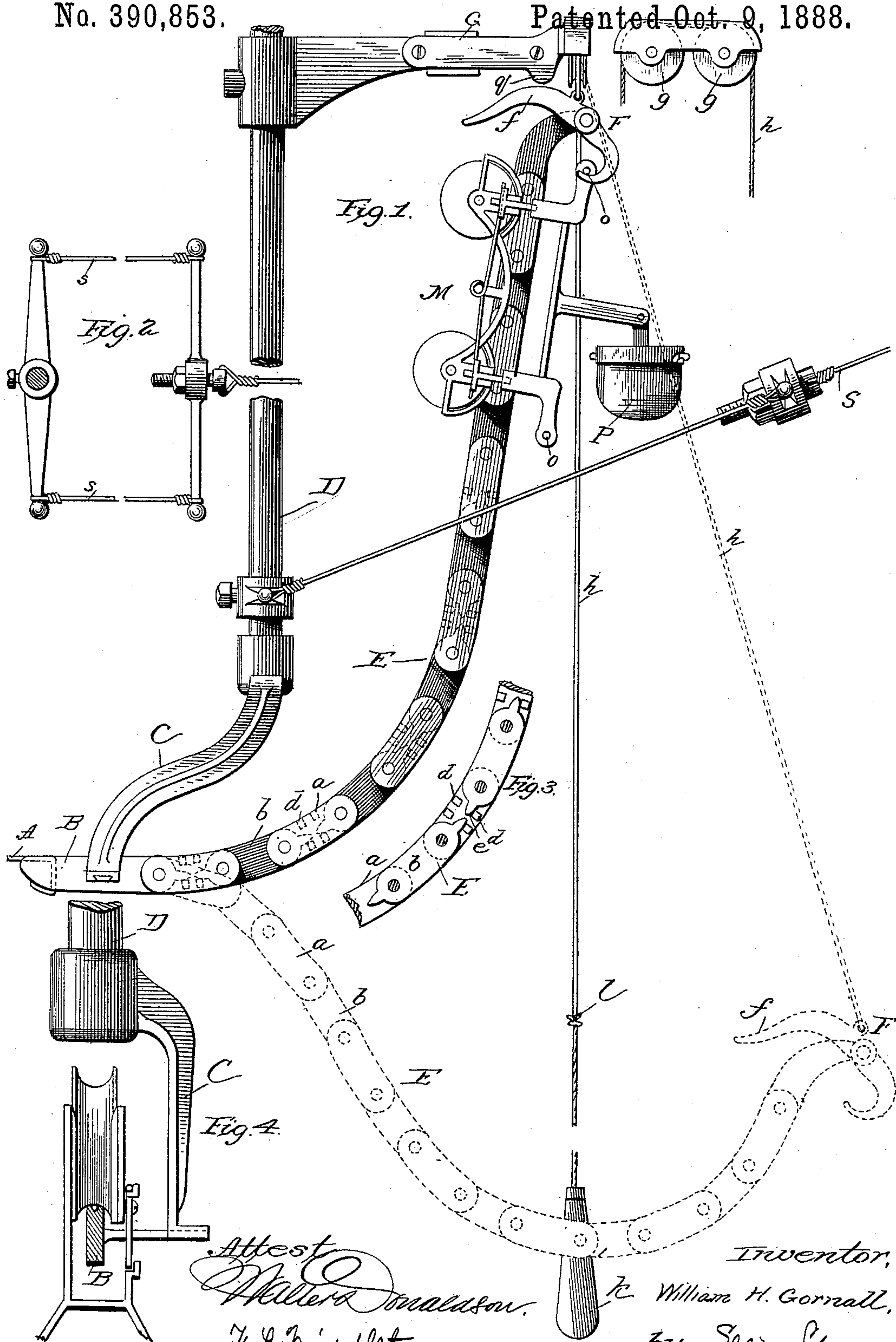


(No Model.)

W. H. GORNALL.  
STORE SERVICE APPARATUS.

No. 390,853.

Patented Oct. 9, 1888.



Attest  
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# UNITED STATES PATENT OFFICE.

WILLIAM HENRY GORNALL, OF BALTIMORE, MARYLAND.

## STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 390,853, dated October 9, 1888.

Application filed May 28, 1888. Serial No. 275,303. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY GORNALL, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Store-Service Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in that class of store-service or cash-carrier apparatus in which the carrier is moved to and fro upon a fixed wire practically horizontal. Its main feature is a flexible extension of this fixed wire provided with a catch and with a raising and lowering end and pulley, the flexible extension serving to receive and lower the carrier, and with its connections, heretofore referred to, to raise and impel it along the wire.

