No. 765,621. PATENTED JULY 19, 1904.

G. L. JENKINS.

DEVICE FOR EXHIBITING PICTURES.

APPLICATION FILED NOV. 18, 1903.

NO MODEL.

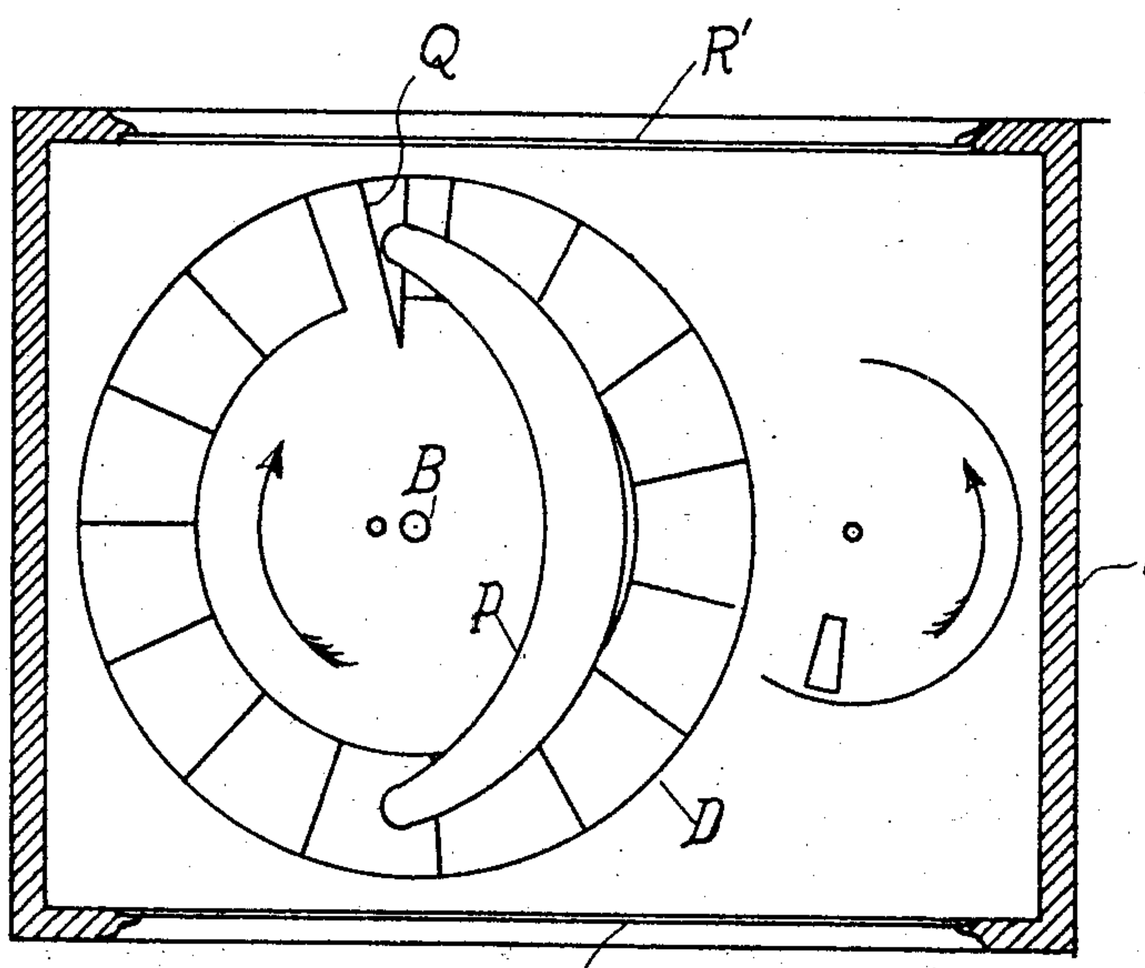

Fig. 1.

