



**MOST WIDELY USED**—This spruce owes its popularity to the fact that its foliage is dense and glossy green and it sticks to the twigs longer than the needles of most other conifers.

group; pine needles are almost never less than two inches long, and in a few noble species they may be as much as a foot in length. Moreover, their cones have thick, heavy scales instead of the thin scales found in the spruce-fir group. There should be no mistaking a pine, if that is your Christmas tree.

Practically all little pines found on the holiday market are cut near the places where they are sold. They do not command as high prices as spruce or Douglas, so long hauls are usually uneconomic for them. All the Eastern states, and most of the Southern and Midwestern states east of the Mississippi, have one or more kinds of pines that spring up thickly in cut-over or burned-over timberlands and take possession of abandoned farms. Two common names, slash pine and old-field pine, are testimony to this habit.

#### Considered as Weeds

Since most landowners tend to regard such pines as nothing more than mere wooden weeds, they will let harvesters for the Christmas market take truckloads of them for next to nothing, and are very apt to let the individual householder out for a week-end drive help himself to a tree for nothing, if he will haul it away in his luggage-rack. Despite the low esteem in which little pines are often held, they do make attractive Christmas trees.

No matter what kind of tree you buy, or go out into the country and harvest for yourself, you can prolong its useful life and postpone the ill day when it sheds its needles, by setting its cut stem in a container of water. Various sprays have been tried for helping keep foliage on Christmas trees, but just giving them water, as if they were cut flowers, is the treatment recommended by the U. S. Department of Agriculture.

When you get your tree home, saw about three inches off the bottom of the trunk. This will remove the part of the water-conveying system that has become clogged with air bubbles until it will no longer function. Have a can or larger container of water ready, where you intend to set your tree.

Better guard against skidding by securing small blocks around the can with nails into the floor, or some such device. Set the cut end of the trunk into the water as quickly as possible then arrange such braces and guy-wires as will be needed to hold the tree erect. Add fresh water to the supply in the can as needed. This will materially prolong the useful life of your Christmas tree.

*Science News Letter, December 13, 1947*

#### CHEMISTRY

### Luminous Paints Add to Christmas Tree's Beauty

► ORNAMENTS, light bulbs and even the needles and branches of the Christmas tree will continue to glow long after all other illumination has been turned off if a little time is taken to add daubs of luminous paint. Many broken ornaments can be put to use again and unusual decorations are made possible by the same method.

Luminous paints are available in prepared forms already mixed in a liquid vehicle. Or they may be prepared by mixing the powder, sometimes found in educational kits, in a clear lacquer, shellac or mucilage. The powder also may be applied as a dust to a surface treated to make it temporarily sticky.

If you get the luminous material in powdered form it is a good idea to prepare about two ounces of each of the following adhesives. Make a celluloid cement by cutting clear, discarded photo film into tiny slivers about a sixteenth inch wide and an inch or so long, and drop them into acetone. Cutting into tiny slivers expedites solution which will occur in a day or two if left standing. Be sure to cork the bottle.

The thin, syrupy liquid is to be used as a "stickum" for glass and metal articles. It should not be used on tree branches. For the second solution thin ordinary mucilage by adding about half of its bulk of clean water. For the third, use a thin dilution of ordinary household shellac, diluting with denatured alcohol until you get a free-flowing liquid.

#### Test Surface Coating

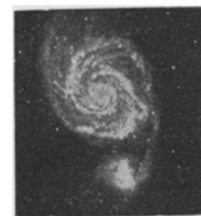
Before decorating any ornament test it for fastness of the surface coating. Apply a tiny drop of one of the adhesives near the top of the ornament. Let stand for a fraction of a minute, then wipe it off. If the color comes off try one of the other adhesives. Use the solution on the ornament which causes the least damage. On any ornaments which have seen their better days it will not matter much if color runs. You will be coating them all over, anyway.

Having established which solutions you will use with the respective ornaments, either dip the article into the adhesive or apply the adhesive with a brush, making designs, sketches, or write across the object in bold script. As soon as the material becomes tacky, sprinkle the surface with the luminous powder or dip and roll in a box of the chemical. Such a surface layer gives the most economical and effective use of the powder.

Or the luminous powder can be mixed with the adhesives mentioned to make a paint which can be handled the same as the bottled products obtained from the hardware, paint or auto supply stores.

For making the tree glow in the

#### ★ ASTRONOMICAL PHOTOGRAPHS



65 selected photographs made through the World's Largest Telescopes. Yerkes, Lick, Mt. Wilson, Harvard Observatories. Reproduced in half-tone in

"An Album of Celestial Photographs"  
Size 8½ x 11

De Luxe Copy, heavy paper cover, \$1.50  
Library Edition, bound in press board,  
\$2.00

A. L. BEDELL—PUBLISHER  
Box 1447N St. Louis 1, Mo.

## Do You Know?

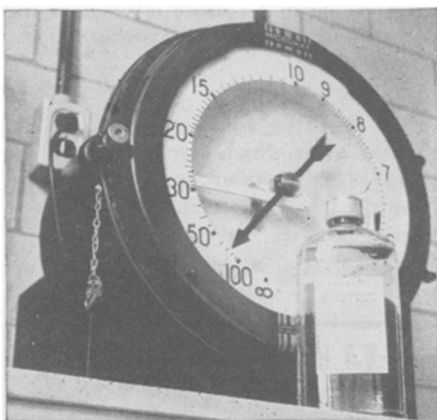
The rarest bird in Africa is the *Congo peacock*, unknown to science a decade or so ago.

