(No Model.) 2 Sheets—Sheet 1.

C. FISHER.

CASH CARRIER.

No. 308,480. Patented Nov. 25, 1884.

Fig. 1.

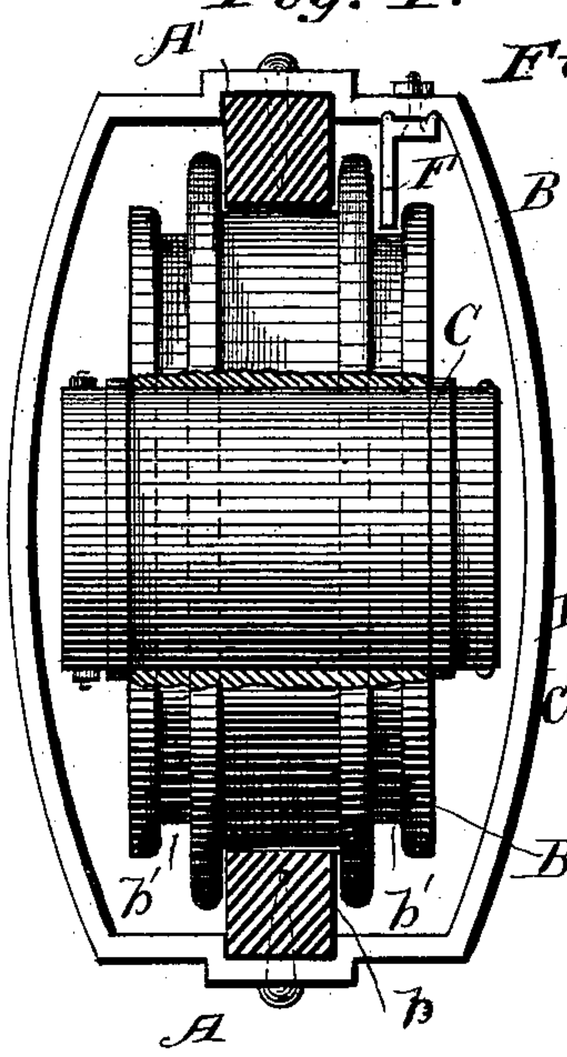


Fig. 2.

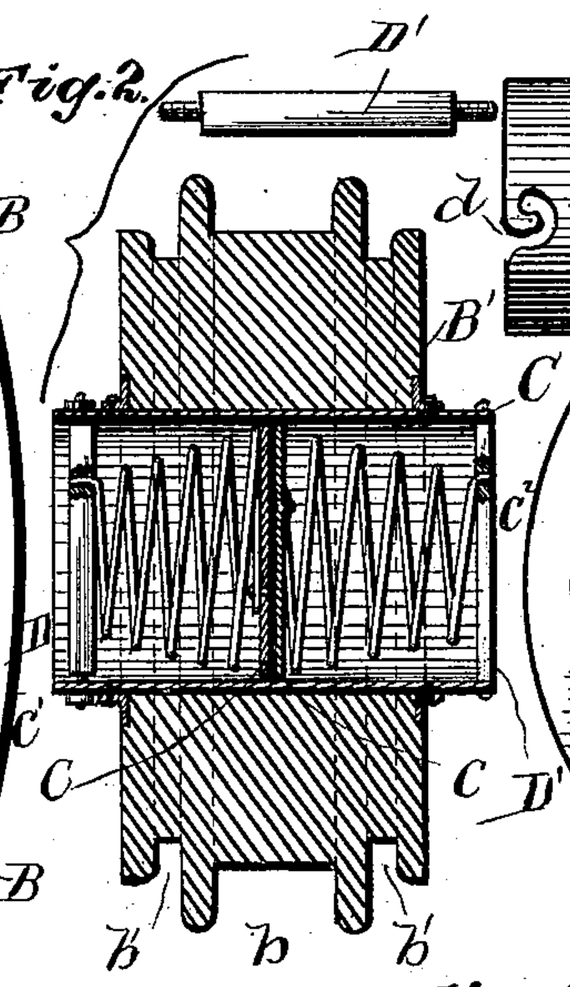


Fig. 4.