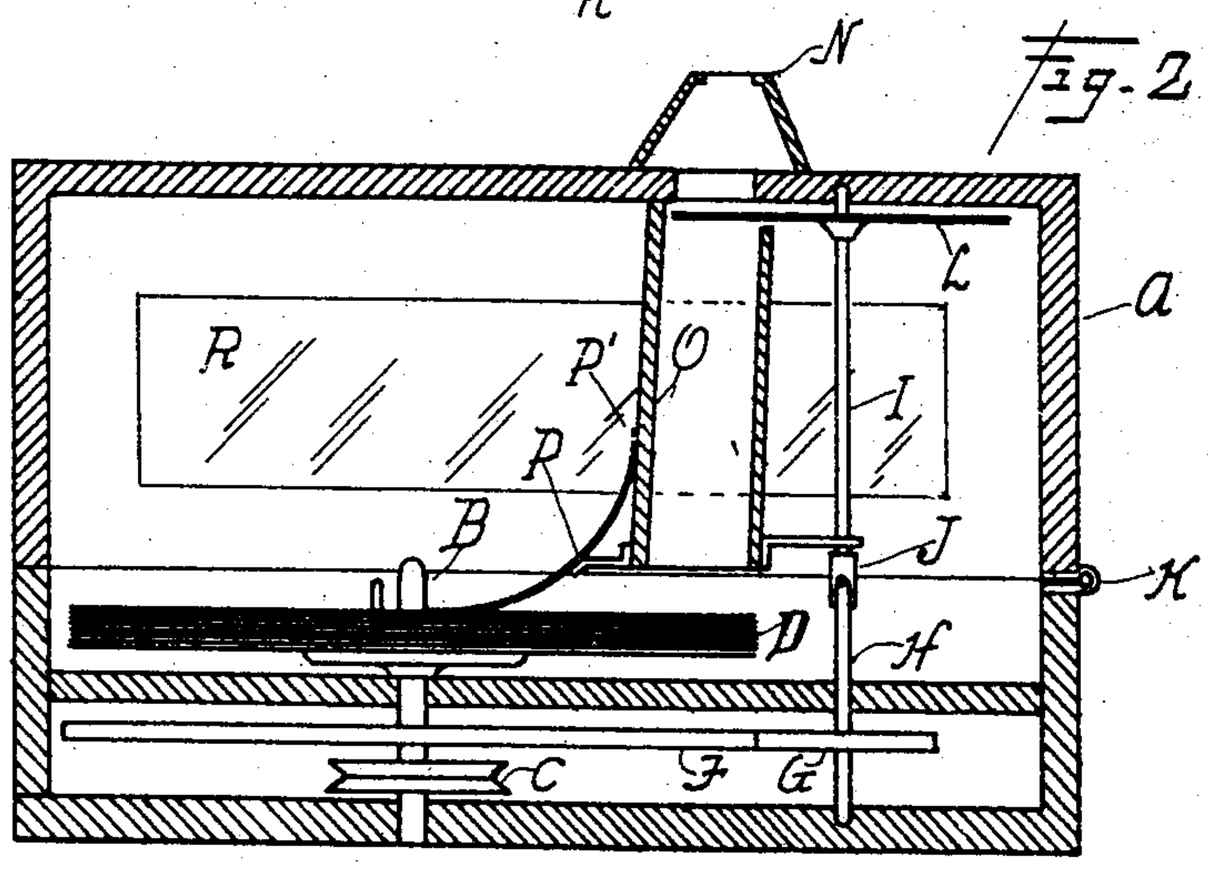

Fig. 2.

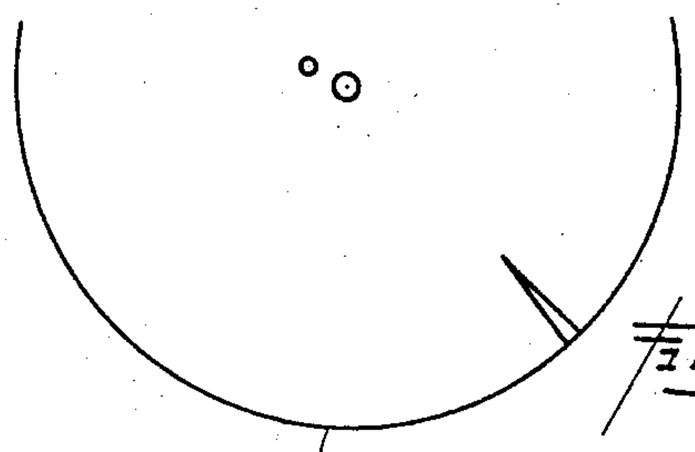

Fig. 4.

