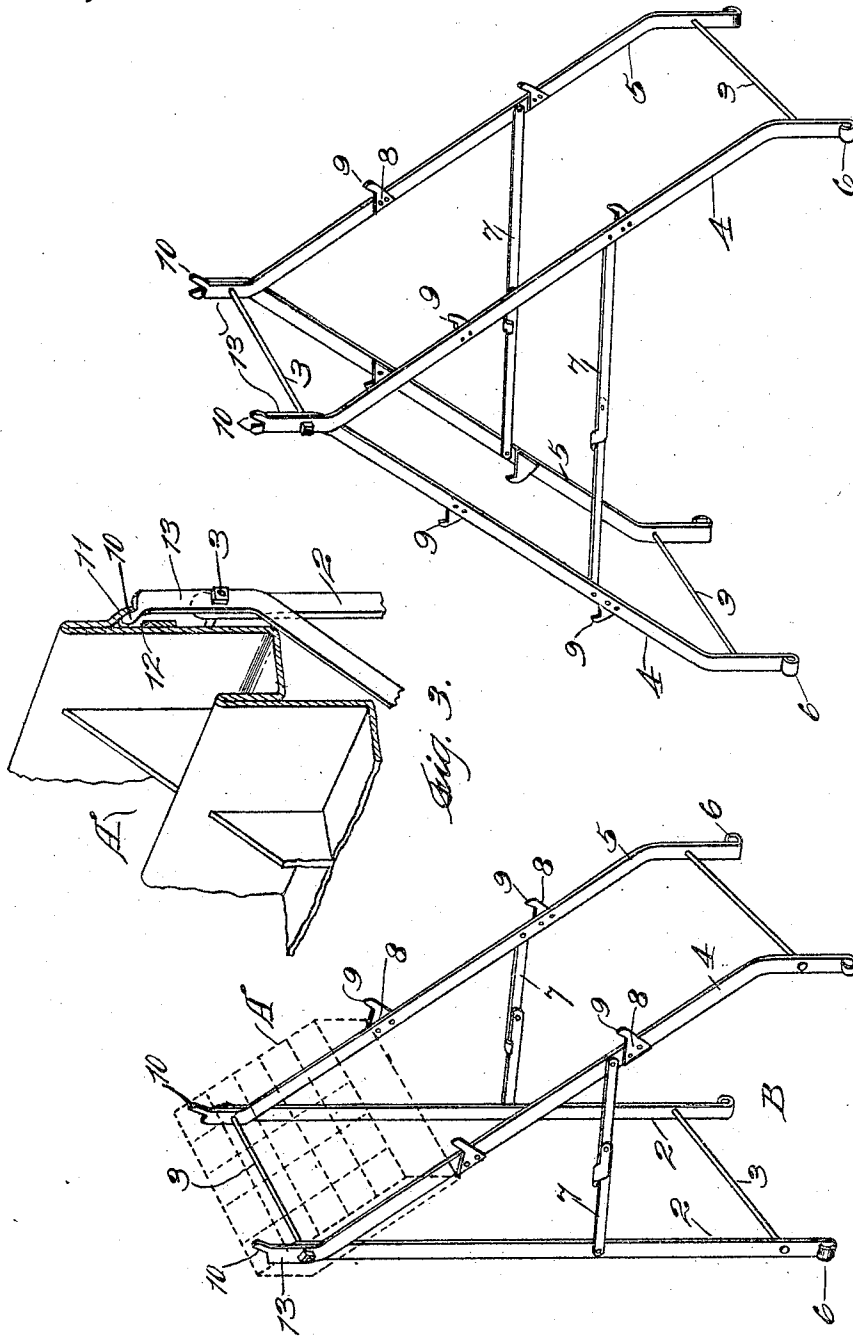


L. L. MORSE.
FOLDABLE TRAY AND RACK SUPPORT.
APPLICATION FILED NOV. 29, 1909.

956,399.

Patented Apr. 26, 1910.



Witnesses,
F. E. Maynard.
J. Eastberg.

Inventor,
Lester L. Morse,
By Geo. H. Strong,
his Atty.

BE IT KNOWN THAT I, LESTER L. MORSE, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Foldable Tray and Rack Supports, of which the following is a specification.

This invention relates to stands or supports for display trays and racks.

A purpose of this invention is to provide a strong, light, portable support for card racks, seed trays, etc.; to provide an inexpensive article for gratuitous distribution to retailers by wholesalers, or manufacturers; and to provide a stand or support, in combination with such racks or trays, that is adapted to be folded in to small compass to economize in freight expense.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a perspective of the improved support. Fig. 2 is a perspective of a double support. Fig. 3 is a detail of a portion of a tray and support, showing the hanger.

