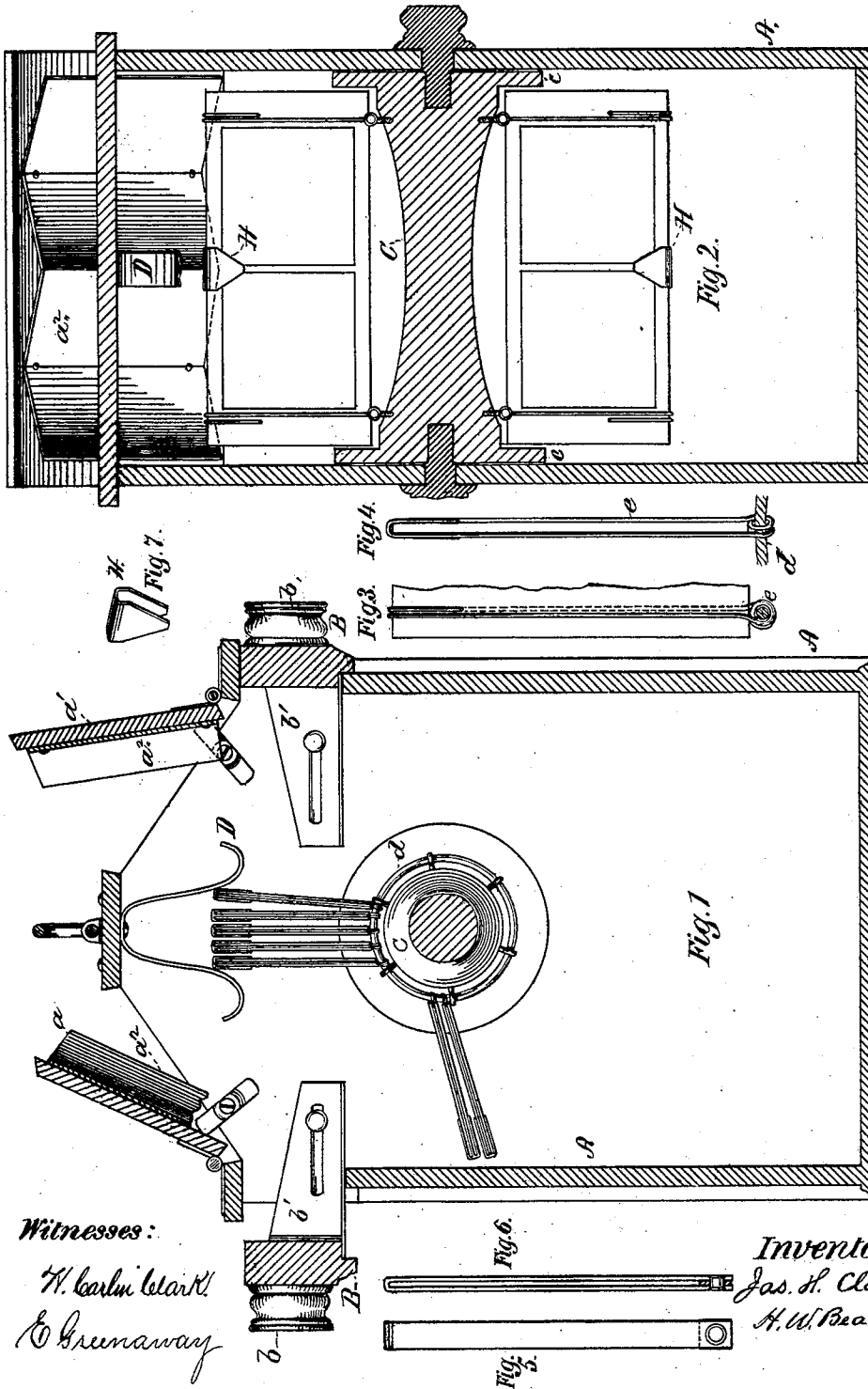


J. H. CLARK.

Improvement in Revolving-Stereoscopes.

No. 130,191.

Patented Aug. 6, 1872.



Witnesses:

H. Carlisle Clark
 & Greenaway

Inventor:

