

Current U. S. Patents

► AN INITIAL SERIES of seven patents granted by the U.S. Patent Office cover unique and promising methods for making photographs.

The processes involve the use of very thin layers of silver halide as the photographic film and techniques for transferring the images possible with the film. They were developed by scientists at Technical Operations, Inc., Burlington, Mass.

This unusual film has a thin coating of silver halide that does not contain the gelatin used in conventional film emulsions. The coating layer is only one hundred-thousandth of an inch thick. It is deposited by evaporation methods in a vacuum.

Conventional photographic film is usually coated with silver halide as a liquid, and the layer is 20 to 40 times as thick.

Because the new film does not contain gelatin to hold grains, it can be developed, fixed and washed in about three seconds. The film produces finely detailed images with unusually sharp edges.

It is possible to lift and transfer the developed silver image by a simple mechanical process that does not involve the use of chemicals. When as many images as possible have been transferred in this way, the film can then be fogged to obtain a reverse image.

One of the most promising uses for this highly specialized type of film will be to photographically tag tiny electronic components, now being made so small that it is impossible to print identification on them. Ordinary gelatin films melt at the temperatures at which electronic parts operate.

The technique is being developed at Technical Operations under the direction of Dr. Gershon M. Goldberg. Patents covering the processes are 3,219,444, 3,219,445 and 3,219,448 through 3,219,452. Besides Dr. Goldberg, those awarded the various patents are James E. LuValle, Ignatius E. Theodorou, John G. Pack, Melvin H. Saxe and Edward Hartouni.

Zipper Fixer Device

A device for repairing broken zippers, one tool in a two-part kit now commercially available, earned patent 3,218,696 for its inventor, Arthur Dritz of Rockaway Park, N.Y.

The tool is used to remove the broken slider from a zipper, which can be accomplished with either a pair of pliers or a hammer. The store-sold kit includes a replacement for the slider, since the one removed with Mr. Dritz's device cannot be reused.

Other Interesting Patents

A new and improved rocket motor designed to burn semisolid propellants earned patent 3,218,798 for James R. McPherson of Falls Church, Va., who assigned rights to Atlantic Research Corporation, Fairfax, Va. The system proved successful in small-scale tests but has not been developed further, although by using it the 15 million pound Saturn C-5 assembly could be re-

duced to only a million pounds, and would be easier to handle.

A motion picture camera that photographs a panoramic picture of at least half a circle earned patent 3,214,232 for Reginald G. Spear of San Marino, Calif.

A heat shield that protects the balances on which model airplanes are tested in wind tunnels was awarded patent 3,218,850. Vernon L. Rogallo of the National Aeronautics and Space Administration's Ames Research Center, Moffett Field, Calif., assigned patent rights to the Government through NASA.

Dr. Talbot A. Chubb of the Naval Research Laboratory in Washington, D.C., was granted patent 3,219,292 for his method of controlling the orientation of space vehicles, using for guidance the plasma through which the vehicle is traveling.

• Science News Letter, 88:383 December 11, 1965

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