

(No Model.)

3 Sheets—Sheet 1.

C. W. McCORMICK.
STORE SERVICE APPARATUS.

No. 495,902.

Patented Apr. 18, 1893.

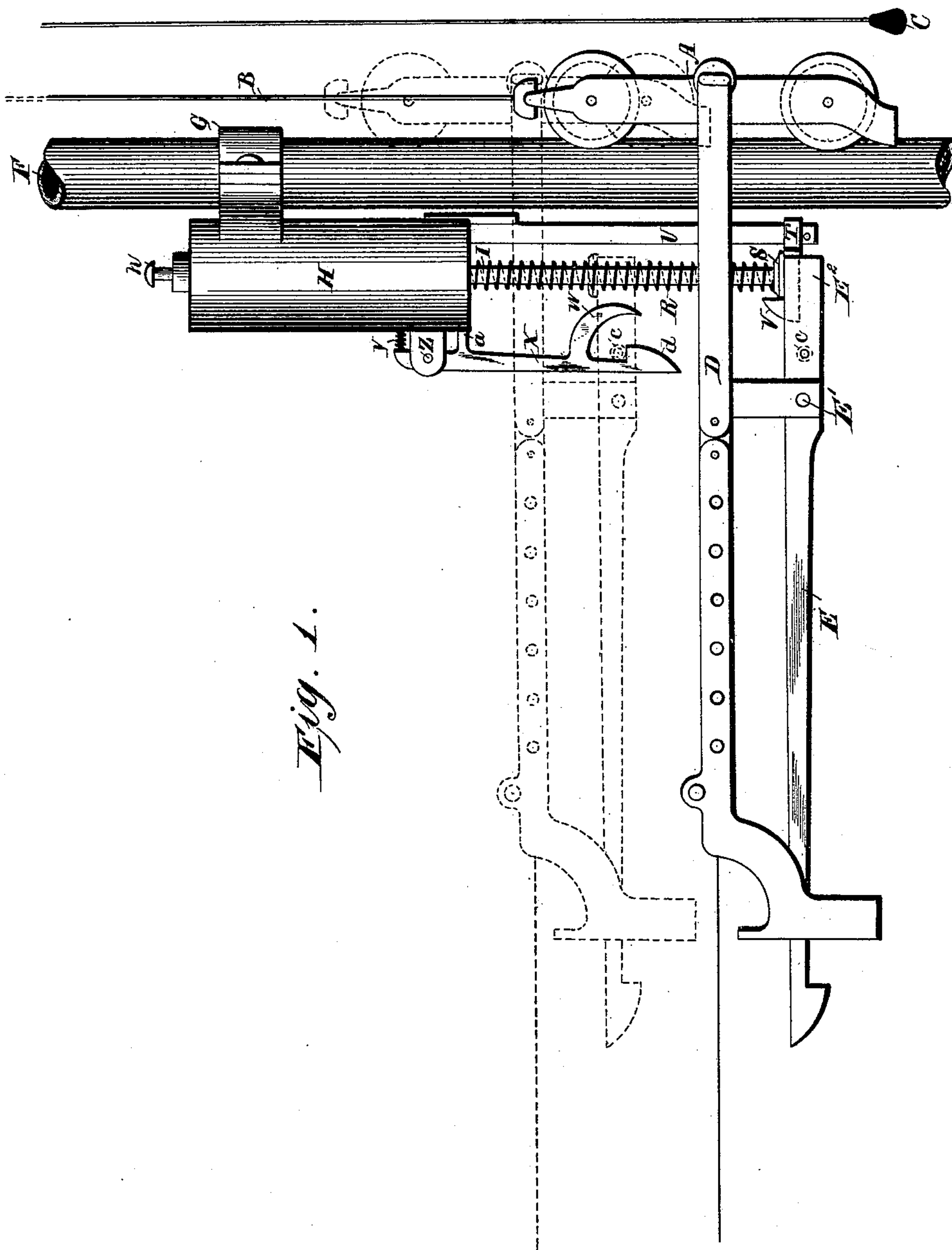


Fig. 1.

