(No Model.)

H. H. HAYDEN.

STORE SERVICE CARRIER.

No. 253,700. Patented Feb. 14, 1882.

Fig. 1.

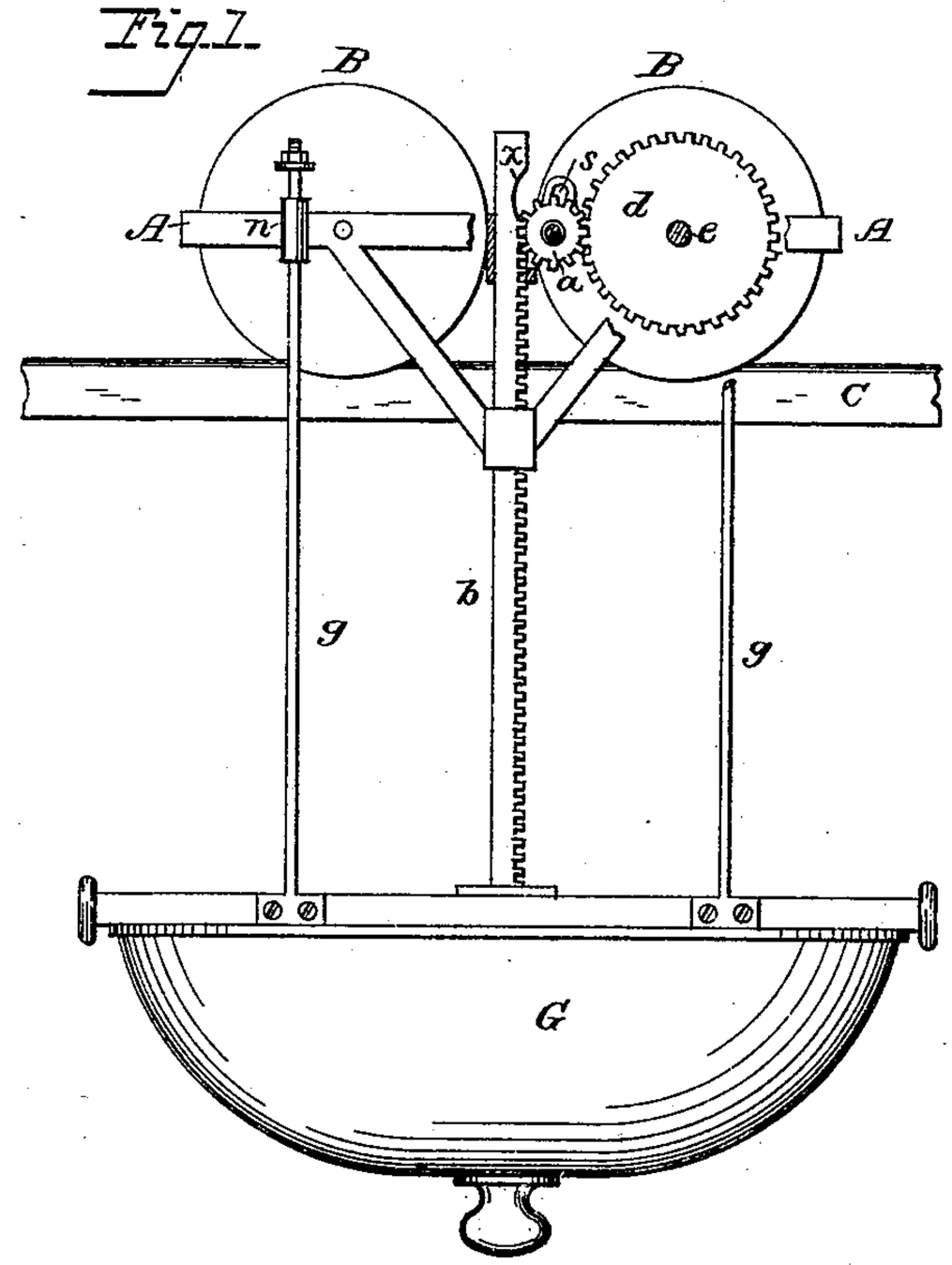


Fig. 2.

