H. M. CRIPPEN.

TRAVELING ILLUMINATED DISPLAY SIGN.

APPLICATION FILED JULY 1, 1919.

1,329,653.

Patented Feb. 3, 1920.

2 SHEETS—SHEET 1.

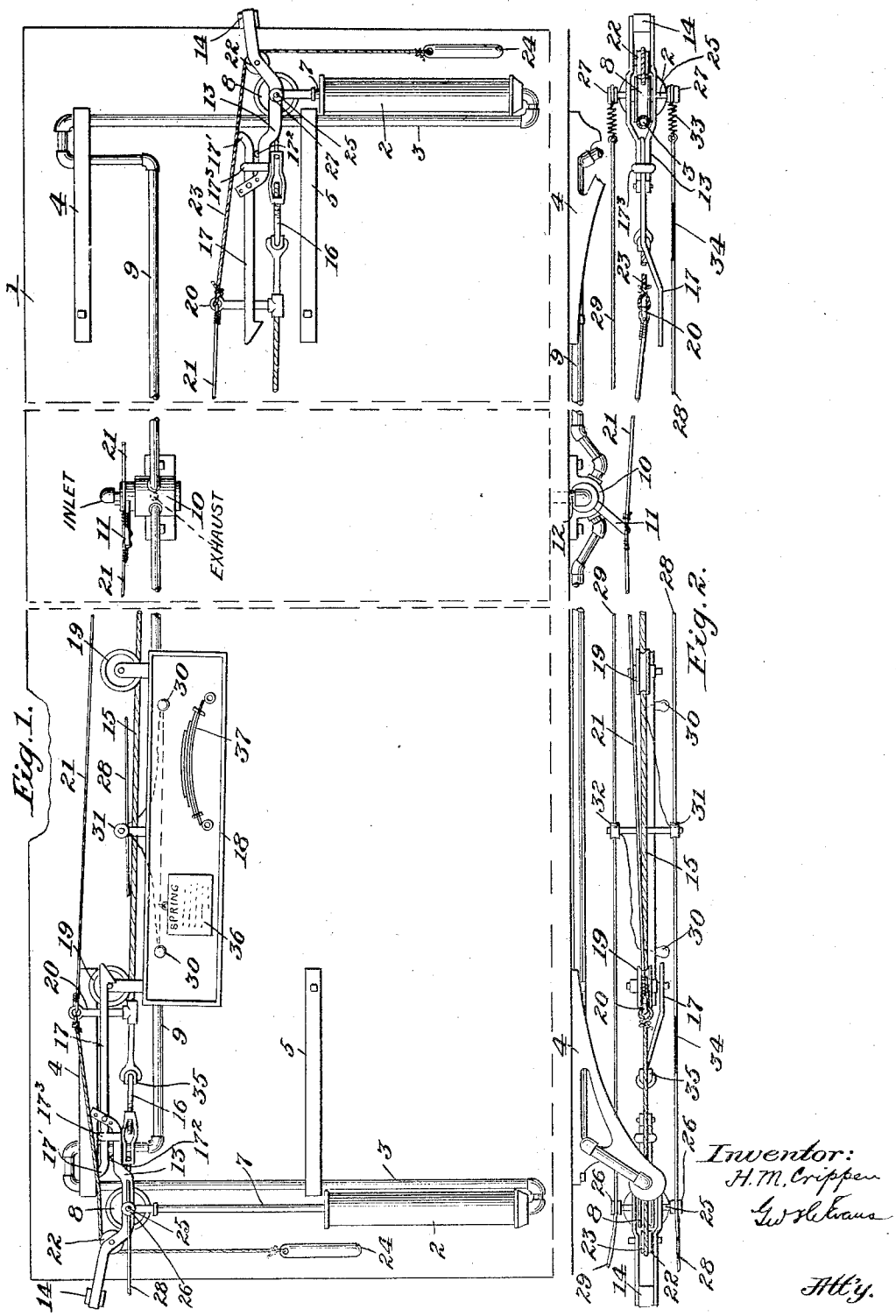


Fig. 1.

