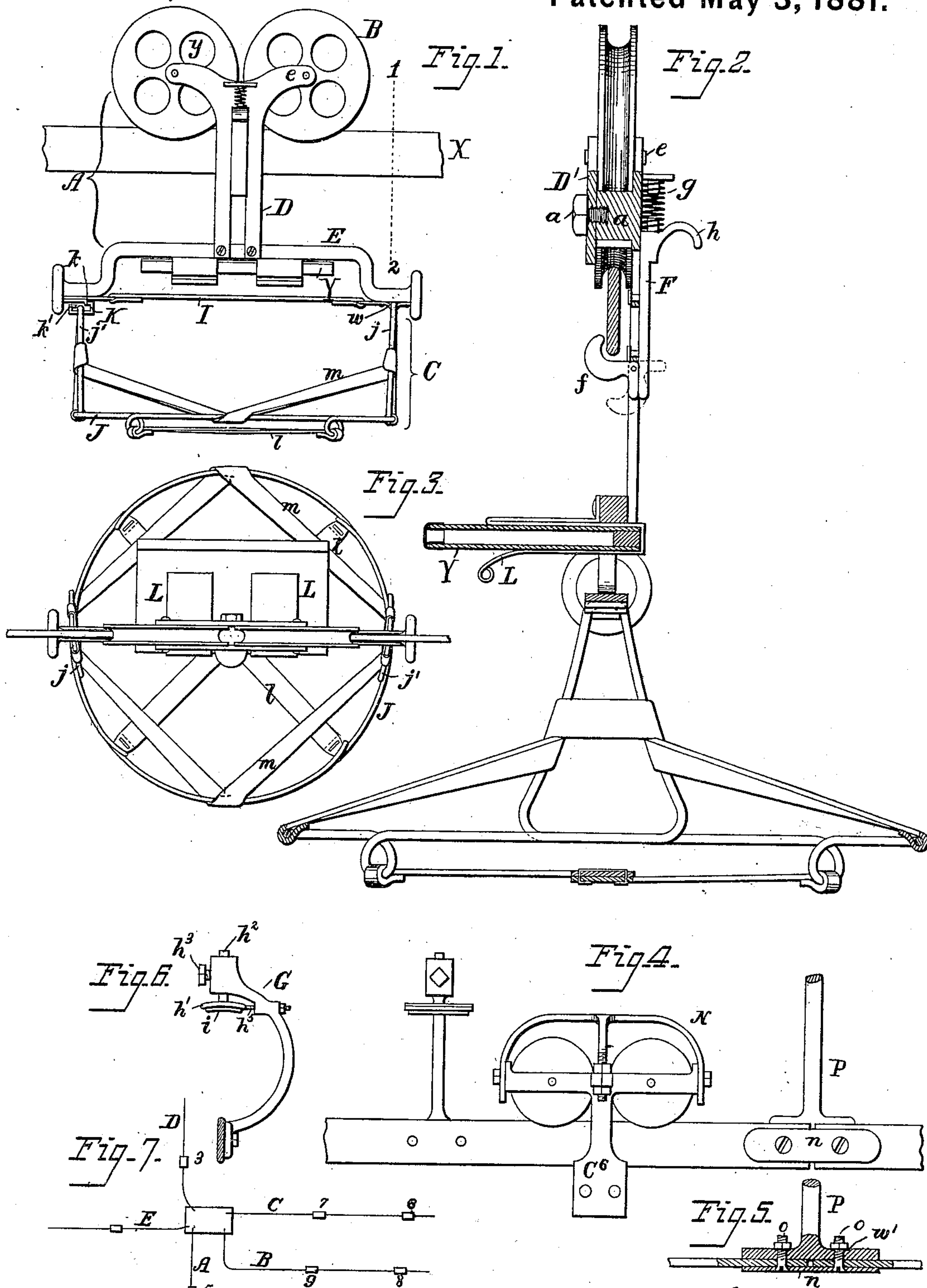


(No Model.)

H. H. HAYDEN.
Store Service Apparatus.

No. 241,008.

Patented May 3, 1881.



Attest:
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UNITED STATES PATENT OFFICE.

HARRIS H. HAYDEN, OF NEW YORK, N. Y.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 241,008, dated May 3, 1881.

Application filed January 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, HARRIS H. HAYDEN, of the city, county, and State of New York, have invented certain Improvements in Store-Serv-
5 ice Apparatus, of which the following is a specification.

My invention relates to that class of carriers which are used for transporting packages, &c., to and from the desks and counters of a store,
10 as illustrated in the Letters Patent granted to J. C. White.

My invention consists in certain details of construction having for their object to prevent the derailment of the carriers or injury from
15 breaking of rail-connections, to arrest the carriers at the proper points, prevent undue noise, facilitate the holding of various articles of different shapes, avoid misdirection of the carriers, and generally to improve the efficiency
20 of the system.