Witnesses

Louis G. Julihn.
Eric B. Julihn.

Inventor.

C. W. McCormick.

By Hapkins & Atkins
Attys.

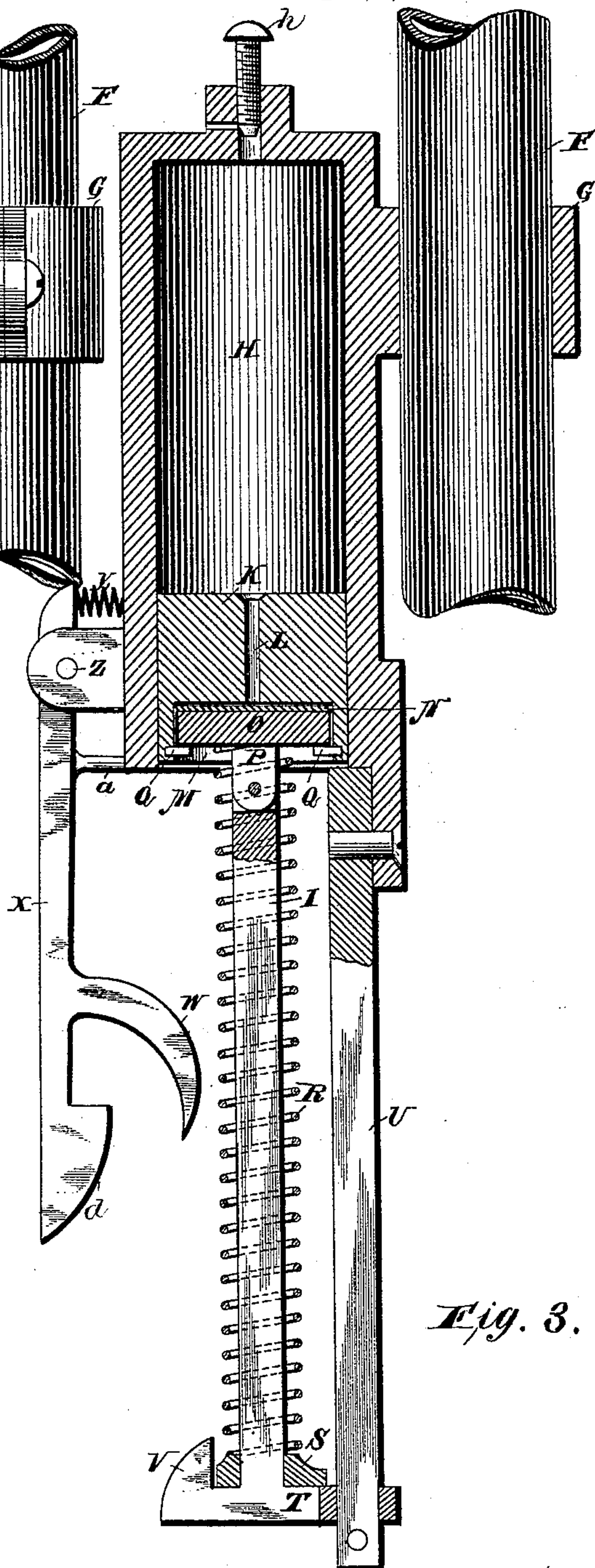
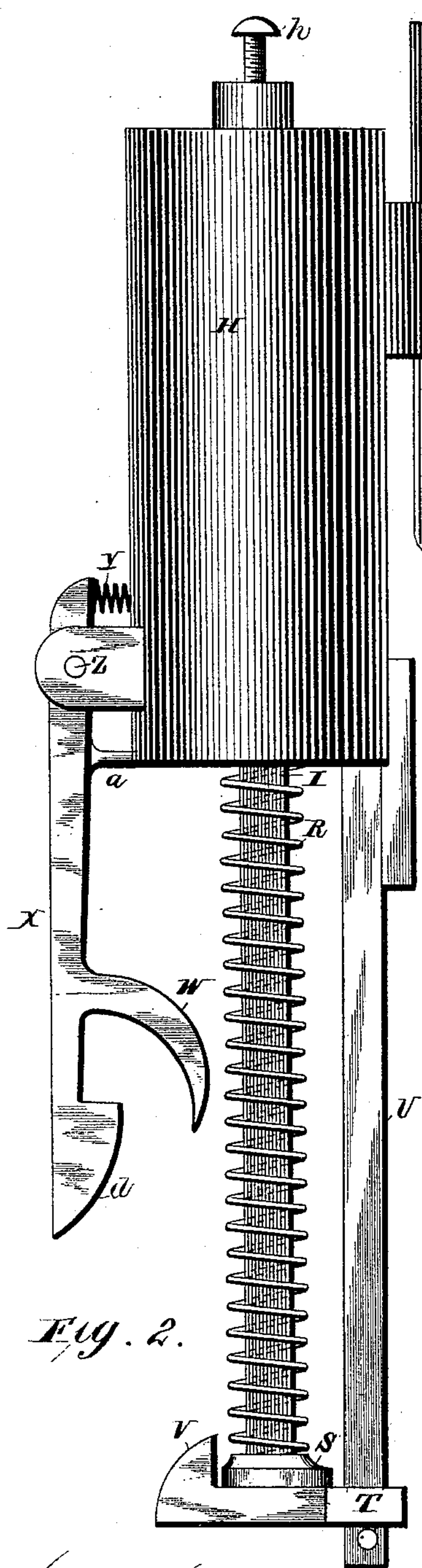
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Witnesses
Louis G. Julihn.
Eric G. Julihn.

