(No Model.)

4 Sheets—Sheet 1.

C. C. BISHOP.

APPARATUS FOR DISPLAYING STEREOSCOPIC VIEWS.

No. 427,727. Patented May 13, 1890.

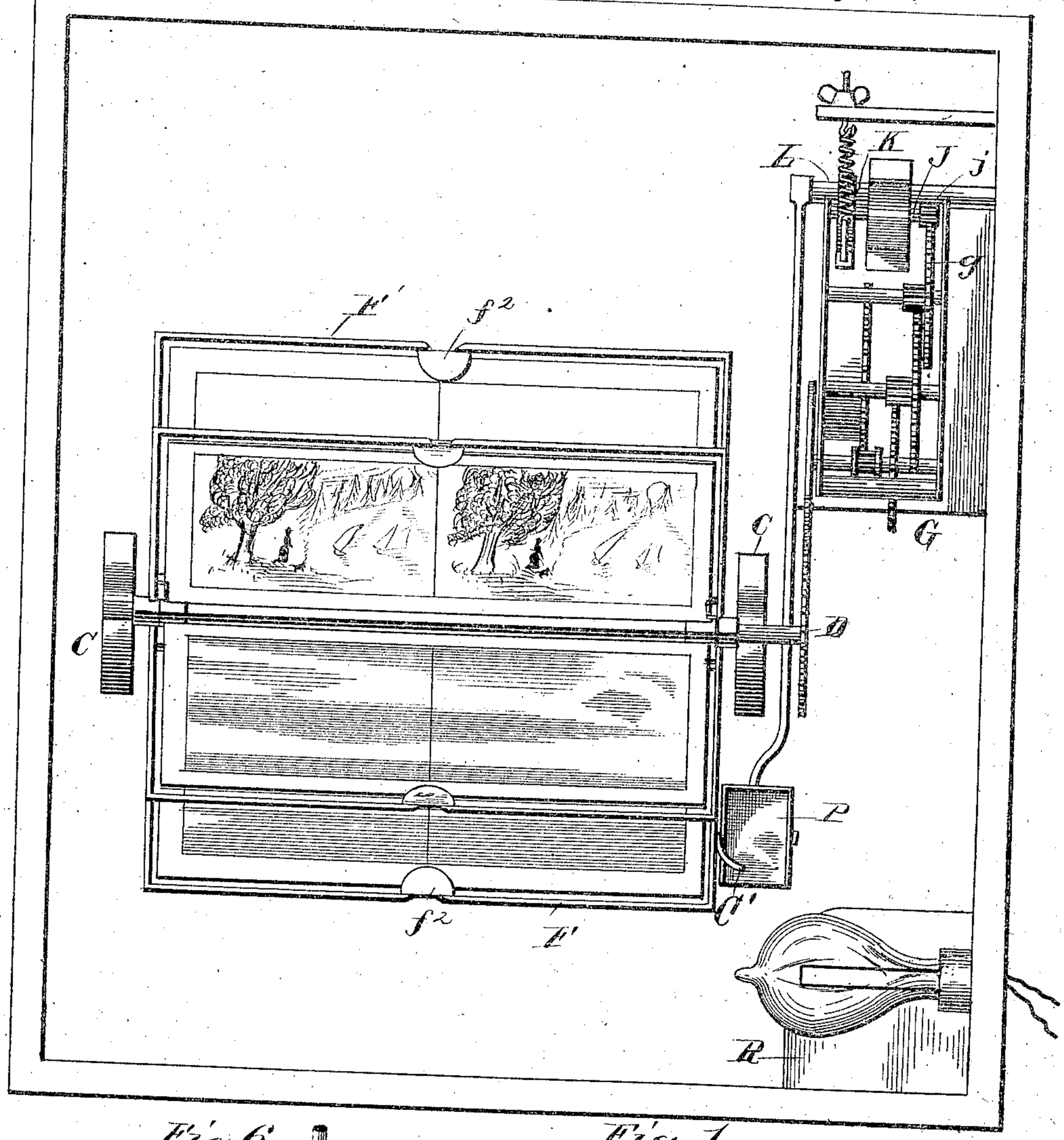

Fig. 1.