In the drawings, Figure 1 is a side view, showing one of the improved carriers in its position upon the rail. Fig. 2 is an elevation upon the line 1 2, Fig. 1, drawn to an enlarged
25 scale. Fig. 3 is a plan of Fig. 1. Fig. 4 is a side view, showing part of a rail and adjuncts; Fig. 5, a plan section of part of Fig. 4; Fig. 6, a side view of one of the stop devices; Fig. 7, a diagram illustrating the mode of regulating
30 the distribution of parcels, &c.

The carrier consists of the frame A, wheels B, and holder C. The frame may be in any desired shape, as shown. It consists of the
35 T-shaped portion D, longitudinal bar E, secured to the base of the portion D, and plate D', secured to a stud, *a*, by a nut, and corresponding in shape to the upper portion of the section D, and therewith supporting the axles *e*, on which turn the wheels B, that run upon the
40 track or rail X.

Heretofore a pin projecting from the frame below the rail X has been used to prevent the derailment of the carrier, and has proved generally effective, but is open to the objections
45 that it interferes somewhat with placing the carrier upon and removing it from the track, and that when the carrier swings to an unusual extent the pin passes from below the rail and no longer retains the carrier in place. I overcome this objection by making the pin in the
50 retainer movable, so as to turn out of the way when the carrier is to be removed and replaced,

and by combining with the retainer a locking device, by which it will be held in place when the carrier is upon the rail. Such retainer 55 may be made in various forms.

In the drawings I have shown a crank, *f*, which may be held in place by a spring, but is preferably locked by a slide, F, on the frame, which, when depressed, turns down the inner
60 arm of the crank, and by its position at the rear of the same prevents the crank from turning, holding the outer hooked arm in such position beneath the rail as will prevent the wheels from rising off the latter, and also limit the swinging
65 of the carrier on the rail.

To facilitate manipulation I may combine with the slide F a bracket or handle, *h*, and a spring, *g*, which latter will automatically carry back the clutch-slide and turn the crank-re-
70 tainer to the position shown. Thus, when the handle *h* is seized to lift the carrier from the counter to put it on a rail, the frame A moves downward on the slide, compressing the spring
75 *g*, and the retainer *f* by its weight, or by the action of a spring, is turned to the position shown in dotted lines, so as not to interfere with the removal of the carrier from, or the placing of it upon, the rail. Obviously the re-
80 tainer may be made adjustable in different ways, and different means may be employed for throwing it back in the act of lifting the carrier.

To stop the carriers as they reach their destination with as little shock and noise as pos-
85 sible, I use a system of graduated wheels and stops in place of the stop-pins heretofore employed. The stops consist of brackets, bars, or pins G, overhanging the rails X, and preferably attached at their lower ends thereto,
90 and carrying at their under faces, above the rail, pads or blocks *i*, of rubber, cork, or other suitable material. A very useful improvement consists in making these stops adjustable to any desired height by connecting the pad to a plate,
95 *h'*, and connecting the plate to a rod, *h''*, movable up and down in the end of the bracket G, and held in place by a set-screw, *h'''*. A brace, *h''''*, may be used to hold the plate *h'* in place. An end stop is arranged at each counter or
100 desk from and to which carriers are sent, and the space between the upper edge of the rail X and pad *i* is such as to prevent the wheels of the carrier belonging to such counter from

passing wholly beneath the stop. The wheels will thus wedge themselves to a slight extent between the rail and pad, and the motion of the carrier will be arrested without any jumping of the wheels upon the rails, and with less noise than where pins or lugs are brought together, as heretofore.

In arranging for the stoppage of the carriers passing to different points upon the same rail, the stops are placed closer to the rail, in proportion to their distance from the sending office or desk, and the carriers are provided with wheels of different sizes, those belonging to the nearest station to the desk having the largest wheels, and the others being relatively graded so as to pass beneath all the stops between that at which the carrier is arrested and the main desk. Another mode of arresting the carriers by wedging the same between the rail and stop consists in providing the carrier with a frame, N, which may be vertically adjustable, so as to be set to jam beneath the stop when the carriage is to be arrested.

I have overcome the objections incident to employing wheels of metal and other substances by making the wheels of vulcanized fiber, which I have found to be sufficiently strong and durable, and not liable to ring or rattle to such an extent as metal. To still further reduce the noise and decrease the weight and expense I form the wheels with openings y.