Fig. 2.

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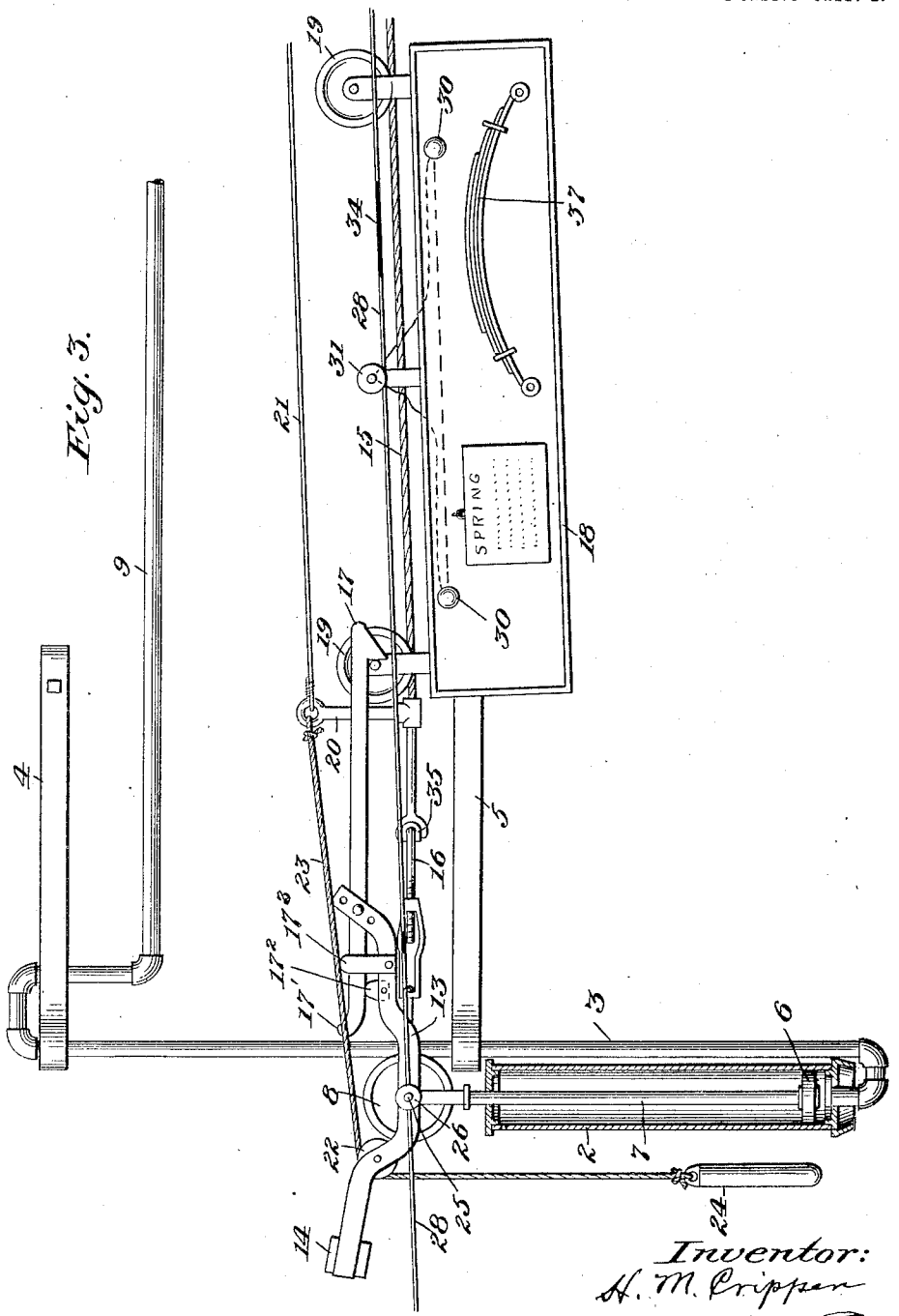
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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TRAVELING ILLUMINATED DISPLAY-SIGN.

1,329,653. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed July 1, 1919. Serial No. 307,925.