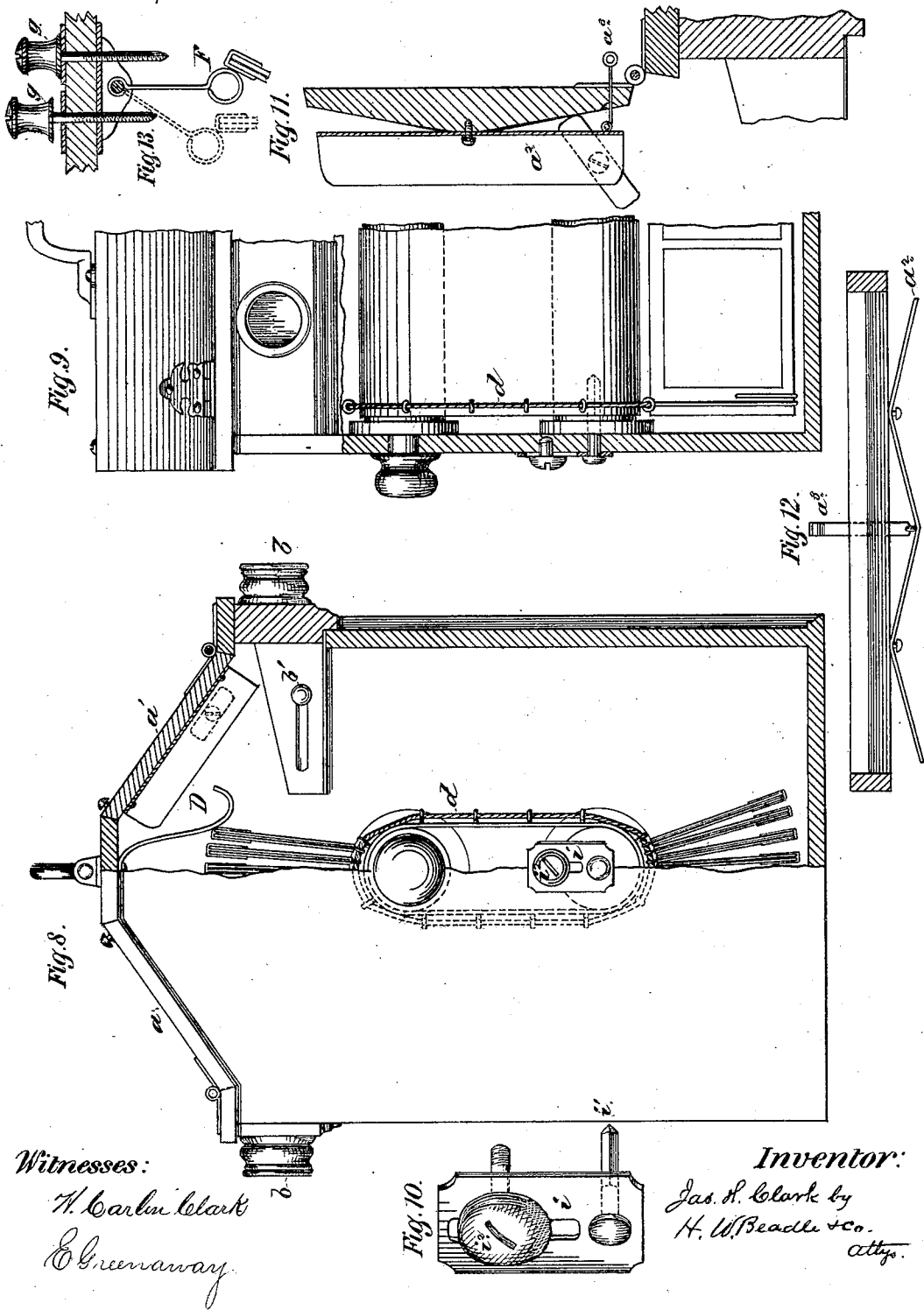
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UNITED STATES PATENT OFFICE.

JAMES H. CLARK, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN REVOLVING STEREOSCOPES.

Specification forming part of Letters Patent No. 130,191, dated August 6, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JAMES H. CLARK, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Stereoscope; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to that class of stereoscopes which are adapted to hold a series of views, each of which is presented in turn for observation, at the will of the observer, by the revolution of a cylinder or belt; and consists, mainly, in the peculiar means employed for attaching the views to the cylinder or belt, as will be fully described hereinafter.

In the drawing, Figure 1 represents a longitudinal central sectional elevation; Fig. 2, a transverse central sectional elevation; Figs. 3 and 4, views in elevation of the wire which secures the picture to the main cord; Figs. 5 and 6, views of an elastic strap adapted for the same purpose; Fig. 7, a perspective view of a clasp adapted to clasp the edges of the pictures and protect them from being rubbed by the spring; Fig. 8, a side elevation, partially in section, showing a practical method of using the main portion of my invention in connection with a belt. Fig. 9 represents an elevation, partially in section, showing a front view of the belt with the pictures attached thereto. Fig. 10 represents a perspective view of the device for adjusting the lower roller upon which the belt runs. Fig. 11 represents a side sectional elevation of my adjustable reflector; Fig. 12, a plan view of the same; and Fig. 13, a view of my improved spring with its adjustable stops.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents a case or box, which may be of any proper form and size. Its width should be somewhat greater than the length of the ordinary stereoscopic picture, and its length and height greater than double the width of the picture. The case is closed on all sides, with the exception of an opening front and rear, in which are placed the face-boards B B, carrying the lenses. The top portion, also,