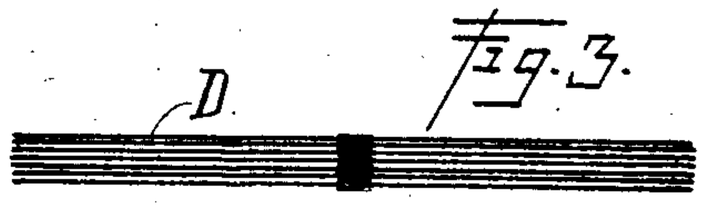

Fig. 3.

WITNESSES

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No. 765,621. Patented July 19, 1904.

UNITED STATES PATENT OFFICE.

GRACE L. JENKINS, OF WASHINGTON, DISTRICT OF COLUMBIA.

DEVICE FOR EXHIBITING PICTURES.

SPECIFICATION forming part of Letters Patent No. 765,621, dated July 19, 1904.

Application filed November 18, 1903. Serial No. 181,617. (No model.)

To all whom it may concern:

Be it known that I, GRACE L. JENKINS, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Devices for Exhibiting Pictures to Give the Appearance of Objects in Motion; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The particular object of this invention is to provide means whereby a long series of discrete pictures analytical of an animated scene may be arranged in a small compass, readily exhibited, and yet of such construction as to always maintain a compact convenient form and light weight to be readily sent through the mails.

Heretofore no device has been made which would give a compact integral group under all conditions of the consecutive pictures of a series which constitute the analysis of an animated scene of considerable duration. In some devices a long ribbon of celluloid is employed as a vehicle for these pictures. This ribbon is not only dangerously imflammable, but unmanageable once it becomes unrolled, and the natural tendency is to unroll to its entire length, requiring considerable time or a special device to wind it into a roll again. In other devices large drums or disks are employed carrying picture-cards. A given number of cards are required, no more and no less, to fill the drum, which therefore allows little latitude in the duration of the scene reproduced. These picture-charged drums are also very bulky and heavy and require a special receptacle in which to carry them to prevent the weight of the drum from coming on the picture-cards.

Although the above-mentioned methods are those most in use, still others employ other means—for instance, a great number of glass squares upon which the pictures are made, each attached to the next by narrow strips of cloth or the like. In all of these devices the great weight, bulk, and lack of suitable shape for convenient handling of the considerable number of pictures to make up an active scene of some duration are the sources of much annoyance and expense and require a skilled person to manipulate them, and these are some of the reasons why the machines have not come more into general use. In my device these pictures are arranged on a series of disks having a common center, such that they always maintain a compact form and will never spread out in tangled confusion over a great area. One method of forming this group of disks is to fasten them at the center with an eyelet, each disk being cut through at one or more places—as, for instance, a peripheral notch of more or less width and depth.

A "standard" picture-film containing fourteen hundred pictures is one hundred feet long, each picture being three-fourths by one inch. The same number of pictures on the disks I employ require a disk but twelve inches in diameter, the total thickness of all the disks being but one-quarter of an inch, the weight but eight ounces. Each picture is, moreover, two inches square, approximately six times the area of the film-picture—no mean desideratum. Again, the pictures may be put on both sides of the disks, doubling the capacity without increasing the volume. Ten such picture-holders would contain two hundred and eighty thousand pictures, be but two inches thick, and weigh but four pounds, as against twenty thousand feet of celluloid film or more than two thousand pounds of the drum-mounted pictures. Again, these picture-holders are simply dropped upon a pin in the exhibiting-machine, requiring no further manipulation or adjustment to begin the exhibition, while the regular celluloid film must be "threaded" into the exhibiting-machine and carefully adjusted to "register" before the exhibiting proper can commence. These picture-disks do not in any way limit the duration of an animated scene, for the number of disks may be increased as desired. The machine may also be charged at one time with a number of these picture-holders to be exhibited in proper sequence without further attention. By disposing the disks at more than one point—for instance, at opposite sides—two or more persons could view the same pic-