To all whom it may concern:

Be it known that I, HENRY M. CRIPPEN, a citizen of the United States, residing at Athens, in the county of Athens and State of Ohio, have invented certain new and useful Improvements in Traveling Illuminated Display-Signs, of which the following is a specification.

My invention relates to a traveling illuminated sign.

The objects of the invention are, first, to provide a sign which will travel back and forth in oppositely inclined directions in any desired location, such as the front of a building or a framework; to provide such a sign with a track along which it travels by gravity upon raising one end of the track and lowering the opposite end; to provide a fluid actuated means acting upon said track ends automatically to accomplish such raising and lowering; to provide automatically released latches at the ends of the track to retain the sign in position while that end of the track is being raised and the opposite end is being lowered; to provide fluid actuated pistons for raising and lowering the track ends and to provide means for automatically admitting the fluid to and shutting it off from said pistons alternately; also to provide means for electrically illuminating the sign throughout its length of travel or portions thereof.

These objects I accomplish by the construction shown in the accompanying drawing, in which:

Figure 1 is a front elevation of my improved sign; the sign proper and track being in their raised position at the left, and the latch about to be released to permit the sign to travel diagonally down to the lowered right hand end of the track.

Fig. 2 is a plan of Fig. 1.

Fig. 3 is a fragmentary front elevation of the left end showing the parts in their lowered position.

A frame 1, which is merely illustrative and may be the front of a building, is employed to carry the various parts of my improvement. At opposite ends of the frame 1 are mounted two cylinders 2, 2 provided with supply pipes 3, 3 entering their lower ends and extending upwardly to form two supports secured rigidly in place by means of upper brackets 4, 4 and lower brackets 5, 5. Within the cylinders are pistons 6, 6, the piston rods 7, 7 of which extend upwardly and are each provided with a guide pulley 8, 8; said pulleys running on the vertical pipes 3, 3. The upper ends of the pipes 3, 3 are connected to the outer ends of feed pipes 9, 9, the inner adjacent ends of the pipes 9, 9 being connected to a suitable reversing plug valve 10 having an actuating arm 11. This valve will, when the arm 11 is moved in one direction, admit the operating fluid, such as air or water, to one pipe 9 and permit the fluid to exhaust from the other pipe 9.

The reversing valve 10 is provided with a supply pipe 12 leading to any convenient source, such as a compressed air tank or water main, not shown.

To the upper end of each piston rod 7 is pivotally secured a horizontal arm 13, provided with a weight 14, at the outer end and the inner ends of the arms 13 are connected to the ends of sign-carrying cable 15 by means of tension screws 16. To the upper side of each arm 13, at the inner end thereof, is pivoted a horizontally extending vertically rocking latch 17, the outer end 17′ of which is upturned and adapted to strike the under side of the bracket 4 when the piston moves the parts up to the position shown at the left of Fig. 1, and so raise the inner hooked end of the latch. This hooked end of the latch 17 is adapted to engage and hold the traveling sign 18 until the rear end of the latch strikes the bracket, when the sign will be released. The sign 18 is provided with two trolleys 19, one at each upper corner, and these trolleys suspend the sign from the track 15, which is shown in the form of a cable. It will be understood, of course, that when one end of the track 15 has been raised by admitting fluid through valve 10 to the pipe 9 and cylinder 2 to raise the piston 4 and parts connected thereto, the valve 10 will have simultaneously permitted the fluid in the other pipe 9 to exhaust and so cause or permit the lowering of the other end of the track through the descent of the other piston and its connected parts. The track 15 is, therefore, raised at one end and simultaneously lowered at the other, with the result that the sign 18 will, when released from the elevated latch 17, travel down the inclined track 15 and engage the lowered latch 17, this latch then being raised by the lowered piston until released by striking the overhanging bracket or stop and so on

indefinitely. A rubber buffer 17^2 is placed under the outer end 17' of latches 17 and a strap 17^3 limits the upward movement of said latch.

