

Historical Note



Waldon S. Ball

When Waldon S. (Walt) Ball died in February 1967 at the age of 84, his death marked the end of an era in motion-picture history in the San Francisco Bay area.

In his one-man film laboratory in San Francisco, Ball devised a number of machines which were taken over by Art Reeves of Hollywood and marketed worldwide. They were made by "Walt" primarily for his own needs; through a long-standing friendship, Mr. Reeves had access to them as prototypes to be manufactured under an informal and confidential business arrangement between the two men. Mr. Ball did not care to have any publicity or acknowledgment of his role as the originator of the devices.

He established his laboratory in the earliest days of motion-picture production, about 1912, when San Francisco was as thriving a theatrical production center as Hollywood. The town of Niles, across the Bay, was the location of the Essanay Studios which turned out many Bronco Billy Anderson "Westerns," as well as early Chaplin comedies.

Another studio in San Anselmo across the Golden Gate, called the California Motion Picture Co., and the Montague Studios in San Francisco were taking ad-

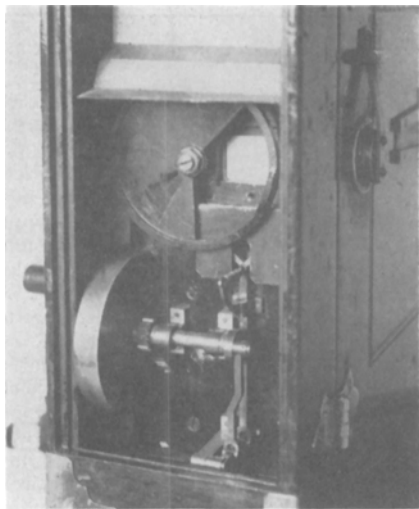


Fig. 1. Early camera intermittent movement.

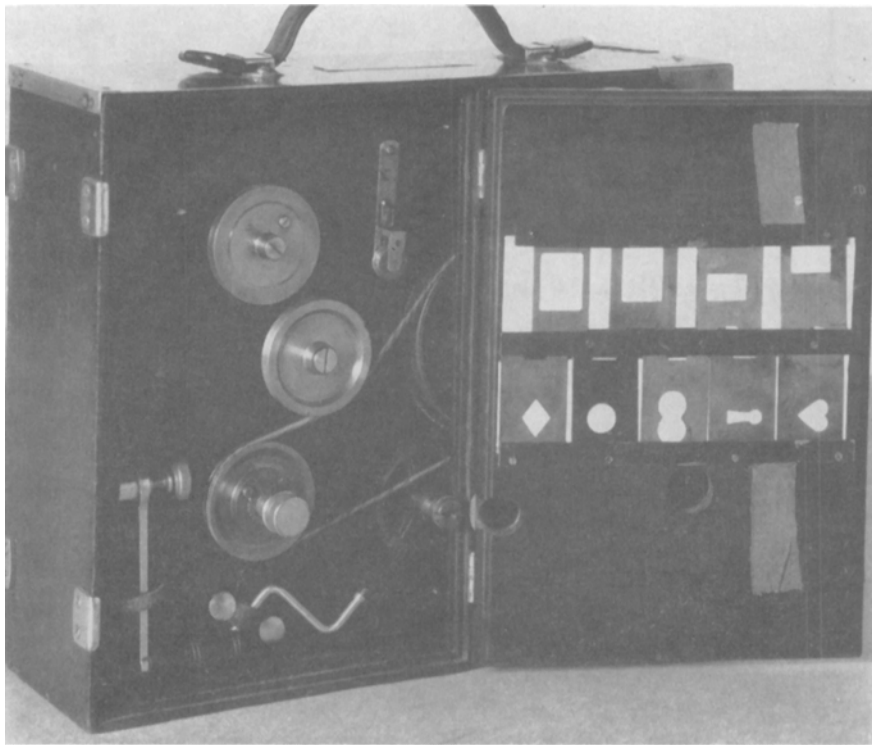


Fig. 2. Camera with masks for special effects.

vantage of the excellent Bay Area climate and highly varied backgrounds.

