No. 856,795. PATENTED JUNE 11, 1907.

O. A. MORRIS.

COUPLING.

APPLICATION FILED FEB. 21, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

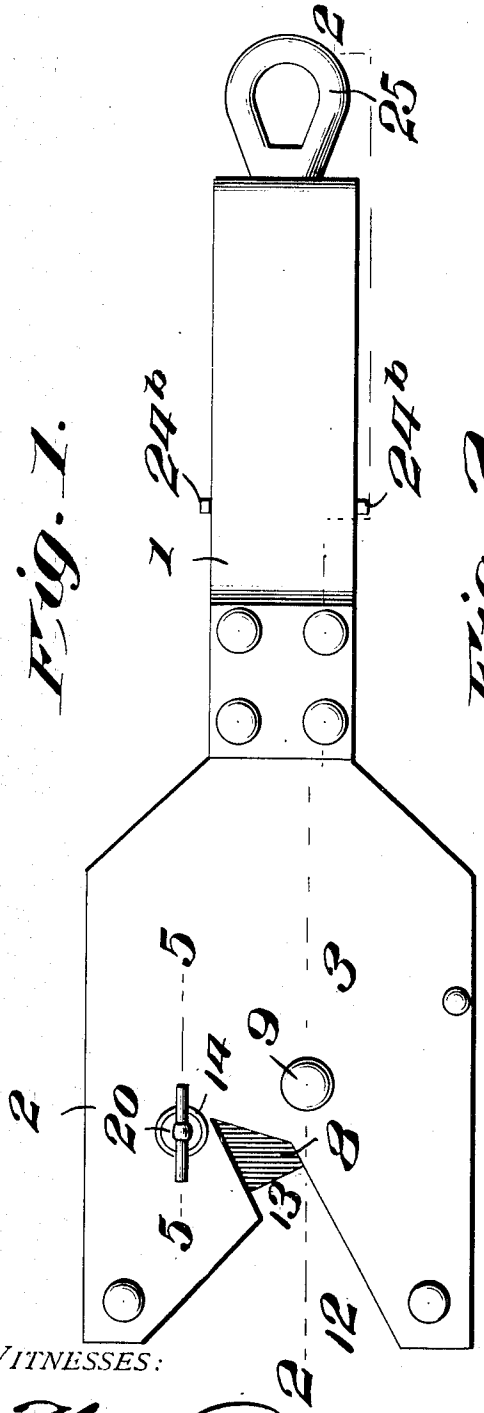
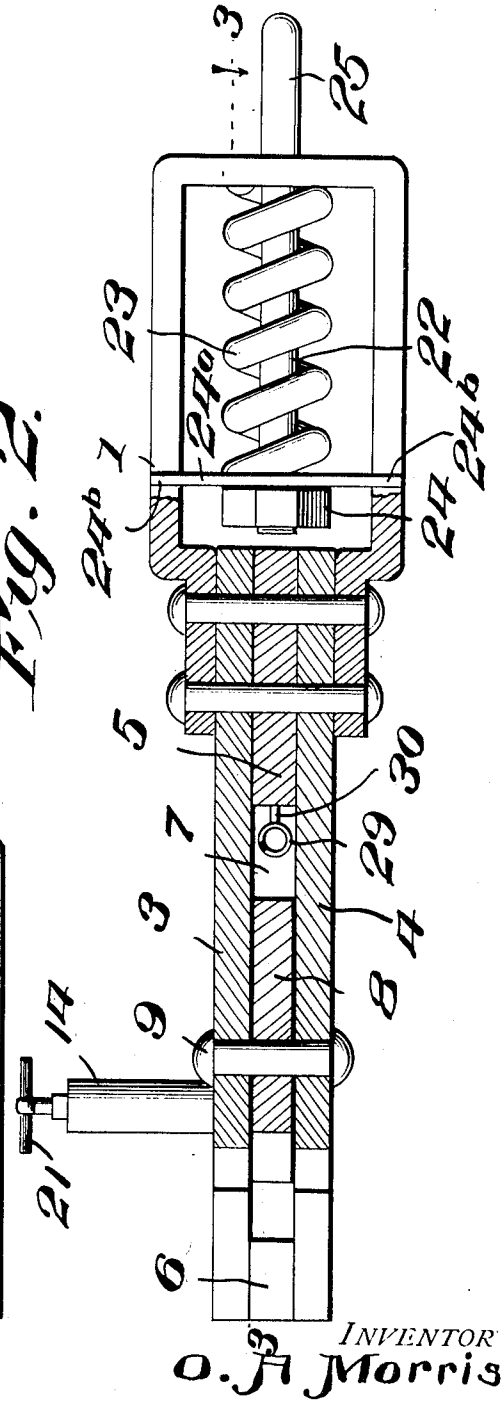