One of the principal difficulties in constructing a carrier of this character has been to adapt it to retain both large and small articles, as well as articles of irregular shape—a difficulty which I have overcome by connecting the holder C flexibly, and in some instances jointedly, to the frame. I have adopted various modes of securing a flexible connection—for instance, I have used a crate or frame or basket in connection with elastic straps, suspending it from the frame A, or I have used a holder made of elastic straps. In either case the article, whether large or small, is pressed up against the frame by the elasticity of the holder. I prefer, in most instances, to use in connection with the holder an elastic cross-belt, I, Fig. 1, against which the articles are pressed upward, and between which and the bar E smaller articles may be inserted and retained.

A most effective form of holder consists of a wire frame, J, having at one end a loop, j, pivoted at w to the bar E, and at the opposite end a loop, j', adapted to engage the hook K upon the bar E. The said hook K has an overhanging shoulder, k, and inwardly-turned lip k', which serve to prevent the loop from jumping out of place, owing to concussions of the car. Elastic bands l extend across the frame J, and other elastic bands, m, extend from the sides of the frame J to the loops jj', and serve to securely retain any articles placed in the holder. As thus constructed, a hat or small article may be slipped into the place without further manipulation; but when several hats or larger articles are to be carried the loop j' is disengaged from its hook K, the holder is turned

down, the articles inserted, and then secured by again connecting the loop to its hook. Usually each article must be accompanied by a memorandum, and the money in payment for the same, which are commonly placed in a memorandum-book or shallow box, Y.

To prevent loss in carrying the money and change, I provide the carrier with a clamp, which will tightly hold the book during transportation. Such clamps may be made in various ways. In the drawings I have shown blades or straps of spring metal bent to form spring-jaws L, between which the book is pushed.

Where a series of tracks radiate or extend from a central desk there is danger of misplacement of the carriers in returning them from the central desk, unless means are adapted for distinguishing between the different routes and their respective carriers. This I effect by giving to each rail a name, number, character, or color, and also marking the cars of such rails with a number, character, or color to correspond with the rail upon which it must work. In like manner each book is marked to correspond not only to the rail, but also to the car to which it belongs. I thus can absolutely prevent the misplacement of the cars and the misdirection of the books, and I can further avoid misdirecting packages by having the number, color, or device placed upon the paper enveloping the article corresponding to the rail and carriage. Thus, if the carriage shown belongs to station 6 upon the third rail, the rail is marked C or 3, or with any other character, and the carriage is correspondingly marked, and in addition has the figure 6 or its equivalent. The book and, if necessary, the wrappers of the packages are marked C 6. As the car, when placed upon its proper rail, infallibly stops at the station from which it is sent, the correct return of goods and change is thus insured.

It has been found that the strain to which the rails x are subjected in getting them straight and rigid causes such a draft upon the bolt by which the rails are secured to the suspension-brackets P that a slight contraction of the rail will break the bolt, the rail then falling or destroying the carrier and causing injury to goods beneath. I remedy this by tying the abutting ends of the rails together or to the bracket by supplementary fastenings. Thus a fish-plate, n, Figs. 4 and 5, may overlap the ends of the rails and receive the bolts o, which then pass through the rails and through slots in the bracket P, so that should a bolt or the bracket break at the point w' the fish-plate will still sustain the rail and hold it in position opposite the end of the next. The rail-sections may be perforated near the ends, and tied by a metal cord or wire passing round or through the bracket.

I claim—

1. The combination, in a carriage for transporting packages, of a frame supported upon wheels adapted to a rail, and provided with an extensible holder connected to the frame, substantially as set forth.

2. The combination, with the frame having wheels adapted to the rail, of an extensible holder, and means whereby the latter may be connected to and detached from the frame at one side or end, substantially as set forth.

3. The combination of the frame-holder and elastic band I, substantially as specified.

4. The combination, with the carrier, of a movable retainer, *f*, arranged to extend beneath the rail, substantially as and for the purpose set forth.

5. The combination, with the carrier and its retainer *f*, of a spring for maintaining the retainer in its normal position, and appliances whereby to move the retainer out of the way when the carrier is raised, substantially as set forth.

6. The combination of the frame A, retainer, and locking device, as set forth.

7. The combination, in a store-service system, of stops overhanging the rails, and carriers constructed to be wedged between the stops and rails, substantially as set forth.

8. The within-described means of arresting the carriers of a store-service system, the same

consisting in combining with the rails overhanging stops, and providing the cars with wheels of different diameters, substantially as set forth.

9. The combination, with the rails, of stops consisting of brackets G and pads *i*, substantially as specified.

10. The combination of the rail, bracket, pad, and device for adjusting the latter, substantially as set forth.

11. The combination, in a store-service system, of a series of ways, each having different stations, and all leading to a central point, and each way and station designated by a special mark or character, and a series of carriers each marked to correspond to its way and station, substantially as set forth.

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

HARRIS H. HAYDEN.

Witnesses:

F. W. HARMON,
CHAS. D. BAKER.