In the accompanying drawings, Figure 1 represents my invention in side elevation, and Figs. 2, 3, and 4 show details hereinafter explained.

In the drawings, A represents a part of the main conveying-wire. It is attached to the rigid track-extension B, which is supported on the lower end of a bracket, C, all of which is shown more clearly in the front view of Fig. 4. The bracket is fixed to the lower end of a rod, D, extending from the ceiling. To the rear end of the track-extension B is attached the flexible part of the track-extension marked E. This is of special form, designed to permit flexibility only in vertical plane and in a limited curve. It is composed of double links *a* and single links *b*, the ends of the single links being riveted between the ends of the double links. In order also that part of the flexible extension next to the rigid part may maintain a proper curve, the single links have points *e*, which extend between studs *d* on the inner faces of the double links. This limits the flexure and maintains a proper curve when the points bear on the studs, as shown in Fig. 3.

The free end of the extension E is provided with a hook, F, pivoted on the downwardly-curved end of the last link. This hook is turned inwardly and underneath the extension. The tail of the hook is also bent toward the extension on the upper side, as shown at *f*. On the upper end of the rod D is a bracket, G, which carries on its outer end two pulleys, *g g*. Over these runs a cord, *h*, one end attached to the end of the flexible extension and

the other, depending, has a handle, *k*, or this depending part may, as shown, include a knot, *l*. The two pulleys allow the cord to play outside of the track extension and carrier. When the handle is drawn down, the end of the track-extension is raised to the pulleys.

Supposing the extension to be down, as shown in dotted lines, Fig. 1, the carriage M, approaching, will run off the wire over the rigid part B and upon the flexible part, and the momentum of the carrier will cause it to strike the tail *f* of the hook F, which is thereby thrown forward to engage with a cross-bar, *o*, on the lower part of the carrier-frame at each end. This holds the carrier at the end and retains it in the low position, when the contents may be taken from or placed in the box P. From this position the carrier may be sent to the other end of the way by simply pulling on the cord. This raises the extension and carrier, still hooked thereto, to the position shown in full lines in Fig. 1. When the extension reaches its uppermost limit, the tail of the hook strikes a projection, *q*, on the upper bracket, which releases the carrier and allows it to descend by gravity. The momentum acquired in the descent is sufficient to impel it to the other end of the way. Manifestly the height to which it is to be raised may easily be proportioned to the distance to which it is to be impelled. The end of the extension is held up by the operation, and as soon as the handle is released the extension sinks to the position shown in dotted lines, where it is ready to receive the carrier on its return. The flexible extension assumes the position which may be regulated by the knot *l* on the cord, which stops the descent and holds the end of the extension in the curve shown. The position of the knot will determine the height of the end of the extension. The tail *f* serves as a stop for the carrier as well as to throw the hook into engagement.

The rod D is braced by a wire, S, which is connected to the rod by wires *s s*, between yokes T *t*, whereby the wires are clear of the carrier.

The construction of the carrier forms no part of my invention, as it may be of any convenient shape, such as that shown. Only it is necessary that there should be a rod or pin, as *o*, for the hook F on the cord. It will be



understood that the apparatus may be used at one end only, or it may be duplicated for the other end.

I claim as my invention—

- 5 1. In combination with a rigid way in store-service apparatus, a flexible extension formed of links and flexible only in a vertical plane, substantially as and for the purpose described.
- 10 2. In combination with the rigid way, the flexible extension formed of links, said links having stop projections formed thereon, whereby the vertical movement of the extension is limited, substantially as described.
- 15 3. In combination with the rigid way, the flexible extension formed of double and single links, the double links *a* having studs *d* upon their surface, and the single links *b* having points *c* extending between the studs *d*, substantially as described.
- 20 4. In combination with the rigid way and the flexible extension, the pivoted hook on the

end of the flexible extension adapted to engage with the carrier for holding the same, substantially as described.

5. In combination, the rigid way, the flexible extension, the upper pulleys and cord, and a hook pivoted on the flexible extension to engage with and hold the carrier, and a stud, *q*, in line with said hook for moving the same, substantially as described. 25

6. In combination, the rigid extension B, the wire A, the flexible extension, the cord, the pivoted hook on the end of the extension, the pulley, and the upper bracket, substantially as described. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 35

WILLIAM HENRY GORNALL.

Witnesses:

ALEXANDER J. COATES,  
C. H. PALMER.