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*The Master Craftsmanship
Your Film Deserves*

HFC High-Speed Inspection Projector

BY HARRY TEITELBAUM

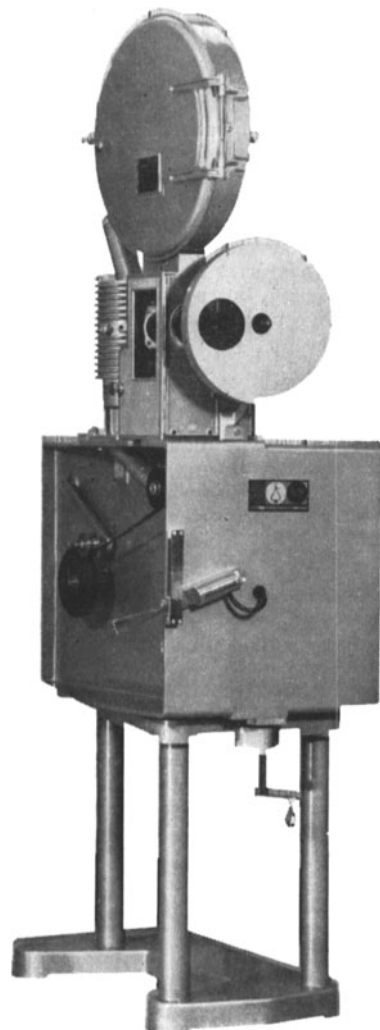
THE NEW HFC High-Speed Inspection Projector is designed for use in film-processing laboratories for the inspection of release prints. It was exhibited and demonstrated for the first time at the 91st SMPTE Convention, Los Angeles.

The projector is available for 16mm (HSP-16), 35/32mm (HSP-3532) and 35mm (HSP-35). It consists of a Simplex-type front-shutter mechanism mounted on a base with height and tilt adjustment, with lamphouse designed for a 500-w lamp on the 16mm and 35/32mm models and 1000-w lamp on the 35mm model. An electric blower for cooling is incorporated.

The 16mm and 35/32mm models have a nonadjustable speed of 144 ft/min (four times normal). In the 16mm model the aperture plate is designed to permit viewing two frames at a time, including the soundtrack area and half the perforation width on the opposite side. The 35mm model runs at 165 ft/min, adjustable by pulleys, and the aperture plate allows viewing across the film from the middle of the perforation on each side and vertically from frame line to frame line, one frame at a time.

The magazine and the take-up accommodate 3000 ft of 16mm film, or 35mm film, using cores in the magazine and cores in the take-up with a weighted idler guide wheel. The magazine and upper guide rollers are designed so that film can unwind from either the front or back of the feed reel. A free-wheeling take-off flange is provided. Open threading permits removal of the film in the middle of a reel without cutting.

Presented on May 4, 1962, at the Society's Convention at Los Angeles, by Harry Teitelbaum, Hollywood Film Co., 956 N. Seward St., Hollywood, Calif.
(This paper was received on May 16, 1962.)



The HSP-16, HSP-35/32 and HSP-35 all sell for \$2500 each, FOB Hollywood, Calif. Adaptation to handle reels instead of cores costs an additional \$250.

New Underwater Scuba-Diver Camera

By T. H. TRUESDELL

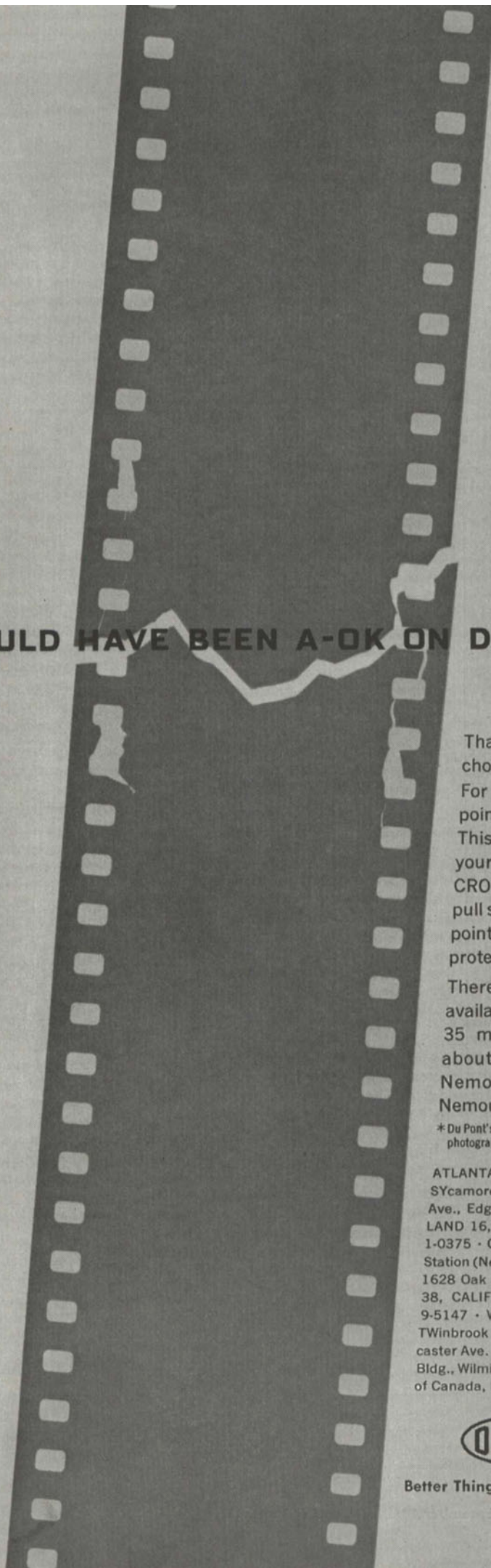
THE MILLIKEN DBM 9 is a new self-contained motion-picture underwater camera designed specifically for underwater use, including skin-diving, fixed-installation and remote-control applications; and hydrodynamic studies. It is submersible and leak-tight down to a

depth of 400 ft. The DBM 9 may also be used in humid environments such as spray, splash and steam.

