

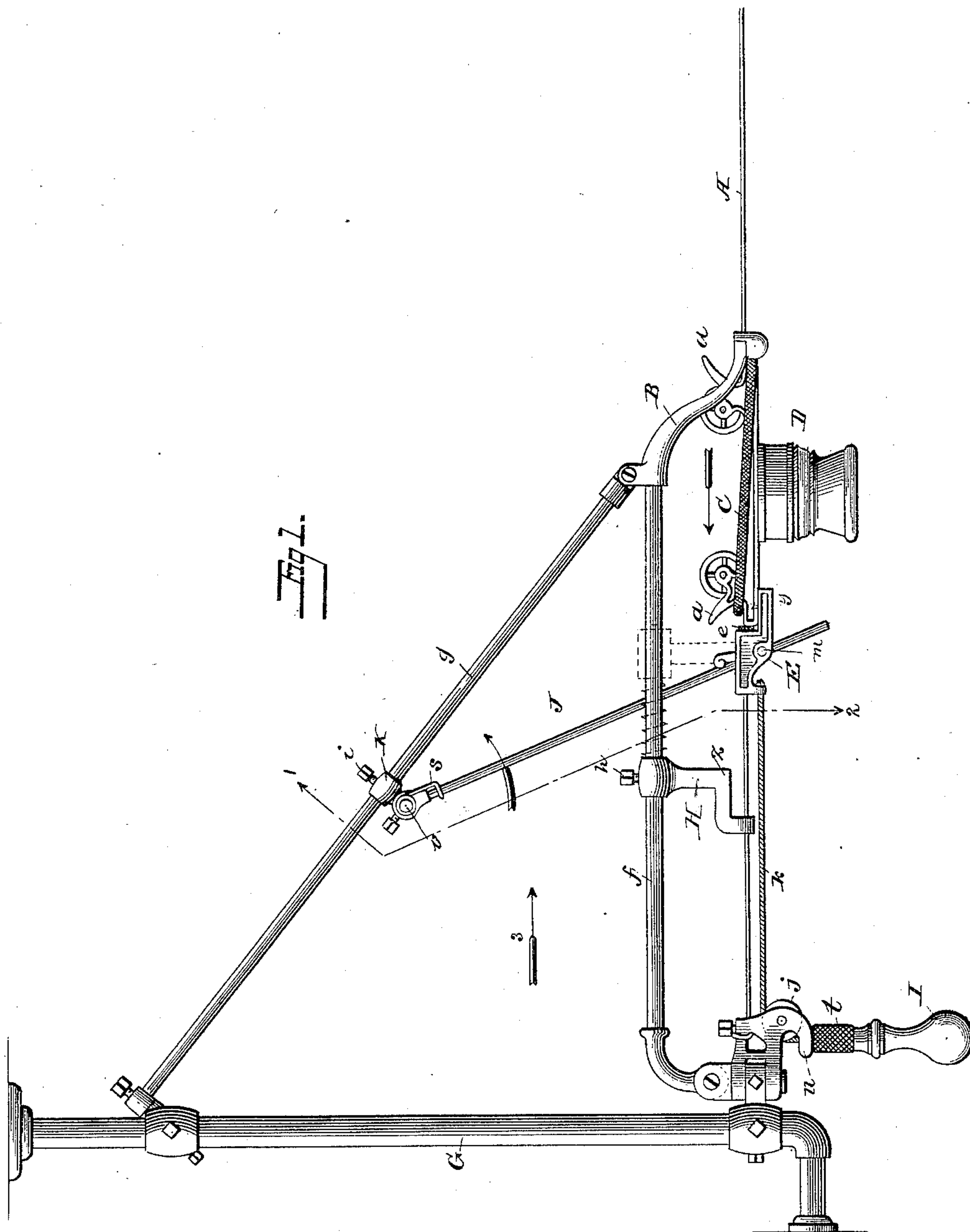
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3 Sheets—Sheet 1.

J. T. COWLEY.
STORE SERVICE APPARATUS.

No. 395,316.

Patented Jan. 1, 1889.



Witnesses
Jno. G. Hinkle
A. E. Farnham.

Inventor
James T. Cowley
by *Foster Freeman*
Attorneys

(No Model.)