It is customary for large manufacturers to distribute to their customers trays, racks, holders, boxes, or the like, in which to display the articles or goods to be vended; and unless some device is furnished to support these trays in an advantageous, conspicuous manner, the retailer will relegate the goods to some remote corner or shelf, or will be put to the expense of erecting a supporting device.

I have found it commercially practical and advantageous to provide suitable trays A for holding goods, and a complementary support B for supporting the trays. The support B may be made of any suitable width or height, to accommodate a plurality of trays A, and comprises a pair of vertical stanchions 2 connected by tie rods 3—3, upon the upper one of which is pivotally journaled an outside, inclined leg 4, and a parallel leg 5 pivoted between, but adjacent to one of the stanchions. To enhance the appearance, and facilitate the manufacture of the support, the lower portions of the legs are slightly curved, and stand vertical on the floor, being rolled back to form feet 6, the standards 2 and legs being preferably made of flat, strip steel,

and are pivoted upon the upper end 9, are therefore foldable into small compass for convenience in packing and shipping, and when opened out in the standing position are braced by suitable knuckle-jointed braces 7—7 pivoted upon each stanchion and leg. At suitable points along the inclined legs 4—5 are secured small triangular plates 8, arranged in horizontal pairs having hooks or lugs 9 formed upon the upper outer end, and the upper ends of the legs 4—5 also are formed with similar lugs 10.

The display trays A are made with complementary hooks or lips 11, punched in the back 12, and these hooks 11 are adapted to engage and hang upon those of the support B.

The support shown in Fig. 1 is constructed to hold three trays, and in Fig. 2 I have shown a double support embodying two sets of the hook-carrying legs 4—5, dispensing with the stanchions 2, and capable of holding six trays. Obviously, these supports may be made higher and broader to accommodate trays of different sizes, and are strong neat-appearing devices. When folded a number of them may be packed into a small easily crated pile.

The upper ends of the legs 4—5 are preferably bent for a short distance to form vertical extensions 13 parallel to the back 12 of the inclined trays A.

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

A rack and tray support consisting of inclined bars formed with the upper and lower ends bent at an angle to the intermediate portion and to stand in approximately vertical position and parallel with each other and with the back of the tray, tie-rods uniting the upper and lower ends, one bar of each pair lying outside and the other inside of the contiguous bar, jointed flexible brace bars between the sides, and upwardly-opening forwardly-presented notched supports upon said side bars and at the upper extremity of said side bars.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LESTER L. MORSE.

Witnesses:

ANNE B. SINNOTT,
GEO. E. LAWTON.

JEAN-BAPTISTE MOYET & H. BOUVIER.

UNCOUPLING DEVICE.

APPLICATION FILED JUNE 21, 1907.

956,400.

Patented Apr. 26, 1910.

3 SHEETS—SHEET 3.

Fig. 3.

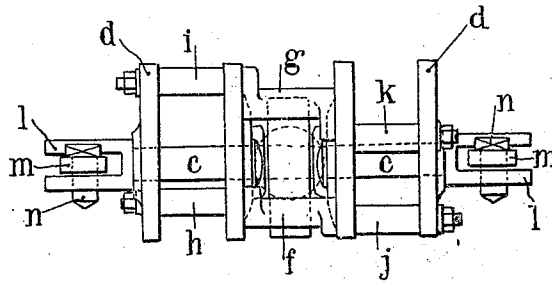


Fig. 4.

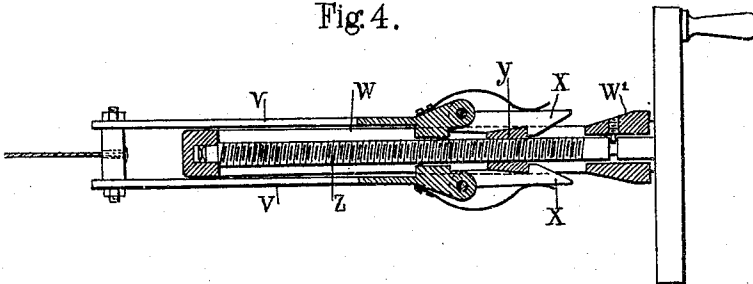
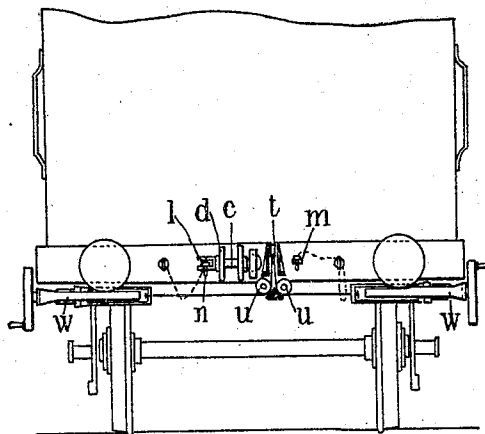


Fig. 5.