Inventor
C. W. McCormick.
By *Staples & Atkins*
Attys.

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3 Sheets—Sheet 3.

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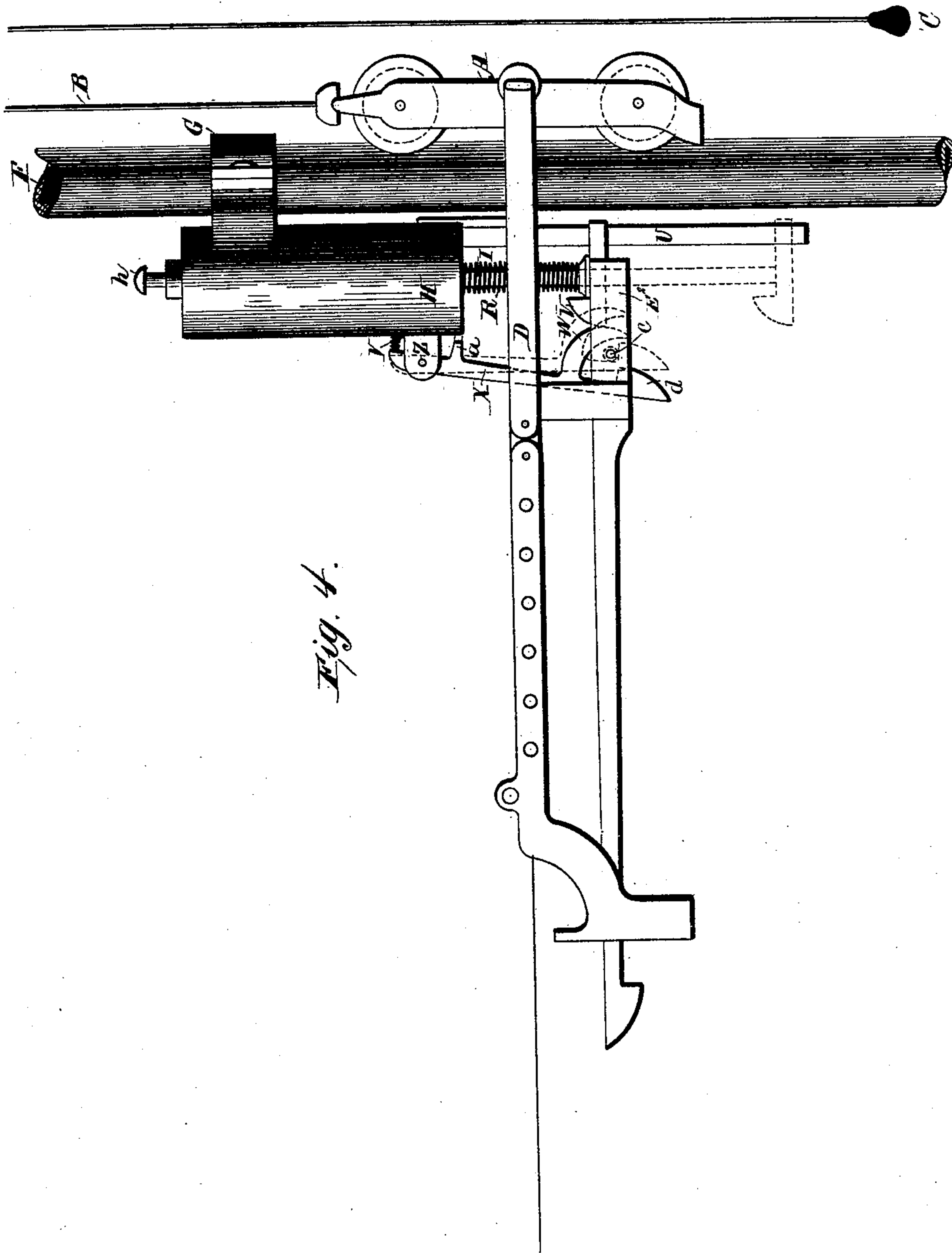