In order that the valve 10 may not be manually operated, I have provided means for automatically reversing it. This reversing or trip mechanism comprises trip arms 20 projecting up from the outer ends of the track 15 just behind the hooked ends of the latches 17 and in the paths of the trolley wheels 19; said arms 20 being connected at their upper ends to the valve arm 11 by means of the trip wires, or the like, 21, so that when the sign 18 travels down the track to its lowermost position the lower or outer trolley 19 will strike the adjacent trip arm 20, which will jerk the trip wire and throw the valve 10 in position to admit the actuating fluid to the piston controlling that end of the track and other connected parts and so that end of the track will begin to rise, carrying with it the now latched sign. In the meantime the weight of the opposite piston and its connecting parts is causing the exhaust of the fluid from that cylinder and the consequent lowering of that end of the track and its connected parts. I would state that the latches 17 in the present instance engage extensions of the trolley axes, though that is not essential.

In order that the trip arms 20 may be held in proper position at all times, I provide the arms 13 with guide pulleys 22, and pass thereover the cords or wires 23, which at their inner ends are secured to the upper ends of the trip arms 21 and at their outer ends carry weights 24. These weights counterbalance the trip mechanism from the effects of the blows imparted by the sign 15 at the ends of its travel.

It is thought that the operation of the sign and its operating mechanism will be understood from the foregoing description, and I will now describe its illuminating mechanism.

The axes 25 of the guide pulleys 8, 8 are extended at both ends and are there provided with insulators 26, 27, the electric feed wire 28 extending from one insulator 26 to one insulator 27 and the return wire 29 extending from the other insulator 27 to the other insulator 26. The electric wires 28, 29 are, therefore, held parallel with the track 15 and lie at opposite sides thereof, as shown in Fig. 2. The electric wires, therefore, have movement with the track 15 as the latter is raised and lowered at its ends by the pistons, as before described.

The sign 18 is provided with one or more electric lamps 30, to which the electrical connection is had with the wires 28, 29 by means of two contacts 31, 32 in the form of trolley wheels. The circuit is through wire 28, trolley 31, thence to the lamp 30 and thence through trolley 32 and return wire 29. Sufficient slack is left in the wires 28, 29 where they engage the insulators 26, 26 to allow for the vertical movement of the various parts. The ends of the wires 28, 29 are connected to the insulators by suitable tension springs 33 to relieve the wires from any strain. Furthermore, the current flowing to the lamp may be interrupted at intervals in any desired way, but I have shown insulated coverings at 34 for this purpose. When the trolleys 31, 32 reach these insulators 34 the light will be momentarily switched off.

The ends of the track 15 will also be insulated from the arms 13, as at 35.

It will be seen that the automatically reversing fluid pressure mechanism constitutes a motor for oscillating the track in a vertical plane to cause the sign to travel down the inclined track from the raised end to the lowered end.

The sign 18 is provided with means for suspending a card 36 giving prices, &c., of an article 37 also secured to the sign. The articles themselves are thus exposed to view instead of mere pictures.

What I claim is:

1. A traveling sign comprising a track, means for alternately inclining the track in opposite directions, means for automatically controlling said track inclining means and a sign free to travel back and forth along the inclined track.

2. A traveling sign comprising a track, a reversing motor mechanism for alternately inclining the track in opposite directions, means for automatically controlling said motor mechanism and a sign free to travel back and forth along the inclined track.

3. A traveling sign comprising a track, a sign free to travel along the track, means for holding the sign at its extreme downward travel and releasing it at its extreme upward travel, power mechanism for causing the sign to move back and forth along the track, and means for automatically reversing the power mechanism when the sign reaches its extreme downward travel.

4. A traveling sign comprising a track, reversible operating means for alternately inclining the track in opposite directions vertically and a sign freely traveling along the track and adapted to reverse the operating means at the ends of its travel.

5. A traveling sign comprising a track, fluid actuated pistons at the ends of the track for alternately raising and lowering the ends thereof, means for automatically reversing the operation of the pistons as the ends of the track reach their lowermost positions, and a sign free to travel along the track.