tures at the same time. It would be possible to form these disks into one continuous helical spiral by gluing the opposed edges of adjacent disks; but it is evident that such a process would make the whole twice as thick on that side as on the opposite side where the disks are not cut, so that the present method is far superior, making a composite disk of uniform thickness to which additional disks can be added at will.

Without complicating the apparatus in any way or adding to the moving parts of the exhibiting-machine these pictures can be presented stereoptically to give the beautiful effects of objects in relief, the subject-matter of a separate application for a patent thereon. The pictures may also be printed in great quantities by lithographic or other suitable processes, (and in colors, if desired,) reducing the cost of each to a few cents.

In the drawings, Figure 1 is a top view with the cover removed; Fig. 2, a side elevation, in partial section, of one form of the exhibiting device. Fig. 3 is a sectional view, and Fig. 4 a top view, of one form of the picture-carrying disks.

In the figures, A represents any suitable box or case, and in this is mounted a vertical shaft B, the latter carrying the grooved pulley C, rotating the shaft B when belted to suitable power. Upon the stem B the picture-carrying disks are placed, and by means of the small pin E the picture-disks are caused to rotate. This multiple disk may be of any suitable material, and no novelty is claimed for the material nor for the mounting on the stem, other means than that shown being possible. Also mounted on shaft B is a gear F, engaging another gear, G, on shaft H, which latter is connected to shaft I through knuckle J, which latter is provided to permit the cover of the casing A being raised (on hinges K) to open the box. On shaft I the shutter L is mounted, the gearing F G being so proportioned that the shutter L makes one complete rotation to every picture—that is, as shown, fifteen revolutions of the shutter to a complete revolution of each picture-disk. The shutter L has a radial slot M therein, which in passing over the picture gives but a momentary view of it, so brief as to make the picture appear stationary as to location, while the entire set of pictures being analytical of an animated scene the synthesis of them reproduces the scene in all its activity. To the cover is attached the sight-opening N and the chute O, which latter is intended to limit the view to a single picture as each comes into position to be seen. Attached to the chute O is a thin flexible crescent-shaped blade with its free ends lightly resting on the picture-disk. It is evident that the location of the free ends is such that one of them will slip under the advancing portion Q of each picture-disk, which latter will therefore be carried upward, bending to pass freely along the blade P at P′, thus uncovering the pictures on the disk next beneath the displaced one. This continues uninterruptedly until all the pictures are displayed and the entire series of disks lie above the blade F, so that upon opening the box the disks slip out and give way to another set bearing another series of pictures. Light for illuminating the pictures is admitted through the glass sides of the box, as at R and R′.

It will readily be understood that without departing from the spirit of my invention the pictures on the disks may be projected by reflecting from the surface of the opaque disks, or transparent material may be employed and the ordinary stereopticon projecting-lantern used—the subject-matter of a separate application for patent thereon.

What I claim, therefore, and wish to protect by Letters Patent of the United States, is—

1. A picture-holder comprising serial disks having a common axis and fixed integrally thereat.

2. A picture-holder comprising serial disks having a common axis and fixed integrally thereat, and means for progressively displaying the pictures on each disk.

3. A picture-holder comprising serial disks having a common axis and fixed integrally thereat, and means for progressively displaying the pictures thereon so as to give the appearance of objects in motion.

4. A picture-holder comprising serial disks having a common axis and fixed integrally thereat, means for rotating said disks, and a blade arranged to progressively expose a portion of said disks.

5. Peripherically-notched disks having a common axis and fixed integrally thereat.

6. Peripherically-notched disks having a common axis and fixed integrally thereat, and means for progressively exposing said disks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GRACE L. JENKINS.

Witnesses:

C. F. JENKINS,

W. CLARENCE DUVALL.