Fig. 4.

Witnesses

Louis G. Julihn.
E. D. Julihn.

Inventor
C. W. McCORMICK

By Hapkins & Atkins.
Attys

UNITED STATES PATENT OFFICE.

CHARLES W. McCORMICK, OF EMPORIA, KANSAS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 495,902, dated April 18, 1893.

Application filed August 4, 1892. Serial No. 442,166. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. McCORMICK, of Emporia, county of Lyon, and State of Kansas, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to provide means for latching and automatically unlatching the line or track way in its upper position after it has been lifted to that position by the ordinary means employed.

In the accompanying drawings, Figure 1 is a side elevation of my improved apparatus. Fig. 2 is a side elevation drawn on a larger scale of the latching and unlatching apparatus. Fig. 3 is a vertical section of the apparatus shown in Fig. 2. Fig. 4 is similar to Fig. 1, except that the trolley is there shown as elevated to the position indicated in dotted lines in Fig. 1. The dotted lines in Fig. 4 indicate the piston-rod in the position it occupies at the instant when the trolley has been suddenly elevated.

Referring to the letters on the drawings, A indicates a lifting trolley of ordinary construction provided with a pull cord B and handle C, as usual.

D indicates the connecting part between the trolley and the line, of usual construction.

E indicates the parcel carrier latch pivoted at E', and also of usual construction.

F indicates the usual vertical support or track for the trolley, to which at its upper end is secured by clamps G, or in any other suitable manner, a hollow cylinder H. This cylinder constitutes an air cushion, being provided at its upper end with a vent opening having an adjustable stopper *h*, preferably screw-threaded. This vent and its regulator may be of any other usual construction, its purpose being to graduate the action of the air cushion, and to render it swift or slow as may be desired.

I indicates a piston-rod, provided with a piston-head K of any suitable construction, fitting within the air cylinder. As shown, the piston-head is composed of a cylindrical block of metal having a central air opening L, and an annular cavity M in its lower part, within

which fits a washer N, and a metal disk O, from which latter projects a stud P that is pivoted to the end of the piston-rod loosely so as to make the connection between the piston-rod and its head a flexible one to prevent the piston head from binding within the cylinder.

Q indicates pins projecting inwardly to support the disk O within the piston-head.

R indicates a coiled spring bearing at one end against the disk O, and at the other upon a sliding seat S around the piston-rod.

T indicates a sliding bar secured to the lower end of the piston rod and serving as a guide as it slides upon the vertical guide-bar U. The seat S normally rests on the bar T. This bar T is provided with an incline V which is adapted to impinge against the cam W which projects from the pivoted spring-actuated latch X.