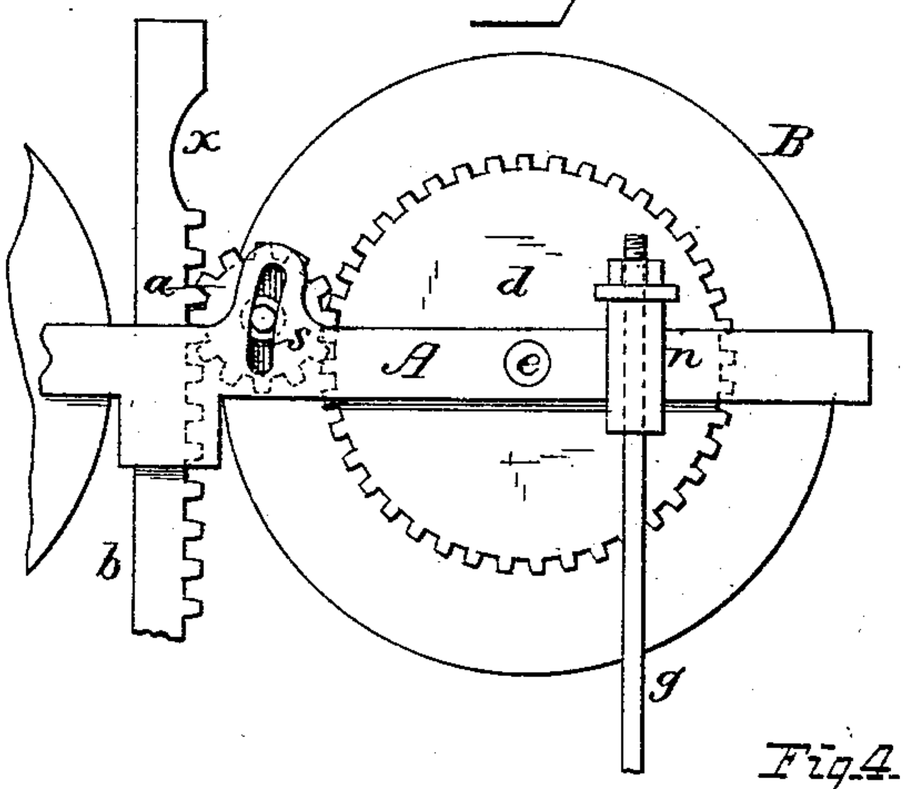


Fig. 3.

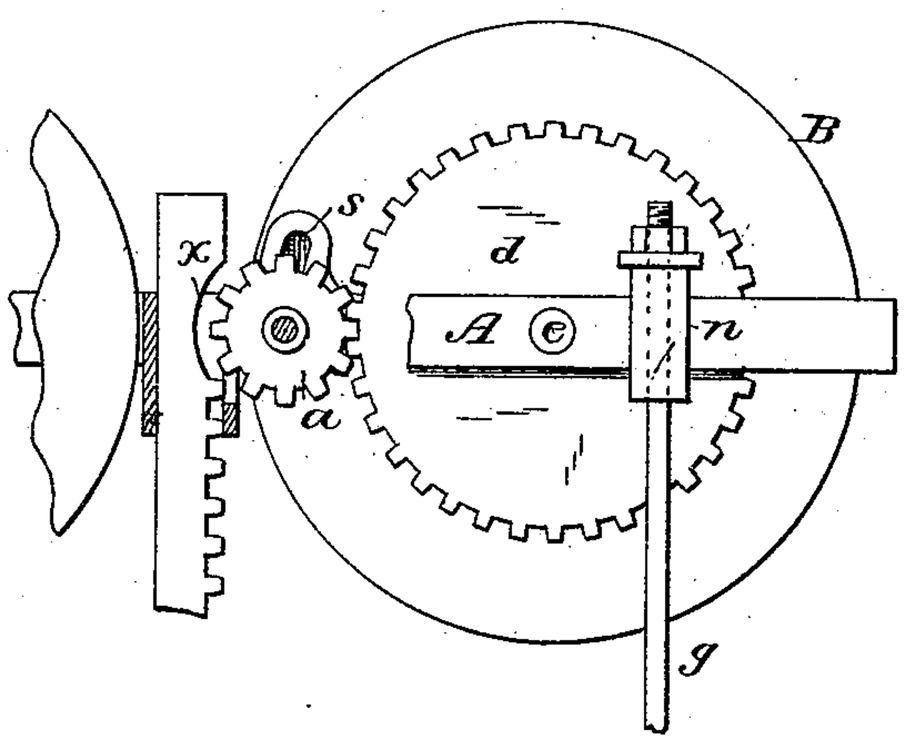
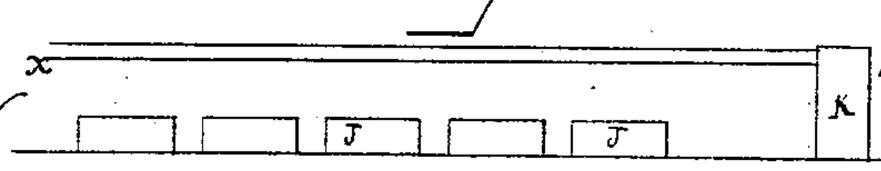