The camera has a 400-ft internal film capacity. Film speeds range from 4 to 400 ft/sec and the film is moved by a dynamically balanced, intermittent transport with register pin. There is an external-reading film-footage indicator. The lens is an Elgeet Golden Novitar, 12mm, f/1.2. Shutters are available in openings from $7\frac{1}{2}^{\circ}$ to 160° , interchangeable and dynamically balanced.

Presented on May 4, 1962, at the Society's Convention at Los Angeles, by T. H. Truesdell, D. B. Milliken Co., 131 N. Fifth Ave., Arcadia, Calif.

(This paper was received on July 20, 1962.)



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* Du Pont's registered trademark for its polyester photographic film.

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Fairchild Model 663: \$158.00

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- Noise reduction in film recording and multi-track tape playback
- Maintaining silence in LP spirals
- Automation of broadcast channels
- Improvement of separation in studios
- Minimizing feedback in PA systems.

Fairchild 661 AUTO-TEN \$125.00

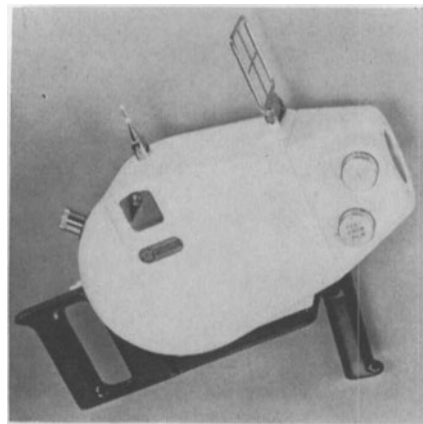
*Patent Pending.

Write for complete descriptive literature

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Powered by an integral 28-v d-c nickel-cadmium battery pack, the DBM 9 also has a connector for 115-v a-c remote operation. Accessories such as heater, timing lamps and shutter correlation pulse generator can also be added.

The dimensions of the camera are: length, 13½ in. (with grip 17½ in.); height, 8 in. (with grip 13¾ in.); width, 7½ in. The weight is adjustable from 1 lb positive buoyancy to 1 lb negative buoyancy. All external parts are made of 321 stainless steel, highly resistant to salt-water corrosion. No tools are required to open the door, which opens with a hand latch.



**The Motion Picture as a Tool
in Medical Education**

By WARREN STURGIS

IN ANY AREA of science which is undergoing change, concepts and working principles develop hand in hand with equipment. Sometimes the new ideas emerge from the materials themselves; sometimes technical requirements give birth to ideas which in turn require development of new tools. Usually, as is true of the motion picture in medical education, both processes are concurrent.

Initiation

Historically, teaching medicine through motion pictures has been with us only a short time. Of the 200 years since our first medical school was founded in Philadelphia, audio-visual education has developed only in the last 25 years.

Early medical school teaching was almost entirely dependent on oral communication. Most professors trained themselves in the disciplines in use abroad, particularly in Germany where the lecture method was prevalent. However, students had little chance to practice medicine until they graduated and saw patients.

Toward the turn of the century, specific periods for laboratory work were introduced. This concept, that one learns a skill by practicing it, rather than by merely hearing about how to do it, is the basis of learning any manual skill today.

But a third medium came to prominence as the 20th century progressed — the visual one. Photography was a fairly cumbersome practice in the 19th century. Medical stills were taken but

motion pictures as a teaching vehicle were not considered until World War I when the Army essayed a few, mainly as experiments. The orthochromatic film of that day was inadequate, however, because it could not differentiate between different hues of red. The 35mm film in current use (and various other sizes) was impractical because of its bulk.

The introduction of small film, standardized at 16mm, did much for visual training in the sciences. In addition, panchromatic film was introduced, answering the need for accurate gray scale rendition of colors. Then, the thirties saw the advent of 16mm color film. Although the early types tended to fade, there was some approach to proper color balance. Doctors could now record clinical conditions in which the hue of tissues was important.

As more films of significance were made, as more were demanded for teaching, it was inevitable that standards would evolve, that the early catch-as-catch-can film would be unacceptable, and that better equipment would be required. Medicine shared the demands of the other sciences.

Development

Precision cameras were needed. Both Eastman and Bell & Howell developed models which could produce predictable results. To photograph minute structures, long focal length lenses were manufactured. Their use with a succession of extension tubes made photomacrography practical.

Long accustomed to observing and taking stills through the microscope, the microbiologist now adapted the motion-picture camera to view physiologic processes such as capillary circula-

Presented on October 6, 1961, at the Society's Convention at Lake Placid, N.Y., by Warren Sturgis, Sturgis-Grant Productions, Inc., 322 East 44 St., New York 17.

(This paper was received on August 29, 1961.)