Fig. 2.



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Fig. 3.

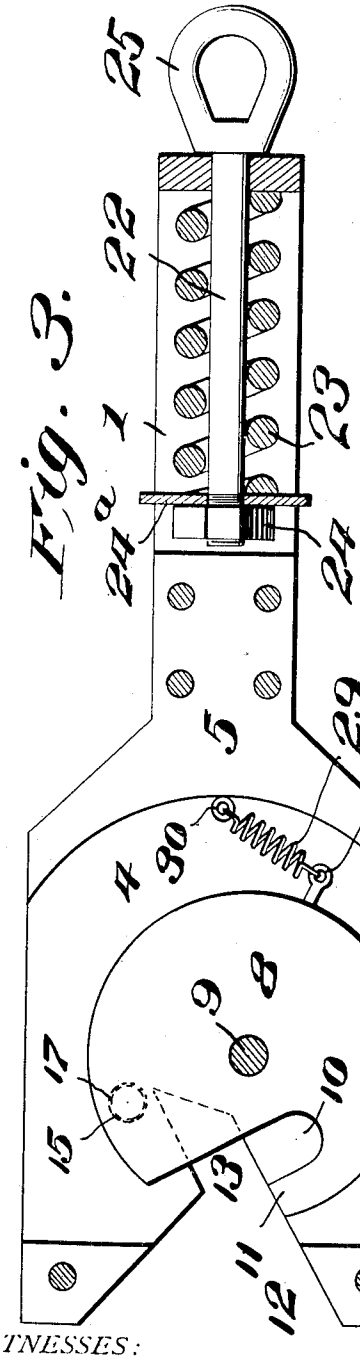


Fig. 5.

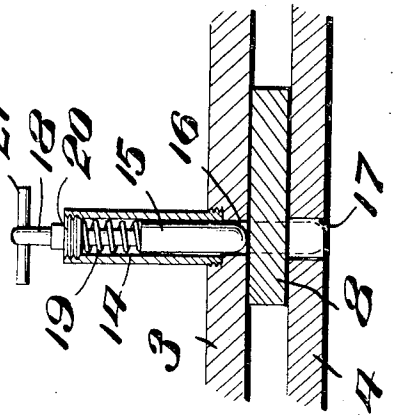
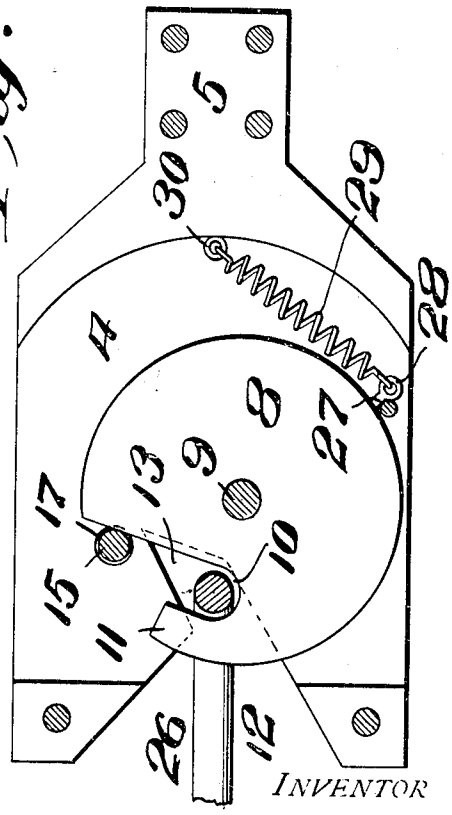


Fig. 4.