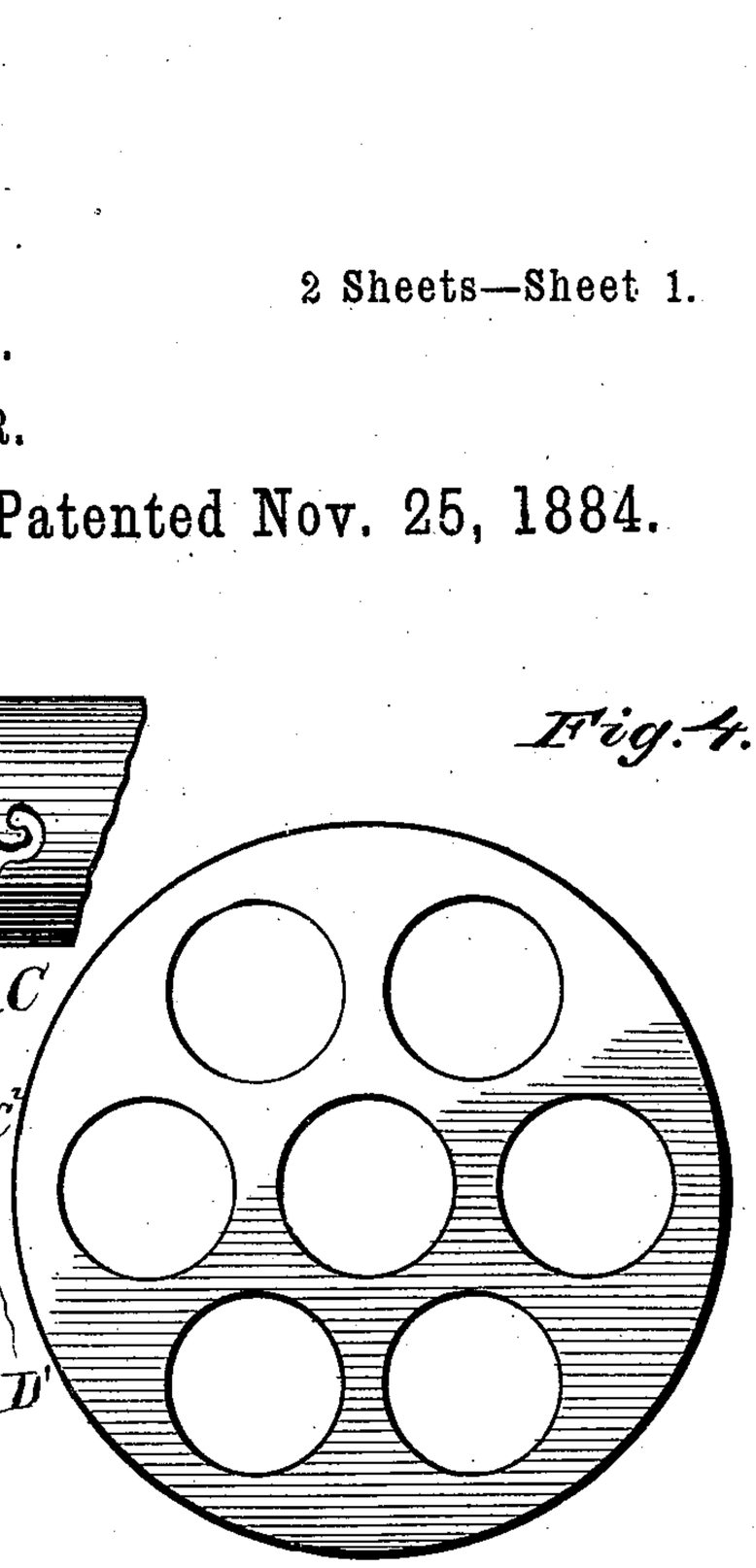
