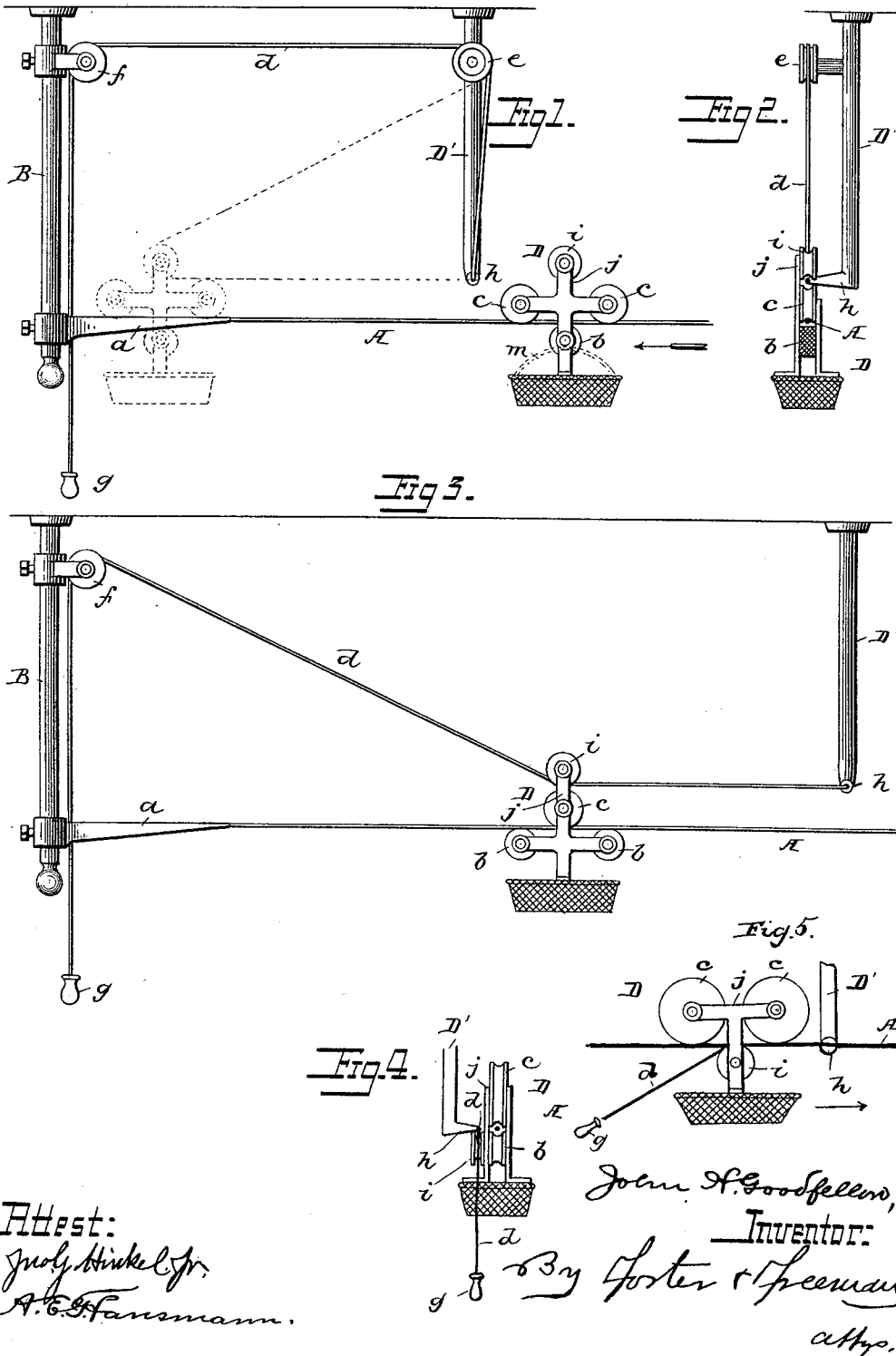


(No Model.)

J. H. GOODFELLOW.
STORE SERVICE APPARATUS.

No. 386,977.

Patented July 31, 1888.



UNITED STATES PATENT OFFICE.

JOHN H. GOODFELLOW, OF TROY, NEW YORK, ASSIGNOR TO THE LAMSON
STORE SERVICE COMPANY, OF BOSTON, MASSACHUSETTS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 386,977, dated July 31, 1888.

Application filed February 8, 1888. Serial No. 263,370. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOODFELLOW, a citizen of the United States, residing at Troy, Rensselaer county, State of New York, have
5 invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a full, clear, and exact specification.

My invention relates to that class of store-
10 service apparatus in which carriers move back and forth upon ways extending between the stations of a store; and my invention consists in providing the carriers with supplemental
15 wheels arranged to contact with and deflect flexible cords or wires, by means of which the carriers may be propelled from end to end of the ways.

