INVENTION

Fabric Guards Silver From Tarnishing Gases

➤ A METHOD and material for keeping silverware from tarnishing while it is not in use received patent number 2,590,094 from the U. S. Patent Office.

The material can be formed into bags, pouches or rolls, or it can be used as lining for chests and boxes in which silverware is stored. The method of manufacturing and the fabric were invented by Birger Egeberg and Jean P. Phaneuf, both of Meriden, Conn., and Malcolm A. Orr of Southington, Conn. Their patent has been assigned to the International Silver Co., Meriden, Conn.

Under ordinary conditions of storage, silverware tarnishes because sulfide and other gases react with the silver to produce silver sulfide, which is tarnish. By incorporating silver strands in the material, the inventors claim the metal will react with the tarnishing gases and allow only "clean air" to reach the silverware inside the fabric.

The silver strand, a fine wire, is wrapped around a regular piece of yarn woven into the fabric. Because the tarnish preventive is not a chemical, the material can be washed without losing its effectiveness. And because the metallic strands are buried in the cloth, the fabric can be dyed satisfactorily to desired colors, they said.

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BOTANY

NATURE RAMBLINGS

Children's Favorites

➤ WHEN CHILDREN come running and shouting, with the first violets clutched in their eager little fists, then we know it is really spring.

Violets are not the first spring flowers to open, any more than robins are the first spring birds to appear; yet somehow their cheerful faces make us feel that this time it is spring and no mistake, no mere premature warm spell, deceiving us with false hopes. There may be more psychology than phenology about it, but that is the way we all feel.

Violets have a good, well-won right to their place as the proper heralds of spring. For all their delicacy and tininess, they are a hardy and adaptable tribe, that have spread their blue-and-yellow banners to all the cool winds of earth.

There are something more than 300 species of violets, ranging through all temperate lands of the world. They are found on mountain-tops and in desert valleys below sea level; some species grow with their roots embedded in the wettest of swamp muck, others precariously clinging to rock shelves.

Violets are often thought of as exclusively woodland flowers, yet some of the most beautiful and hardy of them are to be found among the wind-blown grasses of the open prairie. Blues, yellows and white are their natural colors; one species, *Viola tricolor,* combines all three, and in the hands of generations of plant breeders has become the familiar garden pansy.

There is one encouraging thing to be noted about violets, too, so far as children are concerned. They may pick all they like, so long as they do not pull the plants up bodily by the roots. Violets do depend a great deal on seed for their propagation, but relatively few of their seed are formed by the bright little flowers that children love to gather.

After spring has passed, the plants produce a second crop of flowers on very short stems down among the bases of the leaves. These flowers, which most of us would mistake for buds, have no petals and never open. They fertilize themselves internally with their own pollen, and thus insure well-filled seed capsules.

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RADIO

Far-Off Radio Reception

➤ A MOMENTARY testing technique developed at Stanford University, Stanford, Calif., by two radio hams can tell radio operators at a glance how reception will be in far-off places.

The method, termed "scatter sounding," possibly will revolutionize present-day radio propagation methods, in the opinion of the American Radio Relay League at West Hartford, Conn.

As developed by Oswald G. Villard, Jr., and Allen M. Peterson, both of Stanford University, the system uses a transmitter which sends pulses of radio energy into the air. When the radio waves strike the earth at some distant point, they bounce in all directions. Some bounce back to the transmitter.

Those returning waves are received visually on an oscilloscope, an instrument having a cathode-ray tube similar to TV picture tubes. The electron beam in the tube can be made to show in terms of distance where the original pulsed signal struck the earth.

The patterns created on the oscilloscope screen reveal the edges of skip zones, areas which are by-passed by radio waves because of changes in density and height of the radio-wave-reflecting ionosphere. By observing the patterns, a trained eye can tell fairly accurately just where radio reception will be good, fair, poor, or impossible.

Experimental data were correlated with actual radio contacts with other hams made throughout the United States during the test period. The findings indicate that the theory of scatter sounding is correct, and that the technique can be used by radio operators with the aid of ordinary amateur transmitting and receiving equipment.

Back scatter reflection from objects on the ground was first announced by T. L. Eckersley in England about 20 years ago. A technique for measuring it was proposed by Dr. Newbern Smith of the National Bureau of Standards in a report issued by the Interservice Radio Propagation Laboratory during 1945. Separate research on scatter sounding currently is in progress at the Bureau of Standards.

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