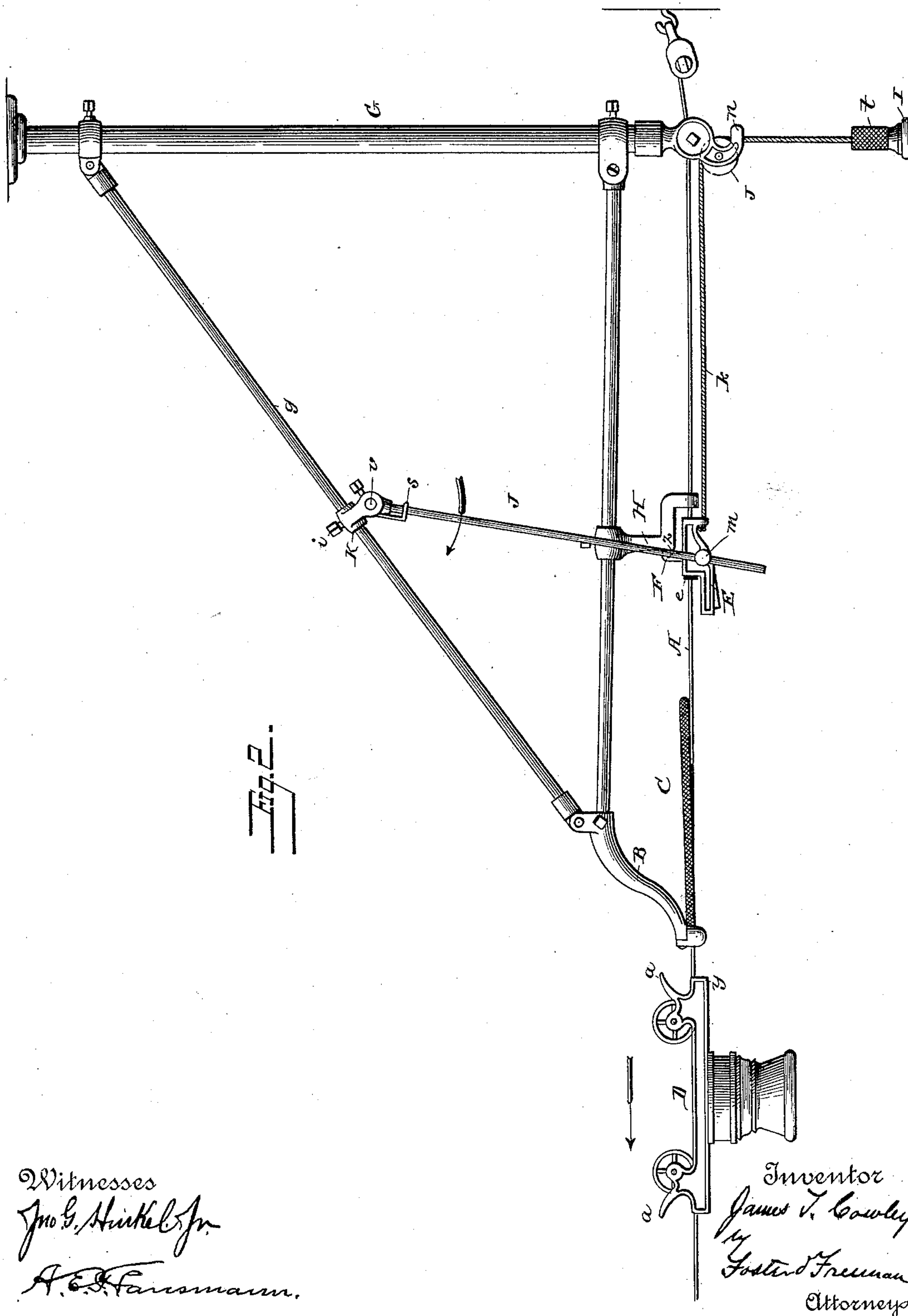
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A. E. Farnsman.