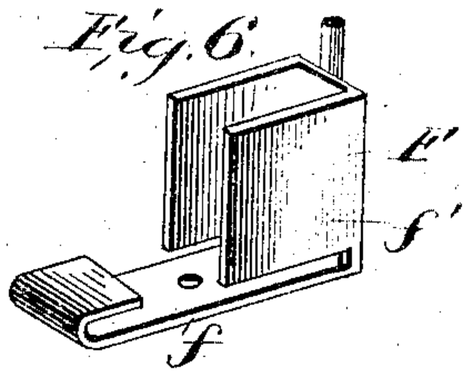

Fig. 6.

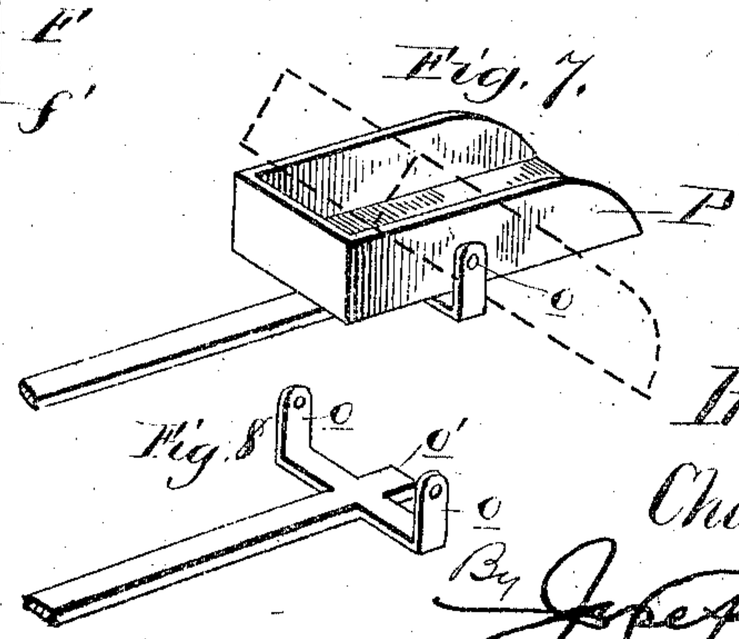

Fig. 7.

Fig. 8.

Witnesses:
Fred. P. Cornwall
L. L. Bacon

Inventor:
Chas. C. Bishop
By Joseph R. Hunter
His Attorney

(No Model.)

4 Sheets—Sheet 2.

C. C. BISHOP.

APPARATUS FOR DISPLAYING STEREOSCOPIC VIEWS.