Y indicates a latch-spring; Z the latch pivot; and *a* a stud or stop to limit the movement of the latch in one direction.

This apparatus is designed particularly to be applied to that species of store service apparatus in which gravity is employed as the motive force for impelling a carrier from one end to the other of a track one or both of whose ends are adapted to be lowered or elevated to create an inclined plane for the purpose.

The operation is as follows:—Assuming that a carrier has arrived at one end of the track and is fastened in place by means of the latch E, and that a parcel has been deposited in the carrier, and the operator desires to elevate that end of the track and the carrier so as to dispatch the latter in the opposite direction, he pulls upon the pull-cord and elevates the trolley, and its connected parts. The effect of this is to raise the bifurcated end E² of the latch E, which will raise the seat S and the opposite end of the latch and unlatch the carrier. At the same time the coiled spring R will be compressed, as indicated in Fig. 4, and the roller-catch *e* will be brought into contact with the incline *d* of the spring-latch X, which will raise the latch and cause it to spring underneath the roller-catch and hold up that end of the track and its connections. The parts will then be brought into the position indicated by Fig. 4, including the dotted lines

in that figure. Then the carrier will, by gravity, proceed on its journey to the opposite end of the track. The air cushion now begins to perform its part, the air escapes from the top
 5 of the cylinder until the piston, its rod, and the slide-bar T have been raised by the force of the spring. As the slide-bar ascends, the incline V impinges against the cam W and unlatches the latch X and permits the trol-
 10 ley, the end of the track, and its connections to drop to the lowest position, so that the track will be inclined sufficiently for the return of the carrier.

By this apparatus it will be seen that I may
 15 elevate the track and its connections at either end by a quick pull upon the pull cord, and it will be latched in its elevated position and hold long enough for the carrier to start on its voyage, and then afterward will be automati-
 20 cally unlatched and permitted to drop again to its lowest place. The action of the spring cushion can be varied to suit different lengths of line—that is to say, in a short line the unlatching of the latch X would need to take
 25 place sooner than in a long line, and therefore the vent opening at the top of this air cylinder is made larger or smaller accordingly by adjusting the stopper h so as to properly time the automatic unlatching.

30 What I claim is—

1. In a store service apparatus, the combination with a vertically movable track and its connections, of means for elevating it by hand and automatically fastening it in the elevated
 35 position, and means for automatically releasing it and permitting it to drop to its lowest place, all at the same end of the track, substantially as set forth.

40 2. In a store service apparatus the combination with a lifting trolley connected with

the carrier track, and a vertical track F, of a hollow cylinder having an air vent at one end, a piston and rod working in the cylinder, the whole forming an air cushion, a spring R, and a sliding-seat S upon the piston-rod, and fast-
 45 ening mechanism for holding the trolley and its connected parts up after they have been lifted to their highest position and the spring compressed, substantially as set forth.

3. In a store service apparatus, the combination with a lifting trolley connected with
 50 the carrier track, and a vertical track F, of a hollow cylinder having an air vent at one end, a piston and rod working in the cylinder, the whole forming an air cushion, a spring R and
 55 a sliding seat S upon the piston-rod, fastening mechanism for holding the trolley and its connected parts up after they have been lifted to their highest position and the spring compressed, and automatic mechanism brought
 60 into action by the air cushion to release the trolley and its connected parts and permit them to descend by gravity, substantially as set forth.

4. In a store service apparatus, the combination with a lifting trolley connected with
 65 the carrier track, and a vertical track F, of a hollow cylinder having an air vent at one end, a piston and rod working in the cylinder, the whole forming an air cushion, a spring R and
 70 a sliding seat S upon the piston-rod, the spring latch X having the cam W, against which the incline V of the sliding bar impinges, and the roller catch c, substantially as set forth.

In testimony of all which I have hereunto
 75 subscribed my name.

CHARLES W. McCORMICK.

Witnesses:

JOSEPH L. ATKINS,
 C. P. ELWELL.