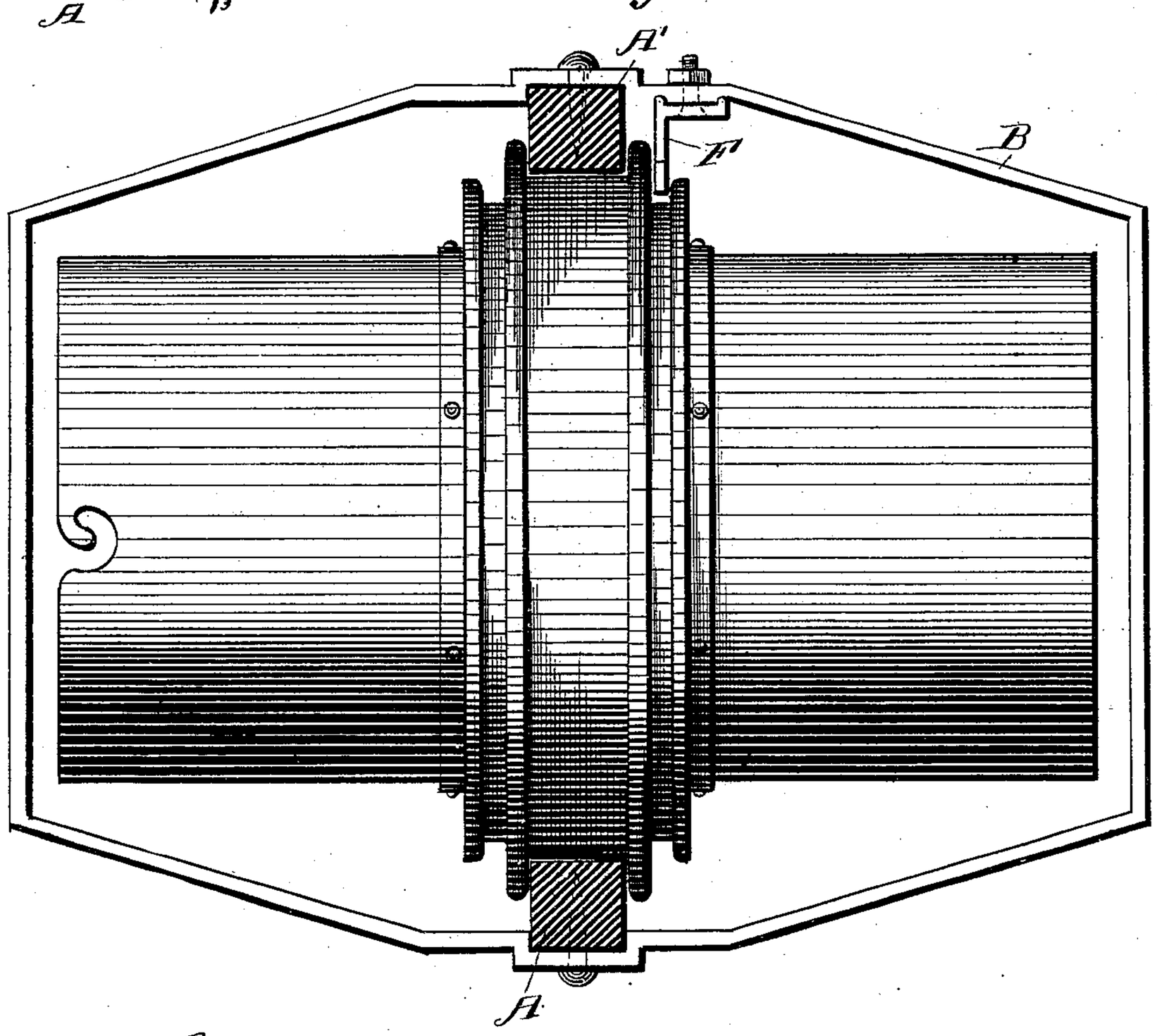