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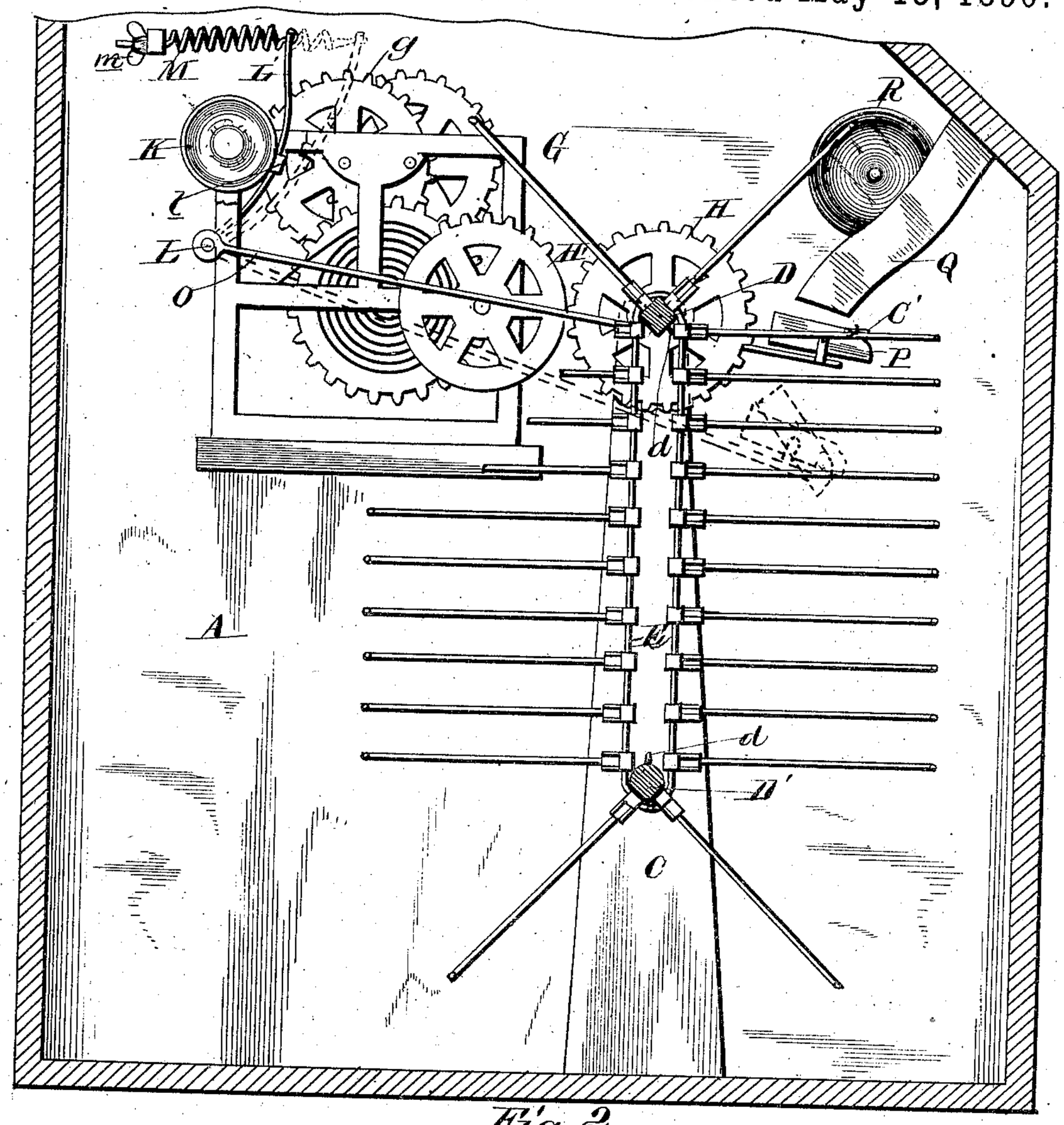

Fig. 2.