A native of Topeka, Kansas, Walt came to San Francisco to establish a machine shop after being introduced to motion-picture equipment in 1901 when he worked for Thomas Talley as a projector operator in the first-picture theater in Los Angeles. It was quite natural that his machine shop would be sought out as a place for repairing and construction of motion-picture cameras for the local studios.

In the years between 1911 and 1917 he made and sold a number of cameras of his own design which were very advanced for their day. Of particular note is the intermittent movement of extreme simplicity shown in Fig. 1. The vertical motion of the

claw is operated by an eccentric crank while the in-and-out motion is performed by a cam on the same shaft. Spring-loading takes out all play and the movement is very quiet and steady.

Standard features of the camera are forward-and-reverse motion and an adjustable (but not dissolving) shutter. It has three crank speeds: regular eight frames per turn, four frames per turn (for comedy "slow cranking"), and one frame per turn for animation. For the cameraman who desired to make scenes with special *éclat*, a series of masks, stored conveniently in the side door, permitted split-screen dual roles, a binocular viewpoint at the racetrack, a keyhole for mystery, or a heart for the final fade-out (Fig. 2).



Fig. 3. "Walt" Ball in his film laboratory (about 1912).

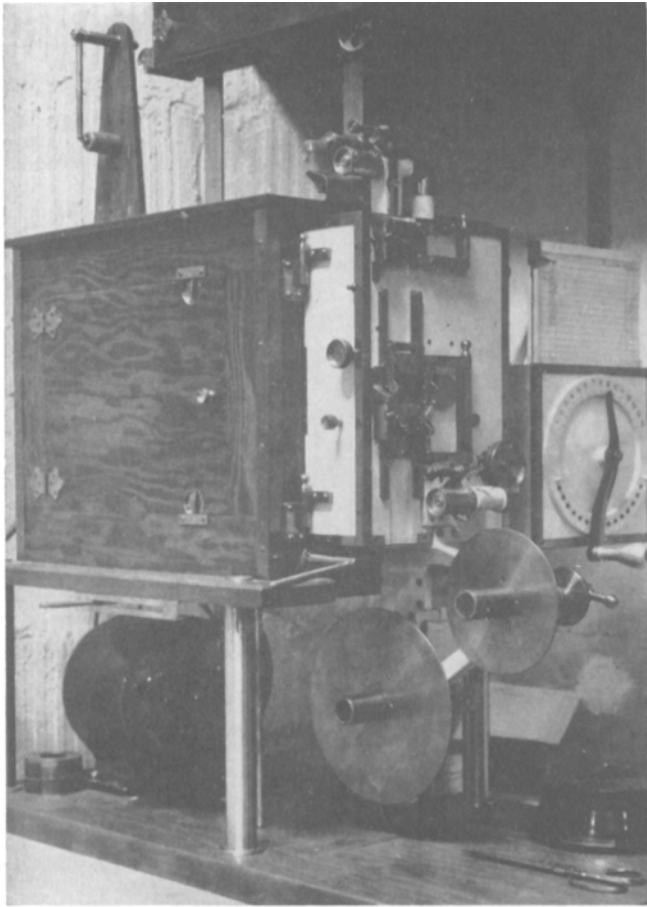


Fig. 4. 35mm contact printer.

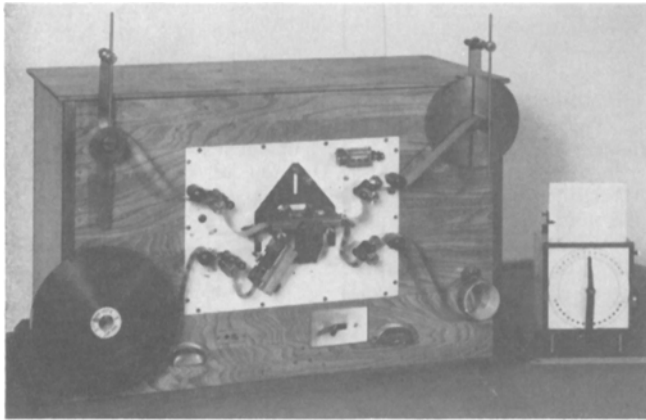


Fig. 5. Automatic dissolve printer (1928).