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

C. FISHER.

CASH CARRIER.

No. 308,480. Patented Nov. 25, 1884.

Fig. 5.

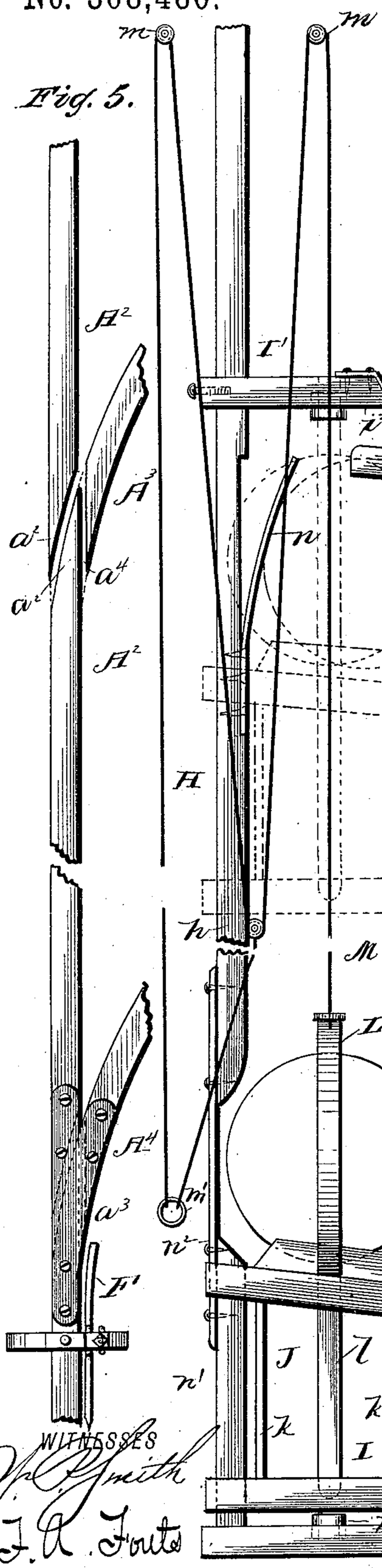
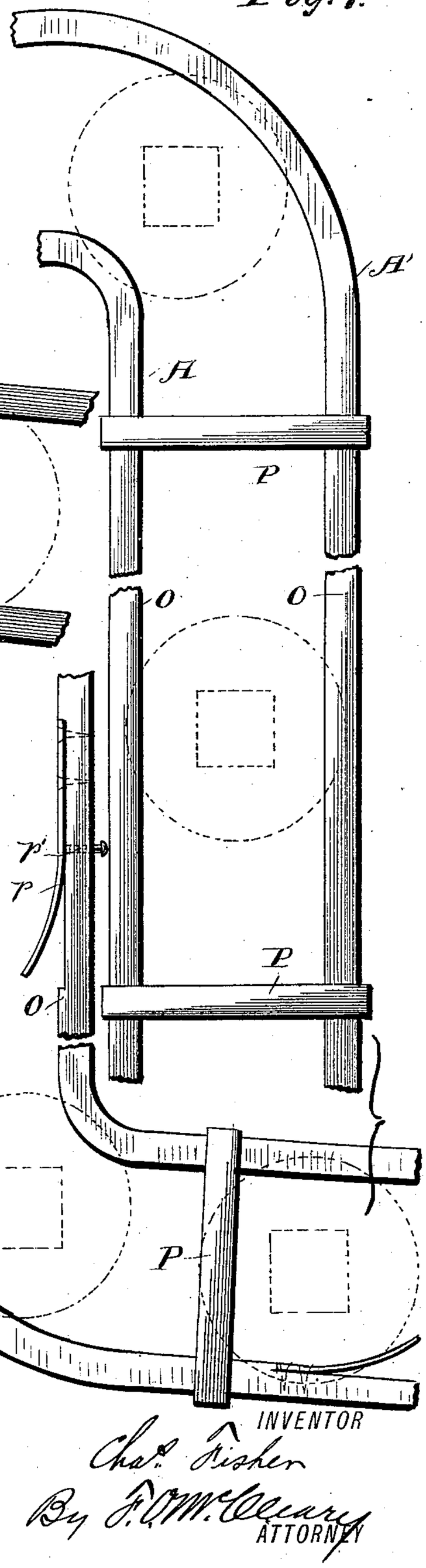


Fig. 6.

Fig. 7.



UNITED STATES PATENT OFFICE.

CHARLES FISHER, OF MANITOWOC, WISCONSIN, ASSIGNOR TO THE INTERNATIONAL STORE SERVICE COMPANY, OF SAME PLACE.

CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 308,480, dated November 25, 1884.

Application filed July 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FISHER, of Manitowoc, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Store-Service Systems; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to store-service systems, the object being to materially simplify and cheapen the construction of mechanism employed to convey money and parcels from designated counter-stations to the cashier's office in a store, and vice versa.

The invention consists, primarily, in employing as a cash or parcel carrier a wheel or cylinder having a central annular groove or tread in connection with a track of improved and novel form.

The invention further consists in a novel form of carrier provided with improved means for securing its contents in place.

The invention further consists in providing a store-service system with a track-frame, track, and switch devices of such form as to admit of the use of carriers of uniform size for all the stations of the system.

The invention further consists in novel means for elevating the carriers and delivering them onto the track.