WITNESSES

Walter Acker
L. H. Grote

INVENTORS

Jean-Baptiste Moyet
H. Bouvier

Hawson and Hawson

ATTORNEYS

UNITED STATES PATENT OFFICE.

JEAN-BAPTISTE MOYET AND HENRI BOUVIER, OF GRENOBLE, FRANCE.

UNCOUPLING DEVICE.

956,400.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed June 21, 1907. Serial No. 380,049.

To all whom it may concern:

Be it known that we JEAN-BAPTISTE MOYET, station-master, of Place de la Gare, Grenoble, Isère, France, and HENRI BOUVIER, engineer, of 53 Rue du Polygone, Grenoble, Isère, France, have invented a certain new and useful Uncoupling Device, of which the following is a full, clear, and exact description and for which we have applied for Letters Patent in France, dated June 28, 1906, No. 367,823; Great Britain, dated February 20, 1907; Germany, dated February 21, 1907; Roumania, dated March 16/28, 1907; Austria, dated February 21, 1907; Hungary, dated February 27, 1907, and Russia, dated March 27, 1907.

This invention has for object the construction of an automatic coupling for wagons and vehicles of all kinds employed upon railways.

The improved automatic coupling is of the type in which there is fitted to each end of every wagon a half-apparatus comprising two dissimilar and complementary hooks placed one on either side of the center line of the wagon so that in approaching wagons each of the hooks of the half-apparatus will be faced by a complementary hook upon the other wagon.

The invention is hereafter described with reference to the annexed drawings in which:—

Figures 1 and 2 represent in elevation and in plan respectively the coupling apparatus. Fig. 3 is an end view of the tumblers which carry the hooks, the latter being removed. Fig. 4 represents in longitudinal section the windlass or winder serving to effect the uncoupling. Fig. 5 shows in elevation and on a smaller scale the method of applying the ropes and winders to the headstock of a wagon.

This coupling consists in principle of two sets of two hooks; each set forming a half-coupling is fixed to one of the extremities of each wagon and comprises a hook of the upper type *a* and a hook of the lower type *b* and various accessory appliances. Each half-coupling is exactly similar to all the others, so that in turning the wagons an upper hook is always faced by a lower hook and vice versa. The apparatus is thus always in the coupling position, whatever be the relation in which the facing wagons present themselves.

Each hook is traversed by a spindle *c*

around which it can turn freely; each of these spindles is fixed to a tumbler *d*. The two tumblers are themselves connected by a pin *e* and cross-pieces *f* and *g*; these cross-pieces are doubly cranked and form stops limiting at *h*, *i* the oscillation of the upper hook and at *j*, *k* that of the lower hook (see Fig. 3).

As a consequence of the freedom of the hooks to move between their respective stops the coupling can be accomplished even if there exists a certain difference of height between the drawbars of any two wagons to be coupled and once this coupling is effected the system formed of the four hooks places itself in the plane of the pull passing through the spindles *c c* of the hooks.

The pin *e* passes through the eye of the drawbar shank which all types of present-day wagons carry, in such a way that the whole of the parts enumerated can swing around this pin *e* which transmits to the drawbar the pull received by the hooks. The eyes of the drawbar shank through which the pins *e* are passed are elongated or oval as shown in Fig. 1; this slight lateral clearance permits the coupling to assume an obliquity in the horizontal plane with relation to the axes of the coupled wagons and so facilitates the passage of curves.

The spindles *c* are extended to form forks *l* which can be maintained in the position indicated (Fig. 1) by means of supports *m* the ends of which may be entered into the forks *l*, where they are locked by pins *n*. These supports are carried by the headstock of the wagon, but they are preferably arranged so as to be able to slide in sockets *o* fixed to this headstock with a view to allowing the relative movements of the coupling mechanism and the wagon, whatever be the intensity of the tractive force; their stroke is limited by nuts *p*. The locking pins *n* being once removed, the supporting rods *m* can be pushed back under the wagon; the spindles *c* being thus released, the half-coupling is no longer supported except by the pin *e* and it takes up a substantially vertical position.

Each of the hooks *a* is continually acted on by a spring *q* placed in a cylindrical box, this box being connected to the hook *a* by a rod, and carrying two horizontal trunnions allowing it to oscillate in a vertical plane. The two trunnions are mounted upon a support *r* fixed to the drawbar or to a cross-member of the wagon frame.

The hooks *a* each carry an arm *s* in the eye of which is secured a cable or chain for raising the hook; this cable is wound first over the pulley *t* then is doubled in two lengths each of which after having passed over one of the jockey pulleys *u*, is attached to the moving part *v* of one of the winding appliances *w* placed one on the right, the other on the left of each headstock of the wagon.