Inventor
James T. Cowley
by
Foster & Freeman
Attorneys

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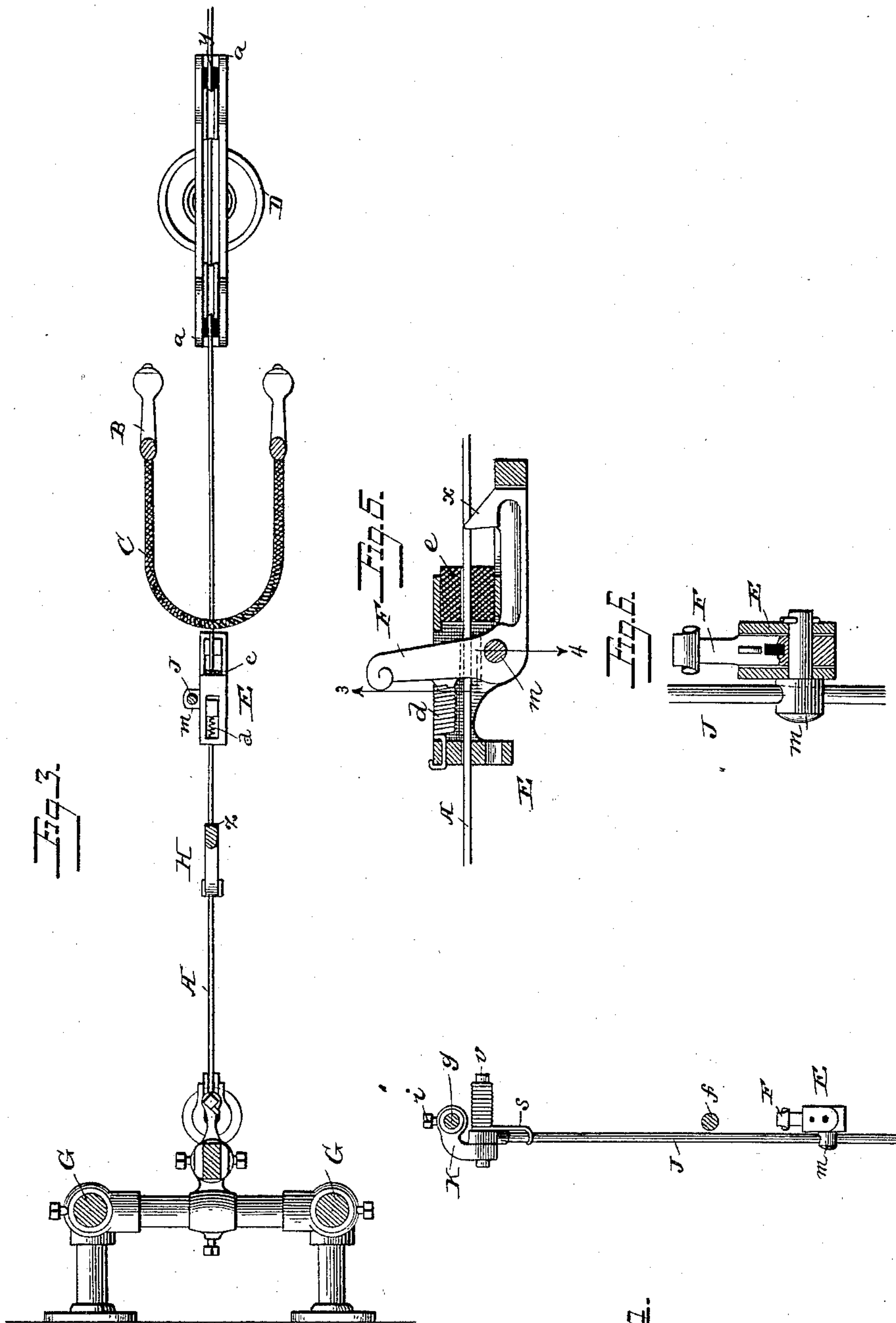
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Witnesses
Geo. L. Hinkel
A. E. S. Lammann

Inventor
James T. Cowley
By *Foster & Freeman*
Attorneys

UNITED STATES PATENT OFFICE.

JAMES T. COWLEY, OF LOWELL, ASSIGNOR TO THE LAMSON STORE SERVICE COMPANY, OF BOSTON, MASSACHUSETTS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 395,316, dated January 1, 1889.

Application filed December 3, 1887. Serial No. 256,916. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. COWLEY, a citizen of the United States, and a resident of Lowell, Middlesex county, Massachusetts, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to that class of store-service apparatus in which the power to propel the cars is secured by stretching a spring in contact with the car or carriers and then releasing the latter; and my invention consists in certain improved devices, hereinafter fully set forth, whereby to carry this mode of propulsion into effective operation, and whereby to permit the ready adjustment of the power to the effect to be produced.

In the accompanying drawings, Figures 1 and 2 are side elevations showing the opposite ends of a store-service apparatus embodying my invention. Fig. 3 is a plan view of Fig. 1, the carrier being in a different position. Fig. 4 is an elevation on the line 1 2, Fig. 1, looking in the direction of the arrow 3. Fig. 5 is an enlarged longitudinal section of the slide. Fig. 6 is a transverse section of the slide on the line 3 4, Fig. 5.