In the accompanying drawings, Figure 1 is an elevation showing devices at one end of one
20 of the lines of a store-service apparatus constituting my invention. Fig. 2 is a transverse section of the devices shown in Fig. 1, looking in the direction of the arrow. Fig. 3 is an elevation illustrating a different arrangement of
25 the propelling-cord and a different form of carrier. Fig. 4 is an end view of a carrier illustrating the arrangement of the supplemental wheel when the propeller is at one side of the way. Fig. 5 is a side view of the parts
30 shown in Fig. 4.

The way A, upon which the carrier D moves back and forth, may be horizontal or inclined, and consists, as shown, of a rod or wire, and
35 may be otherwise constructed in any suitable way to support the carrier, which is provided with one or more wheels, *c*, running upon the way, and with a supplemental grooved roller or stud, *i*, for coacting with the propeller-cord, and when the propeller-cord is above the way
40 a retaining wheel or roller, *b*, is arranged below the way, to prevent the wheels *c* from being lifted off of the way by the action of the propeller-cord.

In the construction shown in Figs. 1 and 2
45 the supplemental wheel *i* is arranged above the track-wheels *c*, and is supported at one side by an arm of the carrier-frame, so as to permit the introduction from the opposite side of the arm or support *h*, to which is attached the end
50 of the propeller-cord *d*. As shown, the arm *h* extends laterally from a hanger, *D'*, and the

propeller-cord *d* passes over guide-rollers *e* *f*, supported by the hanger *D'*, and by another hanger, *B*, to which is connected, directly or indirectly, the end of the way A. Thus the
55 end of the way A is connected to the end of a tapering horn or arm, *a*, connected to the hanger *B*, and serving as a stop which enters between the wheels *b* and *c*, and to which the carrier is wedged as it is driven onto the same. 60

For the purpose of securing a better stopping effect and of gradually arresting the motion, the wheel *b* is made elastic either by making it of rubber or by supporting it upon yielding
65 spring-supports *m*, dotted lines, Fig. 1.

The propeller-cord *d* extends downward into proximity to the salesman's station, is provided with a handle, *g*, and is supported in a position across the path of the wheel *i*, so that
70 as the carrier moves toward the station the wheel *i* will contact with the propeller-cord and carry it toward the terminus of the line until the carrier is arrested and held by the retaining device. By then pulling upon the
75 pendent portion of the propeller-cord the carrier is first disconnected from the retaining device, and is then shot forward toward the opposite station.

In Fig. 1, where the propeller-cord is supported by the guide-roller *e* at a point some
80 distance forward of the station, the inward movement of the carrier doubles the cord into a loop extending back toward the station, so that when the operator pulls downward the propeller
85 will act with a forward draft to pull the car away from the station and shoot it toward the opposite end of the line.

In Fig. 3 the guide-roller *e* is dispensed with, so that the upper portion of the propeller-cord will occupy an inclined position,
90 and when struck and carried in by the supplemental wheel *i* it is folded down nearly parallel to the hanger *B*, and when the operator draws upon the cord it shoots the carrier forward by bearing obliquely against the edge of the wheel. 95

When the way is inclined, the propeller device is used only at the lower end; but when the way is horizontal there is a propeller at each end of the way.

When it is desired to place the propeller below the way, the supplemental wheel is placed
100 at the side of the frame below the way, as

shown in Figs. 4 and 5, and the hanger D' supports the propeller-cord at a point level with the way A.

Although I have shown a wedge-shaped stop device for retaining the carrier in its position at the end of the way until detached suddenly on the application of a force to operate the propeller, I do not limit myself to this particular form, as any of the usual forms of catches or retainers may be employed, and the carrier may have a single track-wheel instead of two, and may be otherwise constructed in any suitable manner. When a single track-wheel is employed, it is desirable to use two lower retaining-wheels, *b*, to prevent the tilting of the carrier under the action of the propelling-cord, as shown in Fig. 3.

I do not here claim propelling the double-wheeled carrier by means of a propelling-cord arranged to exert a draft upon the carrier, or to bear obliquely upon the wheel thereof, as these form the subjects of separate applications for Letters Patent, Serial Nos. 262,152 and 261,891.

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

1. The combination, in a store-service apparatus, of a way, a carrier moving upon said way, provided with wheels above and below the way and having a supplemental wheel, and a propeller cord fixed at one end at a point ad-

jacent to the way and arranged in the path of the supplemental wheel, substantially as set forth.

2. The combination, with the way, carrier traveling thereon, with wheels above and below the way and provided with a supplemental wheel, and retainer at the end of the way, of a propeller-cord supported by a fixed support at one end to extend across the path of said wheel and extending downward to the salesman's station, substantially as set forth.

3. The combination of the way, carrier traveling thereon, provided with a supplemental wheel, propeller-cord, and a lateral support, to which one end of said cord is attached, arranged adjacent to the way and to the path of the supplemental wheel, substantially as set forth.

4. The combination, with the way, of a carrier provided with a supplemental wheel, *i*, at one side of a support, a propeller-cord passing over a guide-roller, *e*, at a distance from the station, and supported at the end in position to contact with the said wheel *i*, substantially as set forth.

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

JOHN H. GOODFELLOW.

Witnesses:

THOS. F. GILMORE,
F. M. GOODFELLOW.