About 1912 Ball opened a film laboratory to augment his machine shop. He used a printer of his own design and the rack-and-tank system of processing (Figs. 3 and 4).

He hired a young man by the name of Frank Capra to wind film racks and to process film being shot by entertainment film producers of the area. But the employment of Capra was brief because the creative potential of motion pictures so intrigued him that he became a director at the Montague Studios as the first step toward *It Happened One Night* and other motion-picture classics.

In 1919 Ball made a slow-motion camera with a three-pin geneva intermittent, which he called the Novograph, and he entered into a contract to furnish a weekly subject to one of the major Newsreels. Before World War I, he did experimental machine

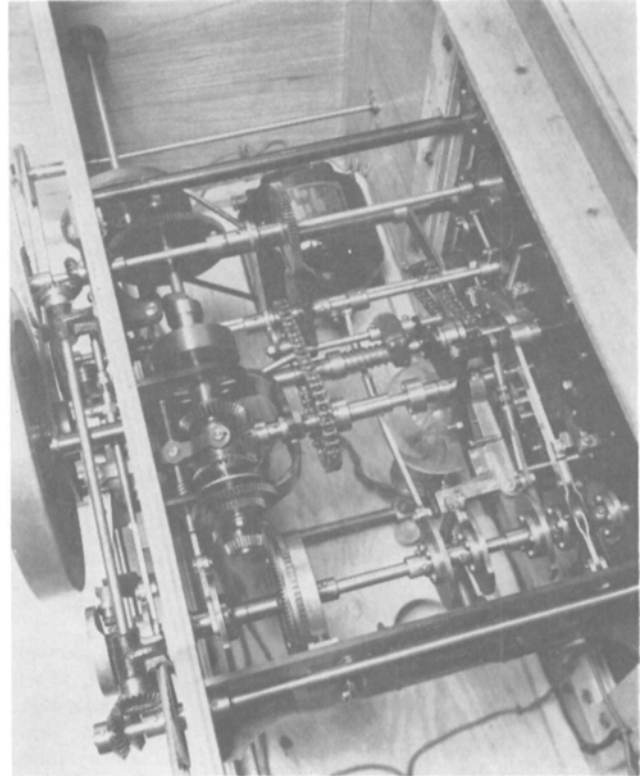


Fig. 6. Mechanism of automatic dissolve printer.

