No. 607,073. Patented July 12, 1898.

# A. PETERSON.

## PANORAMIC MYRIOSCOPE.

(Application filed Jan. 6, 1897.)

(No Model.)

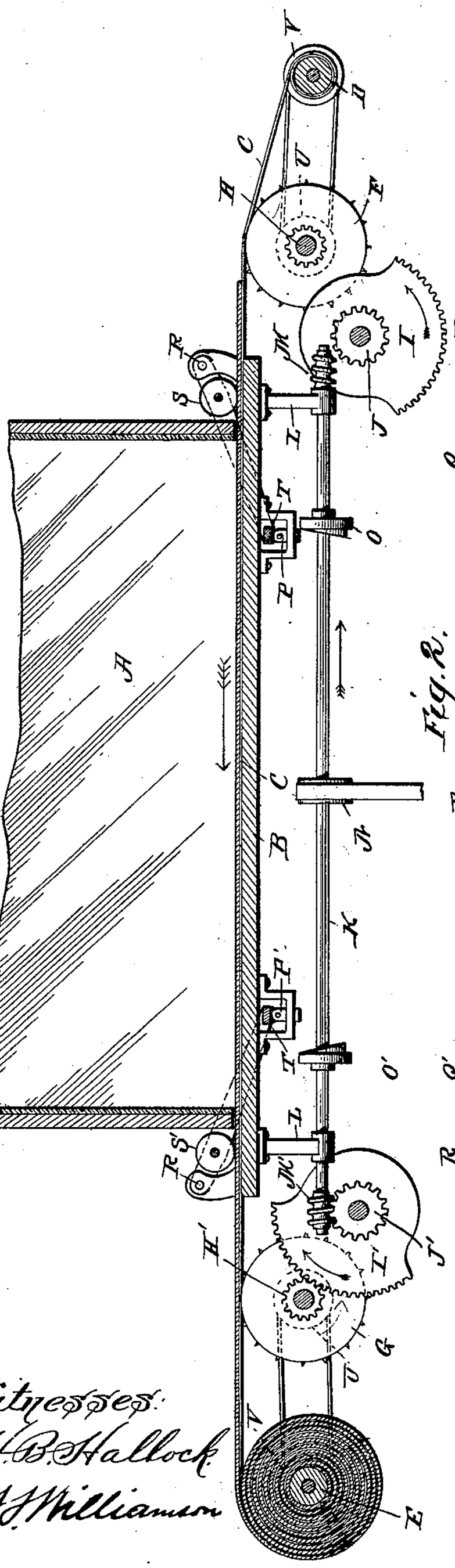

Fig. 1.