An outstanding preservative for wood is a chemical known as *pentachlorophenol*; it is deadly to termites and fungi.

New *papers* that retain strength even when soaked with water are used to wrap moist fresh vegetables during shipment to market; they keep them in good condition.

The greatest differences between day and night temperatures in the United States usually come at the time of the *equinoxes* in March and September, when days and nights are about equal in length.

Channel *catfish* of Midwestern rivers feed largely at night, with the heaviest period coming at dusk; feeding during the twilight hours is largely in deep water, but later the catfish come near the river banks.



### GUARDIAN FOR A WATER STILL

Upjohn Co., Kalamazoo, Mich., uses this Micromax Recorder to show the constant purity of the sterile, double-distilled, pyrogen-free water which is one of the Company's products.

This instrument warns against such difficulties as foaming, priming, and using water before entrained air has been swept out of the still. Its record shows quality at all times. For details, see Catalog EN-95, sent on request.

**LEEDS & NORTHRUP COMPANY 4977 STENTON AVE., PHILA. 44, PA.**  
**LEEDS & NORTHRUP**  
 MEASURING INSTRUMENTS • TELEMETERS • AUTOMATIC CONTROLS • HEAT-TREATING FURNACES

Jrl Ad N-95 (3a)

dark, use the thinned mucilage. Apply to a few branches at a time with a spray gun, an insect spray, window washing spray or a blow spray. When the material is tacky, hold a sheet of paper under the branches to catch any loose powder and sprinkle, preferably through a strainer. Shake the branch to knock off any material not bound and use for the next location. This procedure will permit you to spread a small vial of powder over a large surface.

Treat the electric tree lamps in the same fashion as the other decorations. Bear in mind that to get a good glow the surface should be well covered with the luminous materials. A single layer is as effective as multiple coats. Only the surface layer gives off light. Remember, also, that a coated ornament loses its original brilliance and color. So use discretion if you want to get the most spectacular effect.

Holes in broken ornaments may be patched with strips of Scotch tape and

the entire ornament may then be covered with the luminous material thus returning a worthless article to decorative value. Dry pine cones, grasses, straw flowers and paper cut-outs, fitted with wires for hanging and treated with the paint will add to the decorative scheme.

Apply maximum illumination by substituting light colors in those bulbs which illuminate the tree. Locate these where you have the greatest number of treated ornaments or branches. Then, when the lights go out, you will have something of which you will be justly proud.

*Science News Letter, December 13, 1947*

### SEND TODAY FOR YOUR EXPERIMENTAL KIT! BLACK LIGHT & GLOWING MATERIALS

Ultraviolet lamp, self-glowing chemicals, minerals—26 experiments. Packed in substantial and colorful wood-sided box.

\$4.95 each postpaid

Created and Guaranteed by  
**SCIENCE SERVICE**

1719 N St., N. W. Washington 6, D. C.

### MEDICINE

## Checks Incurable Disease

➤ ONE of the nitrogen mustards, war gas chemical, has brought some improvement to four veterans suffering from an incurable chronic disease known as Boeck's sarcoid. Dr. George E. Snider of the Veterans Administration Hospital at Fort Howard, Md., reported to the Southern Medical Association meeting in Baltimore.

The swelling of the glands went down, the acute inflammation of the iris of the eyes subsided and in some cases vision improved, chest symptoms were arrested, the skin eruption receded, and some patients gained weight.

In one patient, treated almost a year ago, the disease has almost completely disappeared.

The nitrogen mustard which brought this improvement cannot yet be called a cure for the condition, Dr. Snider emphasized. Patients with Boeck's sarcoid often have periods when they seem to be getting better, so more time must elapse before doctors can be sure the improvement in these four cases was due to the new treatment.

The chemical was given by injecting a dose into the veins every day for four days, allowing a rest period of about a month, and then giving a second series of injections. Nausea and vomiting followed each injection and the number of

white blood cells was temporarily reduced.

Boeck's sarcoid, a rather rare condition, is considered an infectious disease, although no germ or virus cause has been found. Cough, shortness of breath and a little fever may occur in some cases and suggest that the patient has tuberculosis. Swollen lymph glands and salivary glands, inflammation of the iris of the eye, and a skin eruption that is painless and does not itch are other symptoms. In the early stages, the patient may not have fever but feels mildly sick with a distaste for food and vague digestive disturbances.

Almost any part of the body may be affected. Physicians have generally called Boeck's sarcoid a benign, meaning harmless, sickness. More recently they have realized that it may at times involve vital centers and lead to serious damage and even death.

Arsenic, gold, X-rays, radium, ultraviolet light and many other kinds of treatment have been tried without success.

Dr. Snider was led to try nitrogen mustard because this war gas chemical had brought improvement in cases of Hodgkins' disease, which has some similarity to Boeck's sarcoid.

*Science News Letter, December 13, 1947*