6. A traveling sign comprising a track, means for alternately raising and lowering the ends of the track, a sign traveling freely along the track, and means for holding the

sign against movement along the track at its extreme down travel, and means for releasing the sign at its extreme upward movement for travel down the track.

7. A traveling sign comprising a track, means for alternately raising and lowering the ends of the track, a sign free to travel along the track, latches adjacent the track ends to engage the sign in its lowermost positions and so cause it to be raised with that end of the track being raised, releasing devices in the paths of the latches at the limit of their upward travel to release the sign.

8. A traveling sign comprising a track, cylinders at the ends of the track provided with pistons connected with the track ends to alternately raise and lower the same, a reversing valve having a fluid supply and exhaust, supply pipes leading from said valve to the said cylinders to supply same alternately with the actuating fluid, means for reversing the valve when one end of the track reaches its upward throw, and a sign free to travel along the track.

9. A traveling sign comprising a track, cylinders at the ends of the track provided with pistons connected to the track ends, a reversing supply valve having a fluid inlet and exhaust, supply pipes leading from the said valve to the cylinders to cause the track ends to be alternately raised and lowered, a sign traveling freely along the track, trip mechanism adjacent to the track ends in the path of the sign and connected to the valve to reverse the same when the sign reaches its lowermost travel down the inclined track.

10. A traveling sign comprising a track, actuating means at the track ends for alternately raising and lowering the same, reversing means for said actuating means, a sign traveling freely along the track, means for locking the sign to the track at the limit of its downward travel, means for releasing the latching means when that end of the track is raised with the sign, and trip mechanism at the ends of the track adjacent to the latching means in the path of the sign and connected to said reversing means.

11. A traveling sign comprising a track, cylinders at the ends of the track, pistons in the cylinders provided with upwardly extending piston rods, arms mounted on the upper ends of the piston rods and connected to the ends of the track at their inner ends, latches mounted on said arms, and adapted to be tripped in the upward movement of the piston rods, the outer weighted ends of the said arms having guide pulleys thereon, trip arms secured to the ends of the track, flexible connections weighted at one end, passing over said pulleys and connected to said trip arms, a reversing valve having pipes connecting it to the said cylinders, and having an actuating arm, connections between said trip arms and the said valve actuating arm, and a sign free to travel along the track to alternately engage said latches and trip arms.

12. A traveling sign comprising a track, cylinders at the ends of the track, supply pipes for the lower ends of the cylinders extending upward above the cylinders, a reversing valve to which said supply pipes lead, pistons having rods to which the track ends are connected, guide pulleys on the upper ends of the piston rods and running along the vertical portions of the supply pipes, and a sign traveling freely along said track, and means actuated by the sign for reversing the valve.

13. A traveling sign comprising a track and operating means for inclining the same in opposite directions in a vertical plane, electric supply and return wires carried by the track and insulated therefrom, a sign traveling freely along the track and provided with contacts engaging the electric wires, and an electric illuminating means mounted on the sign and electrically connected with the said contacts.

14. A traveling sign comprising a track, means for alternately inclining the track in opposite directions vertically, and an illuminated sign free to travel along the track.

15. A traveling sign comprising a track, a sign thereon, means for causing the sign to travel back and forth along the track, electric wires carried by and insulated from the track, contacts carried by the sign and engaging the electric wires, and an electric illuminating means mounted on the sign and in circuit with the wires through said contacts.

16. A traveling sign comprising a track, vertically movable actuating rods connected to the ends of the track, means for alternately actuating the rods in opposite directions, electric wires parallel with the track at opposite sides thereof and having an insulated connection at their ends with the upper ends of said actuating rods to cause them to move in unison with said track, a sign traveling freely on the track and provided with contacts engaging said electric wires, and an electric illuminating means mounted on the sign and in circuit with said contacts.

17. A traveling sign comprising a track, a sign thereon, means for causing the sign to travel back and forth along the track, electric wires having insulated portions and mounted parallel with the track, contacts carried by the sign and engaging the said wires, and a lamp on the sign in circuit with the said contacts.

In testimony whereof I affix my signature.

HENRY M. CRIPPEN.