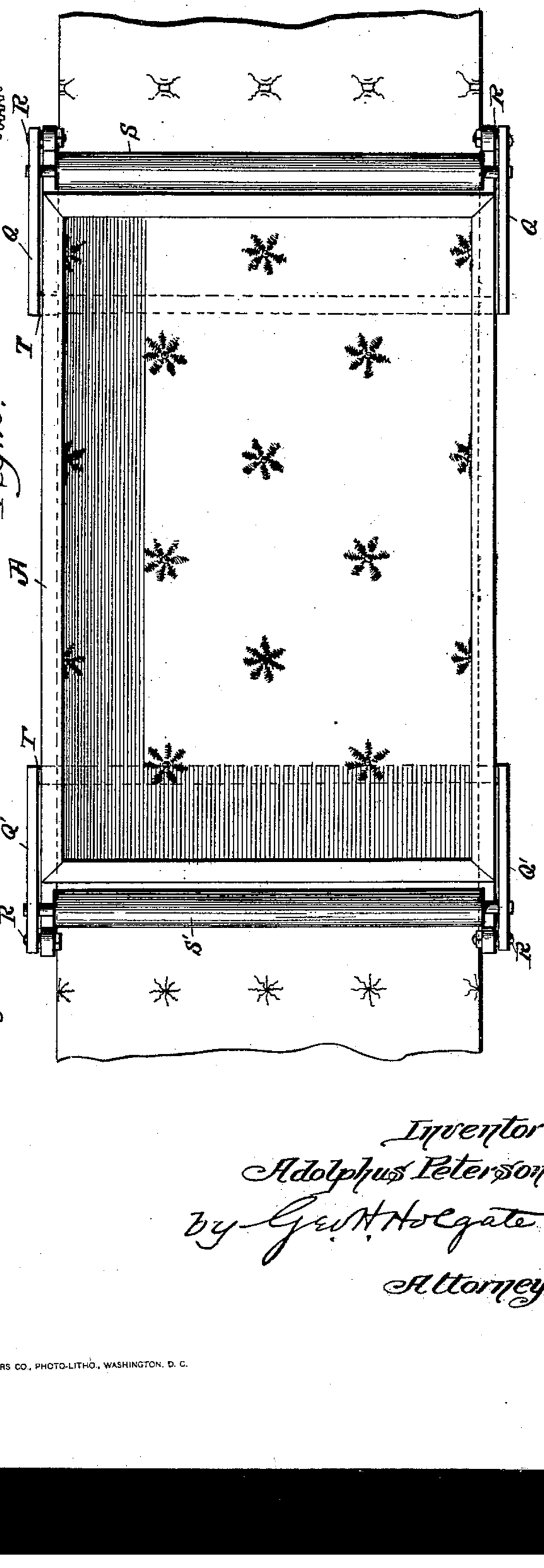

Fig. 2.

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# UNITED STATES PATENT OFFICE.

ADOLPHUS PETERSON, OF LANSDOWNE, PENNSYLVANIA.

## PANORAMIC MYRIOSCOPE.

SPECIFICATION forming part of Letters Patent No. 607,073, dated July 12, 1898.

Application filed January 16, 1897. Serial No. 619,452. (No model.)

*To all whom it may concern:*

Be it known that I, ADOLPHUS PETERSON, a citizen of the United States, residing at Lansdowne, in the county of Delaware and State of Pennsylvania, have invented a certain new and useful Improvement in Automatic Polyscopes, of which the following is a specification.

My present invention relates to a new and useful improvement in automatic exhibitors for carpet, wall-paper, and the like, and is what I am pleased to term an "automatic polyscope," and has for its object to provide positive and effective means whereby a series of samples may be automatically exhibited one after the other and when so exhibited will give a realistic appearance to a surface of indefinite extent, being covered with a material of a design or a pattern; and a further object is to cause the patterns or samples to dwell through a sufficient space of time to permit a careful inspection thereof, after which they are to move one step, bringing the next pattern into position, which will then dwell for a similar purpose, and so on throughout the entire series of samples.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal section of an apparatus built in accordance with my improvement and adapted to exhibit samples carried by a traveling belt wound upon two reels; Fig. 2, a plan view thereof.

In carrying out my invention as embodied in the drawings I provide a mirror-box A, which may be of any suitable design, such as rectangular, having the entire surface of its walls covered by suitable mirrors, and this box may be either rigid or collapsible, as best suits the requirements or fancy of the user. This box is mounted upon a base B, from which the belt C, carrying samples, is arranged to travel, as will be hereinafter set forth.

Two reels D and E are suitably journaled either in a portion of the framework of the apparatus or outside thereof, as the case may be, and upon these reels is wound the belt C, so that when being wound upon one reel it will be unwound from the opposite reel, and vice versa, the reels being given their rotary motion, as will be fully set forth hereinafter.

The belt is caused to travel in one direction or the other by means of the sprocket-wheels F and G, one journaled at each end of the apparatus and having teeth thereon which mesh with suitable holes or eyelets in the belt, so that when these wheels revolve in one direction or the other the belt will be caused to travel in the corresponding direction and will therefore be drawn from one of the reels and permit the opposite reel to wind the same thereon. The sprocket-wheels are mounted upon suitable shafts, on which are secured pinions H and H′, with which the segmental gears I and I′ are adapted to mesh when being rotated, and these segmental gears are rotated through the worm-gears J and J′, which latter are secured upon the same shaft as the segmental gears.