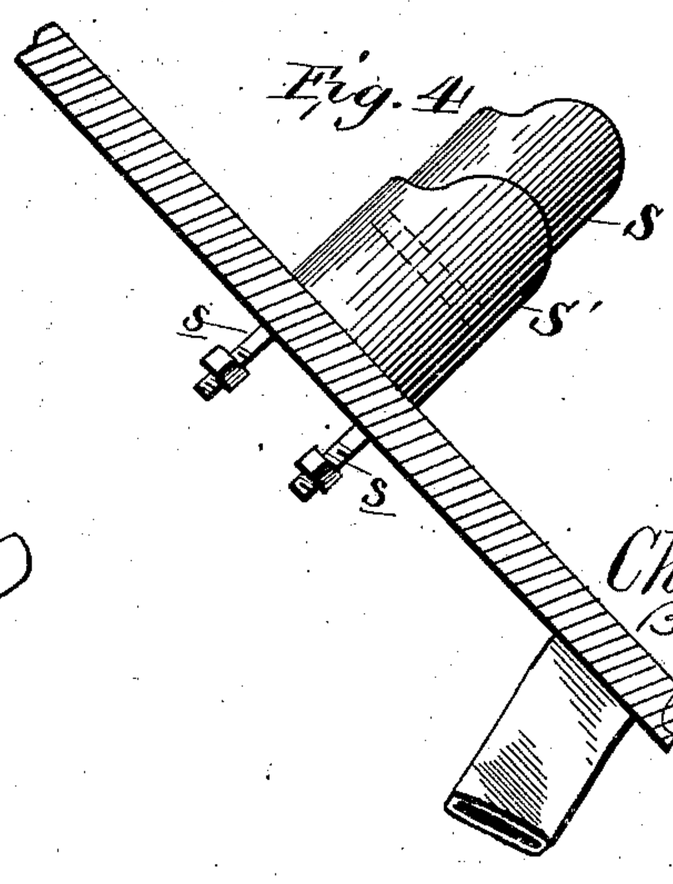

Fig. 4

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(No Model.)

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C. C. BISHOP.

APPARATUS FOR DISPLAYING STEREOSCOPIC VIEWS.