The invention further consists in the various features of construction and combinations of devices hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical transverse section taken through the track-frame, track, and carrier of my improvement, the carrier being shown in full lines broken away. Fig. 2 illustrates a cash-carrier embodying my invention. Fig. 3 is a view of a parcel-carrier constructed in accordance with my invention and applied to my improved track. Fig. 4 is a view of a parcel-holder of disk form, adapted for use with the carrier shown in Fig. 3. Fig. 5 is a plan view of a portion of the track with which the carrier is designed to be used. Fig. 6 illustrates the elevator for raising the carriers from the stations to the track. Fig. 7 is a side elevation of one of the receivers into which the carriers fall from the track.

A represents the lower or main rail of the track, and A′ the upper or guard rail thereof. These rails, if desired, may be covered or lined with cloth, are arranged parallel to each other in a vertical plane, and are securely braced together at different points by bands B, to which the rails are secured in any suitable manner, and which constitute a frame for the track. One end of the upper rail, A′, is secured by a strip or bracket, *a*, to the upper stop-bar of the elevator, as seen in Fig. 6, while the corresponding end of the lower rail, A, extends downwardly to form one of the tracks of the elevator, as also shown in Fig. 6. The other ends of both the rails A and A′ are extended downwardly to form the tracks of the receiver, as shown in Fig. 7.

B′ represents my improved carrier, consisting of a wheel or cylinder formed with a central annular groove or tread, *b*, and with switch-guide grooves *b′ b′*, one on each side of the central groove, *b*. The carrier is centrally bored or recessed to receive a hollow cylinder, C, which serves as a receptacle for cash, the latter being held within the cylinder by means of clamping-plates *c c*, to each of which is attached the inner end of a conical coil-spring, *c′ c²*. The outer end of the spring *c′* is secured to a stationary cross-bar, D, extending across one end of the cylinder C, while the outer end of the other spring, c^2, is secured to a removable bar, D′, whose ends are reduced, as shown, to engage catches *d d*, formed in the end of the cylinder. It will be observed that the construction of carrier thus described gives the maximum space within the chamber C for cash, as the conical springs, when compressed, will lie flat against the plates *c c*.

F represents a switch-guide depending from one of the frame-bands B of the track to one side of the upper rail, A′, and in such position as to engage one of the switch-guide grooves *b′*.

In Fig. 5 is shown a portion of the track employed in my improved system. The main track is designated by the letter A^2, and A^3 A^4 are switches leading to stations. The meeting ends a^2 a^2 of the main track, as well as the adjacent ends a^3 a^4 of the switch-rails, are beveled to form frogs, thus insuring the proper rolling

of the carriers from the main track to the switch, or vice versa. In this figure is also shown a switch-guide, F, arranged in proper relation to the switch A^4 to guide the carrier from the main track to the switch.

It will be apparent that the carrier will readily roll from the curved switch onto the main track without the use of the guide F. Said guide F may be located on the main or lower rail of the track, as well as above the carrier.

G represents the elevator of my improved system, consisting of parallel vertical standards H and H′. The outer standard, H, is formed of two sections, *h* and *h′*, connected by a strip, h^2. The upper section, *h*, serves as one of the vertical rails upon which the carrier travels when being raised, and it extends above the track of the system, as shown. The standard H′ is formed by a continuation of the lower rail, A, of the track, as already described.

I and I′ represent the horizontal stops of the elevator. The lower stop, I, connects the lower ends of the standards H and H′, and the upper stop, I′, is secured at one end to the standard H, and at its opposite end by a brace, *a*, to the upper track-rail, A′. Each of these stops I and I′ is provided with an elastic bumper, i^2.

J represents the elevator-cage, consisting of guides K K, embracing the standards H and H′, and adapted to travel thereon, and connected by rods or wires *k k*.

J′ represents a section of track, secured centrally upon the upper side of the cage J, to receive the carrier, as shown in Fig. 6.

L represents a semi yoke or band, formed with a depending extension, *l*, secured within the cage J. The elevating-cord M is secured to the upper end of the semi-yoke L. Said cord then passes through the upper bumper, i^2, and over pulleys *m m*, mounted upon suitable supports above the elevator, and is provided with a pull-ring, *m′*.

N represents a flat spring, secured at its lower end to the inner side of the standard H in such relation to the track as to operate to force the carrier thereon after the latter is raised by the elevator.

O represents one of the receivers used in my improved system.

o o are parallel extensions of the track-rails, connected by bands P.

p p indicate oppositely-arranged check-springs, secured within the receiver to check the force of the carriers in descending. These springs may be provided with tension-screws *p′ p′*, if desired.