A longitudinal shaft K is so journaled in suitable hangers L, depending from the under side of the apparatus, as not only to revolve therein, but also to have a free longitudinal sliding movement when occasion requires and for the purpose next explained.

Upon the ends of the longitudinal shaft are secured or formed the worms M and M′, which are adapted to mesh, respectively, with the worm-gears J and J′, and the length of this shaft is such that but one of these worms may remain in mesh with its worm-gear at the same time, and therefore but one of the segmental gears will be revolved at one time, the segment I revolving in the direction of the arrow marked thereon, while the segment I′ revolves in the opposite direction, as indicated by the arrow marked thereon. Thus when the segmental gear I′ is revolved the belt will be caused to travel in the direction of the arrow marked adjacent thereto, while when the opposite segment is revolved the belt will be revolved in the opposite direction. The shaft

K being revolved by means of a suitable belt running upon the pulley N may be forced longitudinally, as before set forth, in one direction or the other, and when so forced one or the other of the worms M and M′ will be carried into engagement with its worm-gear, and this longitudinal movement of the shaft K is brought about by means of the cams O and O′, which are secured upon said shaft and adapted to act upon the lower ends of the pins P and P′, respectively, when one or the other of said pins are sufficiently depressed to lie in the plane of action of its cam. By this arrangement it will be seen that when the belt is traveling in the direction of the arrow, as shown in Fig. 1, the worm M′ being in mesh with and revolving the worm-gear J′, it will be only necessary to drop the pin P into the field of action of the cam O, when the latter, during its revolution, will come in contact therewith and riding thereon force the shaft K longitudinally in the direction of the arrow 1, thus drawing the worm M′ out of engagement with the worm-gear J′, while carrying the worm M into engagement with the worm-gear J, and as one of these two worms is right-handed, while the other is left-handed, it follows that the worm-gear J will be revolved in the opposite direction from that of the worm-gear J′, thereby carrying the segment I in the direction indicated by the arrow marked thereon, which will reverse the travel of the belt, causing the same to be unwound from the reel E and wound upon the reel D. Now to bring about this reverse movement of the belt by the dropping of one or the other of the pins P and P′, I provide the levers Q and Q′, which are suitably pivoted at R and have journaled therein the rolls S and S′, which are adapted to bear upon the upper surface of the belt and the samples and carpet carried thereon, so that so long as the samples are passing beneath either of these rolls the levers will be held in an elevated position, while when the samples pass through from above a difference in the thicknesses will cause the rolls to drop, and with them their levers, thereafter said rolls bearing upon the belt. The inner ends of these levers are connected together by cross-bars T, having pivoted thereto the pins P and P′, as clearly shown in Fig. 1, said pins being guided in suitable housings, so as to withstand the force of the cam action thereon. It will therefore be obvious that so long as the samples continue to pass beneath either of the rolls S or S′ the pins will remain in an elevated position out of the field of action of the cams; but immediately upon the passage of the last sample wound in that direction the roll, dropping therefrom to the level of the belt, will depress its pin, which will immediately be acted upon by the cams, bringing about a longitudinal movement of the shaft K, as before described, thereby reversing the travel of the belt. The object of this is to cause all of the samples first to pass beneath the mirror-box for exhibition, and when reaching their limit to bring about the reverse movement of the belt, so as to reëxhibit the samples thus continuously so long as power is applied to the pulley N, thereby obviating the necessity of an attendant to care for the machine.

It is very desirable for certain classes of exhibitions that each sample shall dwell a certain length of time after being brought beneath the mirror-box in order that a person may observe the effect thereof while at rest, and then after this given time for this sample to quickly pass from the mirror-box and another take its place, and so on throughout the entire series of samples, and this is accomplished by one or the other of the segmental gears I and I′ first passing into mesh with the pinions H or H′ and bringing about the revolving of one of the sprocket-wheels, which will cause the belt to travel in the desired direction, and thereafter passing out of mesh with said pinion, which will permit the sprocket-wheel to dwell, during which time the belt will likewise remain at rest, and this is so timed relative to the width of the samples that first one sample will be carried within the mirror-box in proper position and after dwelling the desired length of time will be drawn from said box and another take its place.

