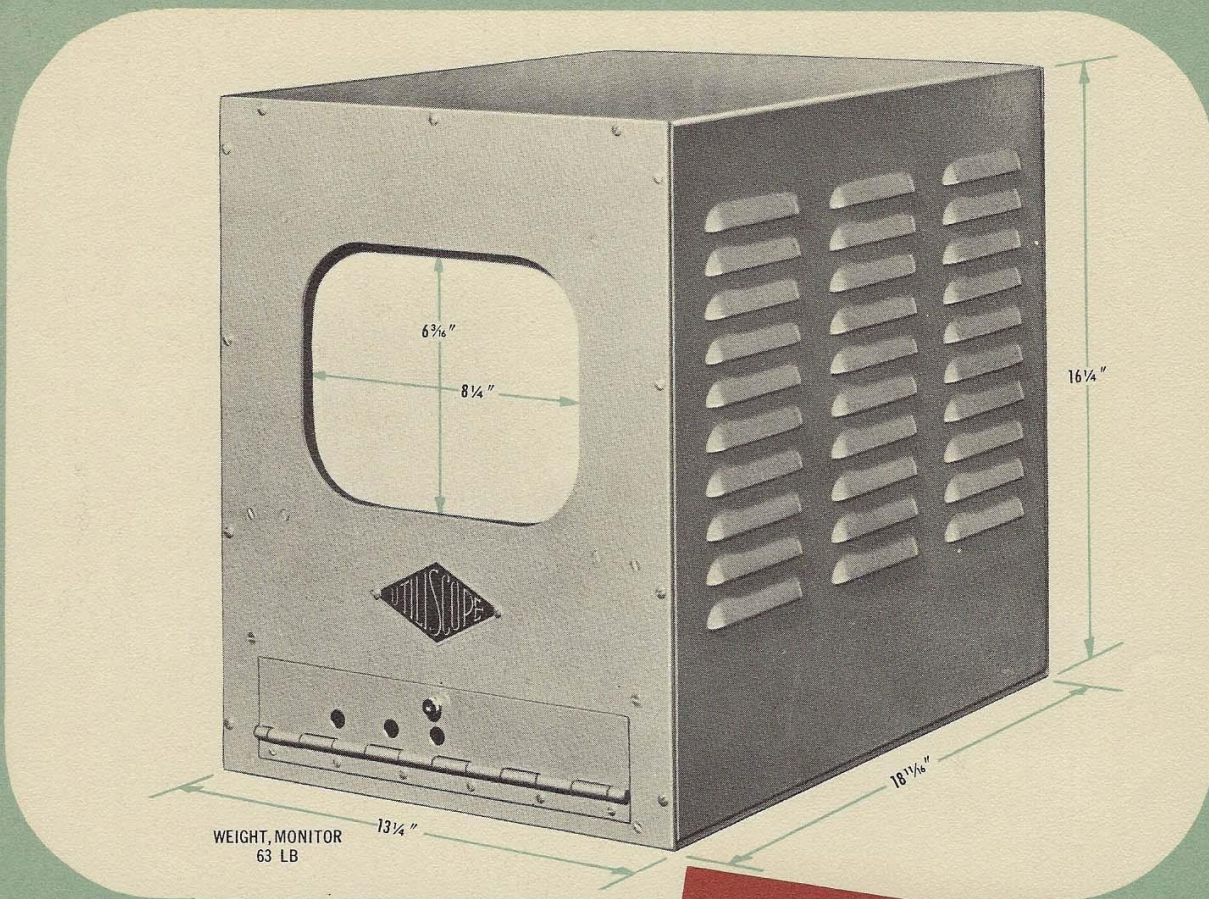


WEIGHTS
CAMERA: 27 LB
POWER UNIT: 28 LB

"UTILISCOPE" CAMERA AND POWER UNIT

A complete "Utiliscope" installation consists of a camera, a small power unit and the monitor or viewing unit. The whole installation weighs only 121 pounds. The Farnsworth Image Dissector is a cold cathode camera tube of such exceptionally long life that it is guaranteed for one year. The result is low cost operation. This tube also permits a greatly simplified circuit. Lens equipment is available according to need. The power which operates the dissector tube and sends the signals to the monitor over a three lead co-axial cable is supplied from eight ordinary vacuum tubes. The power unit has 250 watts capacity . . . more than ample.

..... Now you can SEE where you can't LOOK



"UTILISCOPE"
MONITOR (VIEWER)

The "Utiliscope" monitor or viewer contains a cathode ray tube with its associated circuits. The power unit is built-in.

Servicing, when needed, is greatly simplified by the construction. Each unit is easily removed from its cabinet and parts are spaced for ready accessibility. Any unit can be serviced without disturbing other parts of the installation. Ordinary gases, heat and dirt have no effect on performance. The cases have ample louvers for ventilation. Special baked-on paint finish is attractive, resistant to oil and easily cleaned.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

The UTILISCOPE

enables you to do things that
could not be done before . . . it
also Promotes Safety, Reduces
Costs and Improves Operations
previously done otherwise

DIAMOND POWER SPECIALTY CORPORATION

Lancaster, Ohio

Diamond Specialty Limited • Windsor, Ontario

Since 1903, Diamond has Manufactured Quality Equipment for Industry