At each end of the apparatus, when a horizontal way, A, is used, or at the lowest end when the way is inclined, is secured a suitable stirrup or support, B, for a band or loop, C, of elastic material, arranged to lie upon or adjacent to the track when loose, so as to engage with the horns *a* of a wheeled carrier, D, traveling upon the way. A slide, E, which is guided upon or adjacent to the way to move in a line parallel therewith, is provided with a catch-lever, F, having a beveled end and shoulder, *x*, adapted to engage with a shoulder or bearing upon the carrier, and a spring, *d*, tends to lift the shouldered end of the lever into position to engage with the carrier when the shoulder *y* thereof passes the shoulder *x* of the lever. A soft buffer, *e*, carried by the slide prevents noise and jar by the contact of the end of the carrier-frame with the slide. As shown, the slide is carried and guided by the wire constituting the way A; but it may move upon a guide parallel to the way—as, for instance, upon a rod, *f*—extending over the way connected at the rear end to the sup-

porting-brackets G, and supporting the stirrup D at its opposite end, a brace, *g*, extending from the stirrup to the bracket to impart rigidity to the structure. The dotted lines, Fig. 1, illustrate the construction when the slide moves upon the guide-rod *f*.

The forward movement of the car is effected by drawing back the slide with its attached car until the spring C is distended to the required extent, and then tilting the catch-lever F until the shoulder *x* is removed from the shoulder *y*, when the carrier will be released and will shoot forward under the action of the spring and travel to the opposite end of the way.

The extent to which the car is propelled and its speed will depend upon the extent to which the slide E is retracted to distend the spring prior to releasing the carrier; and in order to vary this power according to circumstances I use an adjustable contact-piece against which the catch-lever is brought in order to tilt the same and release the carrier. In the construction shown the contact-piece H can be moved to any desired position upon the guide-rod *f*, and there secured by means of a set-screw, *h*, so that as the slide is drawn back the end of the catch-lever will strike the contact-piece H at *z*, the continued movement of the slide thereby vibrating the lever and releasing the carrier.

In order to draw back the slide and distend the spring, I connect an operating-handle, I, to the slide by means of a cord, *k*, passing over a guide-roller, *j*, supported by a part of the bracket; and in order to hold the slide in proper position to engage with the carrier as it contacts with the loop I employ a spring, *s*, which is compressed as the slide moves back, and which carries the slide forward to the position shown in Fig. 1 when the handle I is released. The spring *s* may be connected and arranged in different obvious ways—for instance, it may be coiled around the guide-rod *f* when the slide moves upon the latter. I prefer, however, to combine with the spring *s* a pivoted arm, J, which serves not only to convey motion from the spring to the slide but also to prevent the latter from vibrating or oscillating upon its guide. Thus the arm J is pivoted at *v* to a block, K, movable upon the

brace *g*, and secured after adjustment by a set-screw, *i*, and said arm *J* also extends freely through an opening in a stud, *m*, extending from one side of the carrier and secured thereto, so as to have unlimited rocking movement. The spring *s* is coiled around the pivot of the arm and bears against the latter in such manner as to throw it outward in the direction of the arrow, Fig. 1, carrying with it the slide until a buffer, *t*, upon or adjacent to the handle *I*, strikes a bearing-piece, *n*, secured to or supported by the bracket.

By adjusting the block *K* to different positions upon the supporting-block *g* the spring *s* may be compressed to a greater or less extent, so as to vary the power it exerts in moving the slide.

It will be obvious that the form of the bracket and other supporting parts for the operating devices described may be varied without departing from the main features of my invention.

When the spring *s* is not required to throw forward the slide, the pivoted arm *J* serves to prevent the tilting of the slide.

It will be evident that any of the usual constructions may be used as a retracting device for the slide instead of that shown.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, in a store-service apparatus having a way, carrier traveling thereon, and propelling-spring supported to engage

with said carrier as it approaches the limit of its movement, of a slide independent of said spring provided with a catch for engaging with the carrier, a retracting device connected to the said slide, an adjustable contact-piece arranged to engage with the catch, and a spring-actuated arm for moving the slide outward, substantially as set forth.

2. The combination of the wire way *A*, a guide-rod, *f*, parallel thereto, a bracket supporting a propelling-spring, *C*, a carrier, a slide moving upon the way and provided with a catch for engaging with the carrier, a spring-actuated arm for moving the slide outward, and a contact-piece secured adjustably to the guide *f*, substantially as set forth.

3. The combination, with the slide carrying the catch for engaging with the carrier of a store-service apparatus, of a pivoted arm extending through a perforated stud upon the slide, substantially as and for the purpose set forth.

4. The combination, with the slide *E* and pivoted arm *J*, of a block, *K*, adjustable upon a support, the arm *J* being pivoted to said block, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES T. COWLEY.

Witnesses:

FRANK COBURN,
GEO. H. GRAHAM.