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Fig. 3

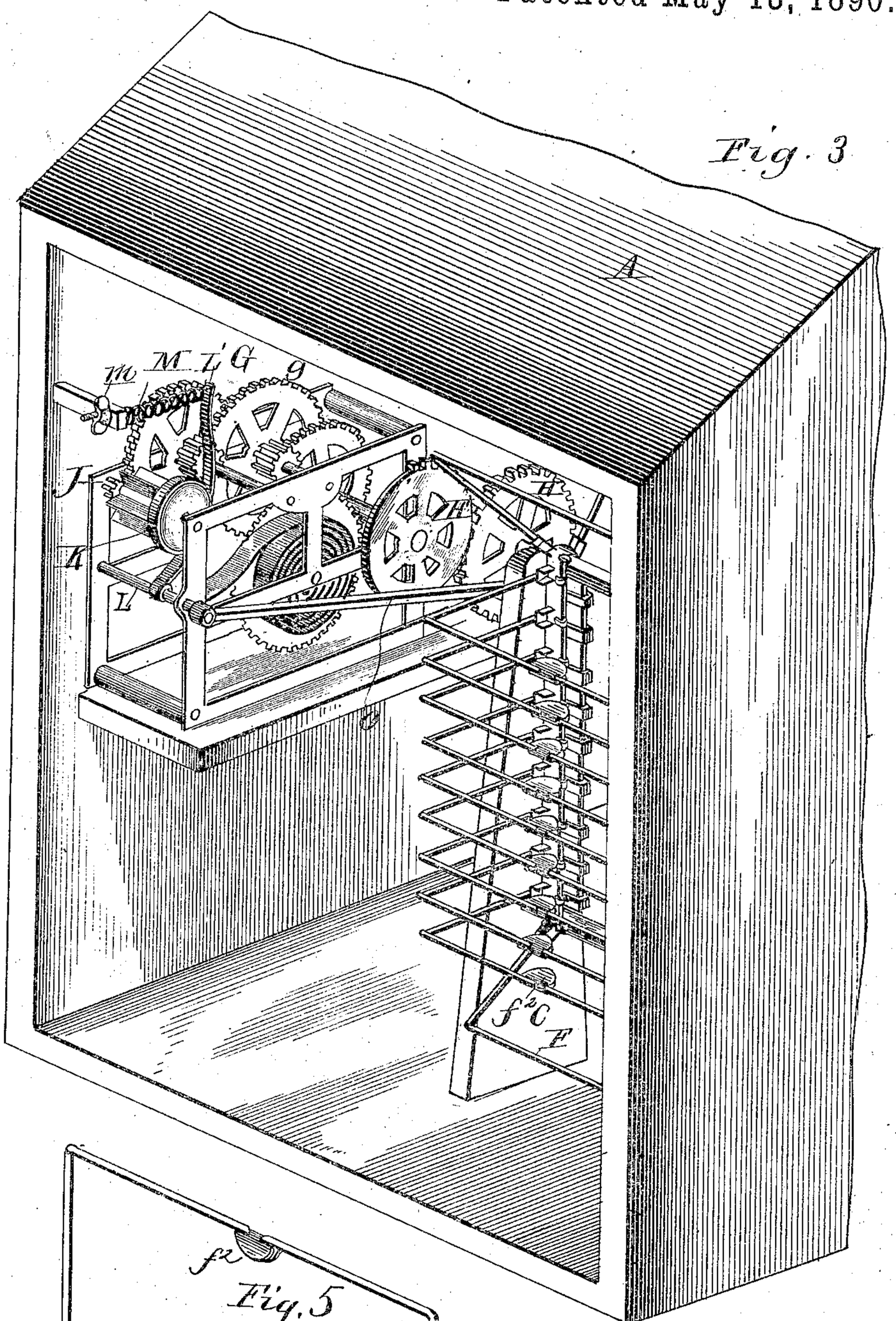
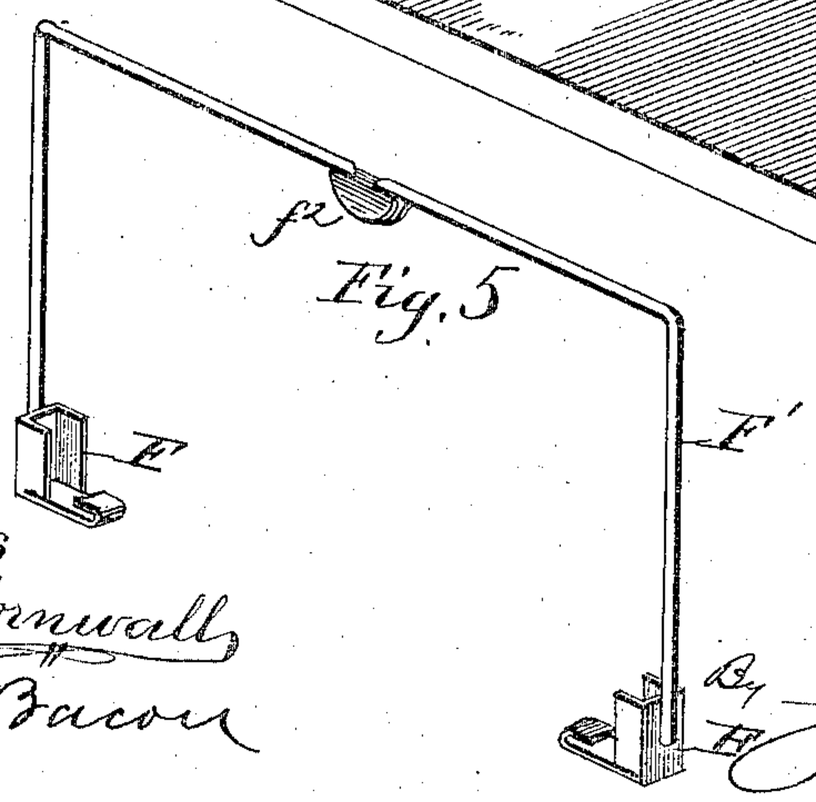


Fig. 5



Witnesses
Fred. P. Cornwall
L. S. Bacon

Inventor;
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By Joseph N. Hunter
His Attorney

(No Model.)

4 Sheets—Sheet 4.

C. C. BISHOP.

APPARATUS FOR DISPLAYING STEREOSCOPIC VIEWS.

No. 427,727. Patented May 13, 1890.

Fig. 9.

Witnesses:
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L. S. Bacon

Inventor:
Chas. C. Bishop Jr.
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His Attorney

UNITED STATES PATENT OFFICE.

CHARLES C. BISHOP, OF NASHVILLE, TENNESSEE.

APPARATUS FOR DISPLAYING STEREOSCOPIC VIEWS.