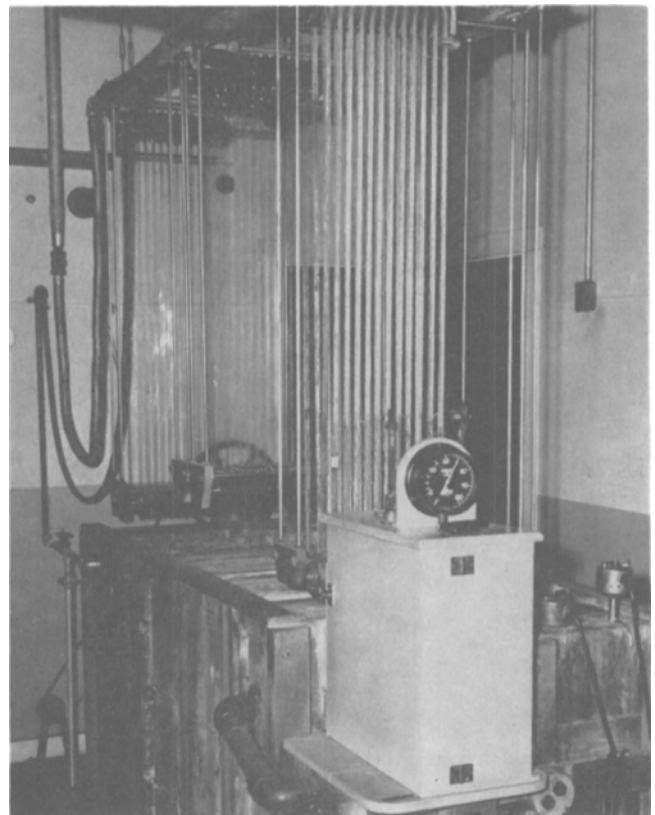


Fig. 7. Processor with elevated film racks.

work on motion-picture cameras for others including a color wheel camera for Prisma and a two-film split-beam camera for an experimenter named Robert Jones, anticipating the Technicolor camera by some years.

One of the most ingenious devices made by Ball was a contact printer made in 1928 which automatically makes lap dissolves

from a single-run negative by a simple notching of the two scenes near the splice (Figs. 5 and 6). As the first scene comes to the end, a shutter fades out the printer light, the raw stock is lifted from the negative, backed up the length of the overlap dissolve and re-combined with the negative in frame. The second scene is then faded in to complete the dissolve. Un-

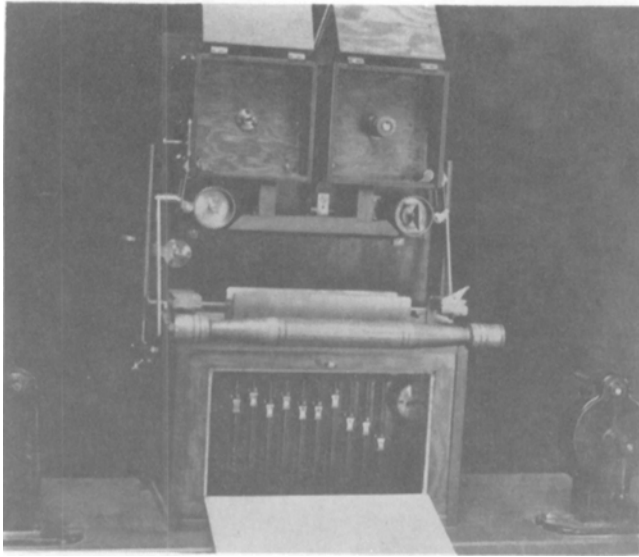


Fig. 8. Prototype made by Ball of the Art Reeves Sensitester.

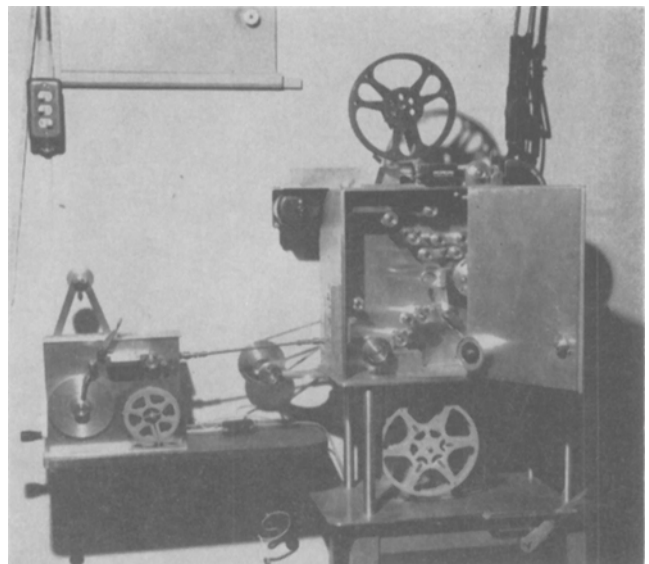


Fig. 9. 16mm printer and control mechanism.

fortunately, although the major Hollywood studios were interested, the advent of "talkies" and the depression put it out of consideration.