The winders (Fig. 4) are formed each of a movable yoke *v* to the extremity of which is attached the cable or chain; the other extremity carries two spring claws *x* which are adapted to seize the nut *y* which travels upon the screw *z*. This nut comprises two inclined planes; the same applies to the cone *w*¹ fixed to the frame of the winder near the hand wheel.

The working of the apparatus is as follows:—With the arrangement which has been described, when one wagon is caused to approach a neighboring wagon, the hook *a* of each of the half-couplings rises by sliding on the inclined plane presented by the corresponding hook *b*. At a certain moment the lower stop of the hook *a* has passed the upper stop of the hook *b*, the gripping then takes place under the action of the weight of the hooks and also by the effect of the restraining springs *q* which have been compressed to a certain extent during the rise of the hooks.

The length of the hooks *a* and *b* may be determined in such a way that once coupled up, the buffers of the two wagons in contact may be driven in to a certain degree, or on the other hand, the hooks may have a length sufficient to leave a certain clearance between the buffers when the coupling is effected.

In order to obtain the uncoupling of two wagons, it suffices to raise the hooks *a* by the necessary amount; the raising of these two hooks may be effected in succession. The raising of a hook *a* is obtained by operating one of the corresponding winders; the nut *y* being seized between the claws *x*, it suffices to turn the hand wheel to traverse the nut along the screw *z* carrying with it the movable yoke *v*. When the hook *a* has been raised by a sufficient amount to be free from the corresponding hook *b*, it can be maintained in the raised position which it occupies or else, on the contrary, by the continued rotation of the hand wheel in the same direction, the claws *x* may be caused to engage upon the inclined planes *w*¹ so as to separate and finally to escape the nut *y*, whereupon the yoke *w* becomes independent of the nut *y*; at this moment the hook *a* falls again under the influence of its own weight and by the action of the recalling spring *q*. This hook *a* is thus returned into the position for coupling, but it is to be remarked that although the wagons previously coupled have not been moved apart, the hook *a* in falling again

cannot by reason of the inclination of the gripping surfaces engage with the corresponding hook *b*. The coupling is always released when the two hooks *a* of a coupling have been raised, whether the hooks have been kept in the raised position, or have been allowed to drop. The uncoupling of two wagons is accomplished with the same facility by the exertions of a single man, whether or not there be buffers and whatever be the degree of compression of these latter; this is owing to the control of the hooks by the winding appliances provided. This possibility of obtaining a high compression of the buffers without rendering the unhooking difficult is one of the characteristics of the invention.

The arrangements adopted allow of changing from the system of automatic coupling to the present system, by operating in the following manner: First of all the cable or chain connected to the hook *a* is released: then the locking pins *n* are removed and the two supports *m* pushed back: the half-couplings being no longer supported swing around the pin *e* and the whole of the parts assume a substantially vertical position below the eye of the drawbar. This movement frees the drawbar hook which is thus ready to receive the link of the coupling device at present in use upon the various railway systems. It is to be remarked that the spring device *q* does not oppose the movement of rotation around the pin *e*, by reason of the jointed connections of this box with relation to the hook *a* and to its support *r*. Moreover the coupling being accomplished by means of the apparatus described above, the wagons remain united even if the drawbar should be broken. Indeed the tractive force is transmitted by the hooks to their spindles *c* and by the forks *l* of the latter to the supports *m* which are retained in position by the locking pins *n*, and finally by the nuts *p* which actually propel the wagon. Lastly the system lends itself very well to the passage of vehicles over curves, owing to the slight displacements that the whole apparatus can receive in its plane by oscillating around the eyes of the drawbars.

We wish it to be understood that the invention is in no way limited to the details of execution indicated above. For example, the terms of upper hook and lower hook have only been employed in order to fix the ideas, as it is evident that the coupling and the uncoupling can take place by the operation of the lower hooks conveniently actuated by the windlasses and the restraining springs; in the same way the windlasses might be of any design whatever and it is not necessary moreover that they be made with escapement device; lastly many other accessory details may be varied at will without exceeding the scope of the invention.

Having thus described our invention, what we claim as such and desire to secure by Letters Patent is:—

5 In an automatic coupling device, complementary hooks engaging each other and a device for breaking the coupling comprising a cable secured to one of the hooks at one end and to a windlass at the other, said
10 pivoted holding members and a wedge member adapted to spread and thereby loose the same at the end of their travel, whereby the

hooks automatically return to position after the coupling is broken, substantially as described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses.

JEAN-BAPTISTE MOYET.
HENRI BOUVIER.

Witnesses:

JOSEPH CHATROUSSET,
ANTONIN DOURILLE.

15