SPECIFICATION forming part of Letters Patent No. 427,727, dated May 13, 1890.

Application filed November 13, 1889. Serial No. 330,217. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. BISHOP, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Automatically-Operated Apparatus for Displaying Stereoscopic Views, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in automatically-operated and self-controlled apparatus for displaying stereoscopic or other views; and it consists in the construction and arrangement of the several parts thereof, which will be more fully hereinafter described, and definitely pointed out in the claims.

The object of my invention is to provide an apparatus which will be actuated and controlled by the deposition of a weight or metal check—such as a coin—and also to illuminate the picture by artificial light supplied from suitable means located within the casing. I attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a top plan view with the cover removed. Fig. 2 is a transverse vertical section on the line *x x* of Fig. 1. Fig. 3 is a perspective view of the rear of the mechanism. Fig. 4 is a detail view of the lens and its supported portion of the casing. Fig. 5 is a perspective view of the card-holding frame. Fig. 6 is a perspective view of one of the card-clamps. Fig. 7 is a perspective view of the hopper, showing in dotted lines the position assumed when tilted; and Fig. 8 is a perspective view of the end of the actuated lever with the hopper removed. Fig. 9 is a perspective view of the case.

In the drawings, A represents the casing, having lid or door B, and formed substantially rectangular, with a slanting top. Within the casing to one side of its center are secured two vertical tapering standards C, formed with bearings in their faces near their ends. In these bearings are journaled shafts D D′, rectangular in cross-section between the standards. Adjacent to the ends of these shafts are placed guide collars or pins *d*, for purposes hereinafter stated. Over the ends of the shafts D D′ are placed endless belts E, constructed of any suitable material, such as leather or webbing. These belts are held on the ends of the shafts by the pins *d* and the standards. On these belts are secured the card-clamps F, which, as shown in Fig. 6, are formed of pieces of metal bent to partly encircle the belts, and of a width substantially equal to the flat faces of the shafts. From the outer ends of these clamps project vertically an arm formed with two lateral wings *f′*, between which the edges of the cards are placed. These clamps are united or permanently secured to the bands, and are united in pairs by a frame or wire F, attached to their upper edges and extending out sufficiently to permit a card to be placed between, and they are then united above the cards. At the center of the cross-piece of the frame F, I secure a downwardly-projecting clamp f^2, having two curved lips, between which the edge of the card is placed. The card is thus held rigidly in place at all times in its circuit around the shafts. The construction of the clamps F and their positions on the belts form substantially a sprocket-chain, the rectangular shaft carrying the belts as the shafts rotate. In rotating these shafts I employ a train of gears or clock mechanism G, which I support on a suitable bracket in the upper portion of the interior of the casing. Adjacent and slightly in the rear of the standards, on the inner end of the upper shaft D, is keyed a gear-wheel H, which meshes with a broken gear-wheel H′ on the outside of the frame of the clock mechanism. This wheel H′ is formed with teeth on part of its periphery only, which are in number sufficient to rotate the wheel H a distance to expose each picture at intervals sufficient for a complete inspection thereof. As the teeth on wheel H′ engage the wheel H, it carries the previously-exposed picture down and exposes the following adjacent card. The broken or toothless surface of the

wheel H′ is now brought around and escapes the wheel H, permitting the card to remain in its exposed position until the teeth again engage the teeth of the wheel H.

To control the movement of the operating mechanism, I employ a peculiar construction, which I will now proceed to describe. At the upper rear end of the clock-mechanism frame and engaging with the train of wheels I journal a lateral shaft J, having a barrel-rack *j* on one end and a friction-disk K on its opposite end, which is rotated by the gear G of the train of gears.