It will be understood that my system contemplates the necessary duplication of the improvements described for different stations, and those skilled in the art to which the invention relates will readily understand that the main track and various switches used must be inclined, to allow the carriers to revolve by gravity.

The cashier's office, as well as each counter-station, is to be provided with a receiver and an elevator. Each station is to be provided with a switch-track for receiving the carriers, and with a switch-guide, F, suspended above the track in such relation to the latter as to engage one of the switch-guide grooves of the carrier, to guide the course of the latter.

It will be obvious that by varying the diameters of the switch-guide grooves cylinders of the same size may be employed for all of the stations, as the course of travel of the carriers is governed entirely by the switch-guides.

Each station of the system will be provided with one or more carriers whose switch-guide grooves will be adapted only for the switch-guide belonging to that station, thus insuring the proper delivery of the carriers.

I do not limit myself to the precise construction here shown and described, as many slight alterations in the details may be resorted to without departing from my invention.

I reserve to myself the right to make all such modifications in form and structure as may properly fall within the scope of my invention.

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

1. In a store-service system, the combination, with a track consisting of an upper and a lower rail, of a carrier provided with an annular groove or tread, substantially as set forth.

2. In a store-service system, the combination, with an upper and a lower rail and bands connecting said rails, of a carrier formed with an annular central groove or tread, substantially as set forth.

3. In a store-service system, the combination, with a track consisting of an upper and a lower rail, of bands or braces connecting said rails, a switch-guide, and a carrier formed with an annular rail-groove and a guide switch groove or grooves, substantially as set forth.

4. A carrier for store-service systems, consisting of a wheel or cylinder recessed or bored to receive cash or parcels, and provided with securing-plates, substantially as set forth.

5. A carrier for store-service systems, consisting of a wheel or cylinder recessed or bored to form a receptacle, as described, and provided with spring-pressed plates, substantially as set forth.

6. A carrier for store-service systems, consisting of a wheel or cylinder annularly grooved to adapt it to a track, and recessed or bored to form a receptacle for cash or parcels, substantially as set forth.

7. A carrier for store-service systems, consisting of a wheel or cylinder adapted to receive cash or parcels, and formed with a track groove or tread, and guide switch grooves, substantially as set forth.

8. A carrier for store-service systems, consisting of a wheel or cylinder grooved to travel on a track, and recessed or bored to receive a cylinder for containing cash or parcels, substantially as set forth.

9. A traveling carrier for store-service systems, consisting of a wheel or cylinder recessed to receive cash or parcels, and provided with clamping-plates secured to conical coil-springs, substantially as set forth.

10. In a store-service system, the combination, with a cylindrical carrier, recessed to form a chamber or receptacle, as described, of clamping-plates, one of which is connected by a spiral spring to a stationary rod or bar, while the other plate is connected by a spiral spring to a removable rod or bar adapted to engage catches with which the carrier is provided, substantially as set forth.

11. The combination, with the carrier of a store-service system, recessed as described, of a stationary bar and a removable bar, clamping-plates, and conical coil-springs connecting said bars and plates, and adapted to rest in a flat coil when compressed, and catches for engaging said removable bar, substantially as set forth.

12. In a store-service system, the combination, with the main track, of a switch or branch track joined to the main track to form a frog, and a switch-guide secured adjacent to said switch, substantially as set forth.

13. The combination, with the elevator-ways and its impelling-spring, of the cage provided with an inclined track-section adapted to enter the groove of the carrier and register with the track of the system, substantially as set forth.

14. The combination, with the elevator-cage, of a semi band or yoke and an inclined track-section upon which the carrier rests, substantially as set forth.

15. The combination, with the elevator-cage, of the track-section secured thereto, and adapted to enter the groove of the carrier and to register with the track of the system, so that the carrier will roll thereon when the cage is elevated, substantially as set forth.

16. In a store-service system, a receiver formed by continuing the rails of the track, to constitute ways for the carrier, substantially as set forth.

17. The combination, with the parallel ways forming the receiver, and adapted to fit the groove of the carrier, of an inwardly-projecting spring or springs adapted to enter the groove of the carrier, and provided with a tension-screw, p', substantially as set forth.

CHARLES FISHER.

Witnesses:
ELIJAH K. RAND,
JACOB ROEMER.