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UNITED STATES PATENT OFFICE.

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COUPLING.

No. 856,795. Specification of Letters Patent. Patented June 11, 1907.

Application filed February 21, 1907. Serial No. 358,707.

To all whom it may concern.

Be it known that I, ORA A. MORRIS, a citizen of the United States, residing at Salem, in the county of Washington and State of Indiana, have invented certain new and useful Improvements in Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in couplers and more particularly to that class adapted to be used for connecting separators to traction engines and coupling together railway trains, street cars and like rolling stock, and my object is to provide means for automatically operating the coupler.

A further object is to provide means for automatically locking the parts in their coupled position.

A still further object is to provide means for releasing the coupling link when the locking mechanism is operated to release the coupling mechanism.

Other objects and advantages will be hereinafter referred to and more clearly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a top plan view of my improved coupler complete, showing the same in position to be coupled. Fig. 2 is a longitudinal sectional view as seen on line 2—2 Fig. 1. Fig. 3 is a sectional view as seen on line 3—3 Fig. 2, showing the parts in their uncoupled position. Fig. 4 is a similar view showing the parts in their coupled position, and, Fig. 5 is a detail sectional view as seen on line 5—5 Fig. 1.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates my improved form of draw bar which is provided at its outer end with a head 2.

The head 2 is formed by upper and lower plates 3 and 4 between which are disposed blocks 5 and 6, the block 5 being at the junction between the head and the draw bar while the blocks 6 are at the outer end of the head, said blocks spacing the plates apart to form a cavity 7, in which is rotatably mounted, a coupling disk 8, said disk being held in position between the plates 3 and 4 by means of a pivot pin 9.

The disk 8 is preferably circular and is provided at a point in its periphery with a V-shaped notch which terminates in a slot 10, the slot being in line with one face of the V-shaped notch and at right angles to the opposite face thereof, thereby forming a locking knuckle 11 on the disk 8. The heads 3 and 4 are likewise provided at their outer ends with substantially V-shaped notches 12 which terminate in slots 13, said slots being likewise at the same angle with one wall of the V-shaped notches 12, the slot 10 being at right angles to the longitudinal plane of the slots 13 when the disk 8 is open thereby disposing one wall of the slot 10 across the path of the slots 13 and disposing the end of the knuckle 11 in line with one wall of the V-shaped notches 12 and entirely out of the path of an object entering the notches 12.

Extending upwardly from the plate 3 is a tubular socket 14 which is preferably disposed adjacent the inner end of the slot 13 and to one side thereof, said socket being preferably threaded into the plate 3 and has mounted therein a coupling pin 15 which is adapted to descend, when the disk 8 is in its closed position and hold the same against casual rotation, the plates 3 and 4 being provided with registering bores 16 and 17 respectively, through which the coupling pin extends.

The upper end of the pin 15 is reduced in size to form a stem 18 around which is disposed a spring 19, said spring being held in position on the stem 18 by having one of its ends resting against the enlarged portion of the pin 15 and its upper end against a cap 20 which is threaded into the upper end of the socket 14, said cap being provided with an opening to receive the stem 18.

The upper end of the stem 18 is provided with any suitable form of handle 21 so that the coupling pin may be manually elevated when it is desired to uncouple the car. The draw bar 1 is secured to an object in any preferred manner and is made yielding by inserting a bolt 22 through one end of the draw 1 and placing thereon a spring 23 which is held in position upon the bolt by means of a nut 24 while the opposite end of the bolt 22 is provided with an eye 25 and by which means the same may be secured to the object.