When the belt is being drawn in one direction, the reel upon which it is being wound must of necessity be revolved, but by such means that it may travel at varying speeds on account of the increase in the diameter of the reel or belt as it winds thereon, and this speed of necessity must be controlled by the belt itself, as will be readily understood. I accomplish this result by placing a suitable pulley U upon each of the sprocket-wheel shafts and leading a belt therefrom over a suitable pulley V upon each of the reels and so arranging these belts as to provide for a certain amount of slippage upon their pulleys, it being noted that the belts are to drive the reels at a rate of speed which will take up the sample-belt as fast as it is fed by the sprocket-wheels when the reel is of smallest diameter by reason of just beginning to wind the sample-belt thereon. From this it may be seen that as either of the reels continues to increase in diameter by the accumulation of the sample-belt thereon this tendency to draw said belt faster will be resisted by the hold that the sprocket-wheels have upon said belt, and this hold being sufficient to overcome the pull of the belts upon the pulleys U and V will permit the last-named belts to slip in proportion as they have a tendency to overfeed the reel, or, if found more desirable, a spring or weight may be attached to the reels for the winding on of the sample-belt.

From this description it will be obvious that so long as power is applied to the shaft K the apparatus will continue to operate to successively bring in place sample after sample for the inspection of the prospective customer,

and when the customer looks into the mirror-box a realistic effect is had of an unlimited surface being covered by the sample then at rest in said box.

An apparatus of this description will answer nearly all the purposes of a salesman, since samples of the entire stock of an establishment may be exhibited one after the other with all the effect of having an indefinite length of the material spread upon a floor or wall, as the case may be, for the inspection of the prospective customer.

Having thus fully described my invention, what I claim as new and useful is—

1. In combination, a mirror-box, a base therefor, a belt adapted to travel over said base, two reels upon which said belt is wound, two sprocket-wheels meshing with said belt, pinions carried upon the same shafts as the sprocket-wheels, segmental gears adapted to intermittently mesh with said pinions, worm-gears carried by the segmental gears, a shaft so journaled as to slide within its bearings, worms carried upon the ends of said shaft, one or the other of said worms being adapted to mesh with one or the other of the worm-gears, cams carried upon the shaft, pins for bringing about the actions of the cams, and means depending upon the samples carried by the belt for lowering the pins into active position, all arranged substantially as and for the purpose set forth.

2. In combination, a mirror-box, a base therefor, a belt adapted to travel over said base, two reels upon which the belt is wound, two sprocket-wheels engaging the belt, pinions carried by the same shafts as the sprocket-wheels, segmental gears adapted to intermittently mesh with said pinions, worm-wheels carried by the segmental gears, a shaft so journaled as to slide within its bearings, worms on the shaft adapted to be moved into mesh with the worm-gears, cams carried by the shaft, pins for engaging the cams to slide the shaft in its bearings, levers pivoted to the base and supporting the pins, rolls journaled in the levers and adapted to rest on the belt, as and for the purpose described.

3. In combination, a mirror-box, a base therefor, a belt adapted to travel over said base, two reels upon which the belt is wound, two sprocket-wheels engaging the belt, pinions carried by the same shafts as the sprocket-wheels, segmental gears adapted to intermittently mesh with said pinions, worm-gears carried by the segmental gears, a shaft so journaled as to slide within its bearings, worms on the shaft adapted to be moved into mesh with the worm-gears, cams carried on the shaft, pins for engaging the cams to slide the shaft in its bearings, levers pivoted to the base and supporting the pins, rolls journaled in the levers and adapted to rest on the belt, pulleys secured on the shafts with the sprocket-wheels, pulleys on the reels and loose belts connecting the sprocket-pulleys with the reel-pulleys, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

ADOLPHUS PETERSON.

Witnesses:

S. S. WILLIAMSON,

ALLISON W. MCCURDY.