which is raised, as shown, is provided, upon each side, with openings for the admission of light, which openings are provided with doors a^1 . a^2 , Figs. 2, 11, and 12, represents a reflector of peculiar construction, which is attached to the door a^1 in any suitable manner. It consists of a suitable strip of metal, which is bent transversely at the center line, and also upon a line upon each side of the center midway between it and the end, by which means inclined surfaces are formed, adapted to concentrate the rays upon the center of each half of the picture. This reflector may be attached rigidly to the doors a^1 of the case, and the different angles of reflection desired be obtained by adjusting the position of the doors by means of buttons, as shown in Fig. 1; but if desired, the reflector may be pivoted, as shown in Figs. 11 and 12, and the different angles of reflection be obtained by adjusting the reflector through the medium of a rod, a^3 , as shown. The face-boards B B, which carry the lenses and the usual eye-rings $b b$, are rendered capable of a horizontal movement into and out from the case by means of slotted and flanged arms $b^1 b^1$, which latter are held by headed pins or screws, as shown. C represents a shaft, turning on suitable bearings in the case, which is provided upon its extreme ends, which project through the sides of the case, with knobs, by means of which it is conveniently revolved. Within the case it may be provided at each end with a disk, c , as shown. The pictures are attached to this cylinder by means of a cord or wire, d , which is carried about the cylinder and secured in any proper manner. Upon this wire or cord the pictures are strung by means of a small wire, e , Figs. 3 and 4, the center of which is twisted into a ring adapted to move freely upon the cord d , and the ends are bent and carried up to the sides of the picture and turned over its edges, as shown. If desired, instead of the wire e , a cord or tape may be used to secure the picture to the main cord.

In Figs. 5 and 6, an elastic strap is shown, the ends of which are united by an eyelet adapted to slide upon the main cord. For the purpose of keeping the pictures properly in place and preventing their crowding to one side of the cylinder, staples or screw-rings are inserted at regular intervals in the cylinder

when the wire and pictures are put in place. The staples or screw-rings also serve to keep the cord in proper place upon the cylinder, and prevent it from turning upon the cylinder. The cord or wire between the screw-rings and staples should be well filled with pictures, so that it is rendered impossible for a picture to move unequally at its sides, and thus lie diagonally across the scope.

A form of spring is shown in Fig. 13 for holding the top of the picture in position. *F* represents an elastic strip of metal, pivoted at one end to the top of the case, and terminating at the other in a ring, as shown. *g g* represent stops, preferably consisting of screws, in order that they may be adjusted, which are employed to limit the movement of the swinging spring. *H*, Figs. 1 and 2, represents a clasp, which is adapted to be placed upon the edges of the pictures in line with the spring, for the purpose of preventing them from being injured by contact with the spring as they revolve.

If desired, the cord or wire upon which the pictures are strung may be carried about a belt properly stretched between two rollers, as shown in Figs. 8 and 9, instead of being carried about the cylinder. In such case, however, the lower roller should be provided with means of adjusting the belt, as indicated in Fig. 10, to make it sufficiently tight to be turned readily by the upper roller.

i represents a slotted plate, in which is suspended the journal *i*¹ of the lower roller. This slotted plate *i* is held by a set-screw, *i*². By loosening this set-screw, the plate may be adjusted to raise or lower the roller, as may be desired.

By the employment of the means described for uniting the pictures to the cylinder or belt, which feature constitutes the main portion of my invention, I am enabled to put more pic-

tures upon the cylinder than can be done by any other means known to me, and the cost of construction is much less than that of an ordinary scope.

The operation is as follows: The pictures having been properly secured to the cylinder, and the face-boards having been adjusted to secure the proper focus for the eyes, the observer views the pictures by looking through the eye-rings. The pictures are presented in turn by revolving the knobs. As each picture presents itself it is caught and held in proper position by the spring *D*, the revolution of the shaft, of course, being stopped at this point while the observer views the picture. When he desires to proceed to the next, the shaft is again slightly revolved, when the picture under observation will be drawn from beneath the spring, the latter yielding slightly for that purpose, and be permitted to fall.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the cord or wire *d*, the picture-retaining cords or wires *e*, and the cylinder *C*, as described.

2. The combination of the cylinder-wire *d*, the picture-retaining cord or wire *e*, and separating-staples or screw-rings, as described.

3. The combination of the swinging spring *F* and stops to limit its motion, as described.

4. The combination of the swinging spring *F* and the stops, rendered capable of adjustment, substantially as described.

This specification signed and witnessed this 25th day of May, 1872.

JAS. H. CLARK.

Witnesses:

H. W. BEADLE,
FREDK. ARTOS.