In the 1930's, Ball built and used machines that were prototypes for Art Reeves' marketing organization, including a bottom-drive processor in which the entire rack-and-roller assembly was lifted out of solution during shutdown, (Fig. 7), a scene tester (called Sensitester by

Reeves), shown in Fig. 8, a sound recorder transport, to which Reeves added a glow tube, and a microphone boom.

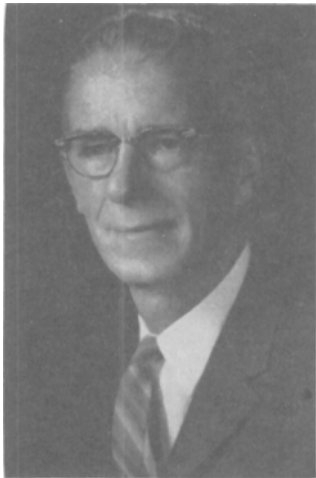
In later years, Ball changed over his laboratory functions completely to 16mm and made more equipment just for his own use, such as a jewel-like continuous printer resembling a miniature Bell & Howell model J. It is "daylight" operated and uses a control strip running at $\frac{1}{4}$ speed to avoid

any necessity of notching the original film (Fig. 9).

The printer is still in use in San Francisco today. Interestingly, its present owner has added another chapter to the story by converting it to super 8.

A member of the Society since 1941, Ball was made a Fellow in 1958 in recognition of his many outstanding contributions to the motion-picture industry.—William A. Palmer

Biographical Notes



Charles R. Fordyce Retires

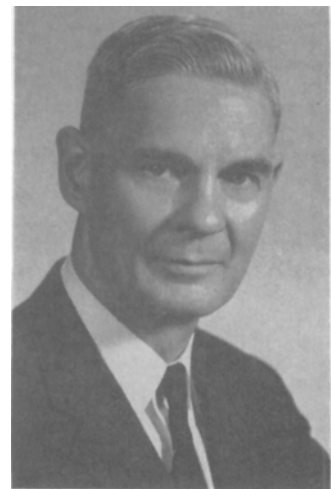
Charles R. Fordyce, whose achievements include the development of triacetate safety base film, was born in 1902 in Springville, IA. He attended Cornell College in Mt. Vernon, IA, where he was granted the degrees of Bachelor of Arts and Master of Arts. He then attended Cornell University in Ithaca, NY, where he was granted the PhD degree in 1929. That same year he joined Eastman Kodak Company as a chemist, beginning a career that was to be marked by many achieve-

ments. At the time of his retirement on January 1, 1967, he was Technical Advisor to the General Manager of Kodak Park Division.

He began his work with cellulose esters in 1930 and devoted the following 15 years to research on the manufacture of cellulose derivatives and their commercial uses for photographic film base and for plastics. He became Supervisor of the Cellulose Acetate Development Department on December 31, 1931. In 1944 he was transferred to the Manufacturing Experiments Division in Kodak Park as Assistant Superintendent in charge of development of safety motion-picture film support. In 1947 he was appointed Superintendent of the Manufacturing Experiments Division and in 1958 he was appointed Technical Advisor to the General Manager.

Dr. Fordyce joined the Society in 1947 and he became a Fellow in 1949. In 1950 he received the Samuel L. Warner Memorial Award for his work on triacetate safety base film. He is the author of a number of technical papers; those which appear in the *Journal* include "Improved Safety Motion-Picture Film Support" (Oct. 1948) and (with J. M. Calhoun and E. E. Moyer) "Shrinkage Behavior of Motion-Picture Film" (Feb. 1955). His services to the Society include chairmanship of the Admissions Committee and he has also served, for many years, on the Board of Editors.

Membership in organizations other than the Society include the American Chemical Society in which he served as Secretary of the Division of Cellulose Chemistry (1939-1944) and as Chairman in 1948. He is also a member of Sigma Xi, honorary scientific fraternity, and of Phi Beta Kappa.



Rudolf Kingslake Now Retired

Rudolf Kingslake, a scientist, writer, editor, educator and internationally known authority on lens design, retired January