In order to hold the bolt 22 parallel with the longitudinal center of the draw bar 1, I dispose between the end of the spring 23 and nut 24 a plate 24^a which is provided at each end with fingers 24^b which extend over the edges of the draw bar 1 and slide thereon, said fingers forming a slot to receive the walls of the draw bar.

When it is desired to couple cars or other rolling stock together, the usual form of link 26 is secured in the coupler of one car so that the free end thereof will enter the V-shaped notches 12 in the opposite coupler when two of the cars are brought together and the end thereof will engage the wall of the slot 10, disposed across the slots 13 which will result in rotating the coupling disk 8 and entering the knuckle 11 through the slot in the link 26 and by the time the couplers are brought together, the coupling disk 8 will have rotated a sufficient distance to clear the coupling pin 15 whereupon the spring 19 will direct the pin 15 longitudinally through the bores 16 and 17 and in front of one wall of the slot 10 at the same time the knuckle 11 will have moved through the link 26 a sufficient distance to completely close the slots 13 and confine one end of the link therein thereby automatically coupling the cars together.

When the coupler is employed in connection with threshing outfits one of the couplers may be dispensed with and the link 26 secured directly to the object to be hauled.

In order to rotate the disk 8 in the opposite direction to release the link 26, I secure to the periphery of the disk a lug 27 which is provided at its free end with an eye 28 in which is secured one end of a spring 29, the opposite end of said spring being secured to an eye 30 carried by the block 5, the lug 27 being so located upon the periphery of the disk 8 that the spring 29 will be contracted when the disk is rotated to release the link 26 and will be expanded when the disk is rotated to lock the link in position in the coupler so that when the coupling pin 15 is elevated sufficiently to release the disk 8, the spring 29 will immediately contract and rotate the disk 8 to its open position and by reference to Fig. 3 of the drawings, it will be seen that when the disk is in its opened position, a portion thereof will be directed between the bores 16 and 17 so that the coupling pin will be prevented from descending until the disk is again rotated to engage the link.

It will now be seen that I have provided a very cheap and durable form of coupler and one that will automatically engage the link to secure the cars together.

It will further be seen that I have provided means for readily releasing the link from the coupler so that the cars may be separated.

What I claim is:

1. In a coupler of the class described the combination with a draw bar having a head at one end thereof and a coupling disk rotatably mounted in said head; of a coupling pin, a socket for said pin, a spring surrounding said pin and adapted to direct the same downwardly when the disk is in its closed position and a spring adapted to rotate said disk when the coupling pin is released therefrom.

2. The herein described coupler comprising the combination with a draw bar; of a head connected to said draw bar comprising plates, said plates having notches in their outer ends, spacing blocks interposed between said plates a disk rotatably mounted between said plates, said disk having a slot extending inwardly from one face thereof, a knuckle extending from one side of said disk, a link adapted to enter the notches in the plates and engage the disk whereby said disk will be rotated and the knuckle entered into the link, a pin slidably mounted in one of the side plates and adapted to hold the disk in its closed position, and means to return the disk to its nominal position when the pin is released.

3. A coupler of the class described comprising a draw bar, plates secured to one end of said draw bar, spacing blocks interposed between said plates whereby a cavity will be formed between the plates, said plates having notches in their outer ends terminating in slots, a disk rotatably mounted in the cavity and having a slot extending inwardly from the face thereof, a knuckle at one end of said slot, a link adapted to enter the slots in the plates and rotate the disk, whereby the knuckle on said disk will engage the link, means to engage the disk when rotated, and additional means to return the disk to its nominal position when the same is released.

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

ORA A. MORRIS.

Witnesses:
HARVEY MORRIS,
HARRY E. MARKS.