



THIRTY-TWO SUCCESSIVE PICTURES

—mounted upon a wheel make up the brief stereoscopic motion picture developed by Dr. Herbert E. Ives, of the Bell Telephone Laboratories in New York. Behind the wheel is another wheel, in which may be seen the aperture which admits a flash of light as each picture reaches the projection point.

PHOTOGRAPHY

Elaborate Apparatus Makes Three-Dimension Movies

MOTION PICTURES in which the actors "stand out from the screen" and appear in relief have been produced with experimental apparatus devised by Dr. Herbert E. Ives of the Bell Telephone Laboratories in New York. Dr. Ives reported his experiments before the meeting of the National Academy of Sciences.

The apparatus for producing such pictures is quite elaborate. Instead of a lens, the camera uses a four-foot concave mirror, like those used in reflecting telescopes. It reflects the image of what it "sees" on a transparent screen consisting of 200 minute concave grooves. Here photographic records of successive exposures are made, not on motion picture film, but on small photographic plates.

Prints from these negatives are then mounted on a large disk, which brings them in slow succession into position in the projecting machine, while another smaller disk, rapidly rotating, flashes light through the lenses. The projection screen consists of 200 quarter-inch transparent rods, whose front and rear surfaces focus the light to form the apparently solid moving images in the projection space.

Immediate commercial application is hardly expected, Dr. Ives stated, because of the difficulty of obtaining the extreme accuracy of all mechanical and optical adjustments necessary for successful operation.

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ECOLOGY

Nocturnal Animals Subject Of Study by Scientists

STUDYING beetles under the bark of trees with the aid of a flashlight is part of the job of learning what animals do at night within the forest depths. Three scientists, Orlando Park and John A. Lockett, of the University of Illinois, and Dwight J. Myers, of Kent State College, Ohio, made observations on the behavior of nocturnal animals in two beech-maple forests of northeastern Ohio.

Nineteen species of beetles were observed during the ecological study, as well as frogs, salamanders, snails, ants, and millipeds. Nocturnal ecology was pointed out as being a practically untouched field of scientific research.

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BOTANY

New Varieties Promised From Re-Found Tropical Water-Lily

ONE of the romantic stories that one often encounters in fiction, of men who spend years and risk lives combing the tropics for a rare and beautiful flower, was disclosed as actual fact by Dr. George T. Moore, director of the Missouri Botanical Garden, St. Louis. Speaking before the meeting of the American Philosophical Society, he told of the successful outcome of a search lasting more than forty years, for a yellow tropical water-lily.

It has often been remarked, Dr. Moore said, that whereas water-lilies of the temperate zones are of all colors but blue, tropical water-lilies have all colors but yellow. From the flower-lover's point of view, a yellow tropical water-lily would be more precious than much fine gold, because it could be crossed with the water-lilies of other colors to produce new varieties.

In 1890 a yellow water-lily was sent out of Africa by a collector named Stuhlmann, as a dried and pressed botanical specimen. The flower was duly named in his honor, and other men sought it again to obtain its seed; but for forty years they found nothing but disappointment.

At last, in 1929, the Missouri Botani-

cal Garden received from a British botanist in Africa, B. D. Burtt, seeds of a water-lily that had grown in a swamp with big flowers of a spectacular primrose-yellow color. Of over three thousand seeds he sent, only one germinated and grew to maturity. Its flowers, in its northern land of exile, were nothing spectacular in size, but they were the long-sought yellow in color.

Crosses were made with every tropical water-lily that promised the least chance of success, and last year the first crop of hybrid flowers developed. Of the eighty first-generation hybrids, one is a conspicuous success. It was obtained by crossing the yellow water-lily with a white tropical species, and its yellow blooms are of such splendor that it was considered worthy to be named the "St. Louis," in honor of the city of its nativity.

All the rest of the hybrids, with tropical blues and pinks, have shown the yellow to be dominated by the other two colors in the first generation. Crosses have been made with these, however, and they have also been inbred, and the blooming of their offspring is an event awaited with much interest.

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