L is a shaft extending across the frame of the mechanism and journaled thereon. From this shaft there extends upwardly a curved arm L′, bending around the periphery of the friction-wheel K and above it. It is secured rigidly with the shaft and moves with the same. To normally hold the arm L′ against the disk K, a tension-spring M is employed, which is secured to the upper end of the arm and to an adjusting-screw *m*, which extends through a block secured to the casing. By this means the tension or pressure of the arm on the disk may be regulated. To form a more complete contact with disk and arm, so that the mechanism will move quickly, respond to the pressure of the spring, and thereby stop the mechanism, a rubber block *l* is attached to the disk.

To release the disk K and start the operating mechanism, I extend a long lever-arm O from the outer end of the shaft L across the casing to a point near the front. This lever is rigidly keyed to a shaft L, and owing to its length is very sensitive and responds quickly to the slightest pressure placed on its free end. The end of this lever is formed with a T-head, with projections or ears *o* extended out from its center. Between these ears I place a hopper or receptacle P, which is pivoted to the upper end of the ears near its bottom at a point slightly in advance of its longitudinal center, which permits the hopper or receptacle to oscillate. This hopper is tilted after the coin is deposited by a trigger or trip-arm C′, attached to one of the card-frames. This trip consists of a wire or metal arm rigidly secured to the arm and projecting out to a point where it will contact with the outer end of hopper, or rock when occasion requires, the tongue *o′* limiting its movement.

Q represents a coin or weight chute extending from the top down to a position adjacent to the hopper, and communicates with a slot in the casing, so that the coins are always deposited in the hopper. In the upper forward corner of the casing is placed a bracket R, on which a light of any desired form, preferably an incandescent electric light, is placed. The position of this light causes the rays to strike directly on the exposed card or picture.

S represents the lenses, which are secured in a suitable eye-piece mounted on rods *s*, extending through the casing and adapted to be moved out and in to regulate the focus. A shield or casing S′ is secured to the casing in which the eye-piece works.

In the lower part of the casing, near the front, I place a drawer to receive the coin or weight.

The operation of the above-described apparatus is as follows: The coin is placed in the chute and deposited in the hopper, the weight of which overcomes the tension of the spring and releases the friction-disk, permitting the endless belts with the views to be carried around, the construction of the wheel H′ causing the views to be periodically displayed. As the trigger or trip comes in contact with the hopper, it forces it down, displacing the coin or weight and permitting the lever to be drawn back. The mechanism is thereby stopped, the trigger being immediately under the hopper, so that the entire list of views is disclosed during the next operation.

I am aware that many minor changes in the construction and arrangement of the parts of my invention can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In an apparatus for displaying views, the combination, with a clock mechanism and a view-carrier, of a broken or segmental gear-wheel in operative contact with the clock mechanism and arranged to periodically engage with the view-carrier to move the same, a lever, and a trip on the carrier for controlling the movement of the mechanism, substantially as described.

2. In an apparatus for displaying views, the combination, with a view-carrier and mechanism for operating the same, of a lever on the frame of the driving mechanism having a curved arm extending out from its fulcrumed end at or about right angles, a contact-block on the arm, a spring connected with its upper end, and a friction-wheel in operative contact with the driving mechanism against which the arm is normally held, substantially as described.

3. In an apparatus for displaying views, a view-carrier consisting of two endless belts having frames thereon for holding the views, mechanism for operating the carrier, a lever for controlling the movement of the mechanism, and a trip on one of the frames engaging with the lever to stop the operating mechanism, substantially as described.

4. The lever having upturned ears and a tongue *o′* between the ears, and a tilting hopper pivotally secured between the ears, in combination with a view-carrier having a trip thereon for tilting the hopper, substantially as described.

5. The combination, with the view-carrier, of mechanism for operating the same period-

ically, a friction-disk, and a lever engaging therewith and with the carrier for stopping the mechanism, substantially as described.

6. The combination, with a view-carrier and clock mechanism, of a sector-wheel interposed between the same for periodically operating the carrier, a trip on the carrier, and a lever engaging with the clock mechanism operated by the trip to control the movement of the mechanism, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES C. BISHOP.

Witnesses:

FRANK T. HUNTER,

L. S. BACON.