Fig. 4.



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UNITED STATES PATENT OFFICE.

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

STORE-SERVICE CARRIER.

SPECIFICATION forming part of Letters Patent No. 253,700, dated February 14, 1882.

Application filed May 31, 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-Service Carriers, of which the following is a specification.

My invention relates to that class of store service in which cars or carriages traveling upon ways are the means of conveying articles to and from the counters or stations and the main desk.

In the drawings, Figure 1 is a side view, showing a rail and car illustrating my invention. Figs. 2 and 3 are detached detail views; Fig. 4, a diagram showing the relation of rails, desk, and counters.

Heretofore such carriers have been propelled by gravity, the ways being inclined, or by means of driving-belts or equivalent appliances. These means, while available in many situations, are not adapted to all the conditions in which automatic systems are desirable. For instance, an inclined way cannot well be employed in very long stores with low ceilings, nor can driving-belts be used where steam or other power cannot be procured. For these reasons I have devised means whereby the carriers may be moved, with or without their loads, upon ways that are absolutely level and without the aforesaid driving appliances, such means consisting in a weight, spring, magnet, or other suitable motor carrier with or on the car. Different modes may be adopted for effecting this end. Thus, in Fig. 1, I have ilustrated a car provided with a frame, A, wheels B B, adapted to the way C, and suspended basket G. This basket, instead of being secured to a fixed arm, is attached to rods *g g*, sliding in eyes *n n*, attached to the frame and to a toothed bar, *b*, which slides vertically between guides on the frame, and is geared with a toothed pinion, *a*, the teeth of which gear with those of a cog-wheel, *d*, turning with the shaft *e* of one of the wheels B, which is secured to said shaft. The shaft of the pinion *a* turns in slots *s* in the frame A, as shown best in the enlarged views, Figs. 2 and 3, so that when the rack-bar *b* descends by the weight of the basket and contents the pinion and its connection will be turned, driving the car until the bar reaches its lowest position, when a recess, *x*, therein will move opposite to the pinion, which may then turn freely, permitting the car to continue its travel under the momentum it has acquired. When the car has been removed the rack-bar is restored to its first position, in doing which the shaft of the pinion moves up in its slotted bearings, carrying the pinion to one side, so that the bar can slide freely upward without turning the pinion.

By this system of communication I am enabled to effect the desired transportation of material and money between the counters J and desk K of a store, Fig. 4, where the room is of such a height that inclined rails or rails of any considerable inclination cannot be employed, or where external motive power is not available; and I am further able to move the carriers even when the rails are somewhat inclined upward, as is sometimes necessary.

Although I have shown a device that is practically available where the tracks are not of great length, I do not limit myself thereto, as a spring may be substituted for the weighted rack-bar; or the car may be propelled by the movement of a revolving armature of a magnet arranged to rotate thereon under the influence of an electric current transmitted through the rail or otherwise.

Without therefore confining myself to the device shown, I claim—

1. A store-service system comprising the tracks between the main desk and counters, cars adapted to travel thereon, and motor appliances carried by the cars and serving as a means of propelling the same, substantially as set forth.

2. A car for store service, consisting of a frame supported by wheels and a rack-bar geared to one of the wheels to turn the latter by its descent, substantially as set forth.

3. The combination of the frame, pinion, and rack-bar, having a recess, *x*, above its upper teeth, substantially as set forth.

4. The combination, with the sliding rack-bar, of a pinion having a shaft extending into slots *s*, 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. M. BAILEY,
L. H. WILLIAMS.