No. 640,227. Patented Jan. 2, 1900.

G. D. ROWELL.

CAR STARTER OR MOVER.

(Application filed Mar. 27, 1899.)

(No Model.)

Fig. 1.

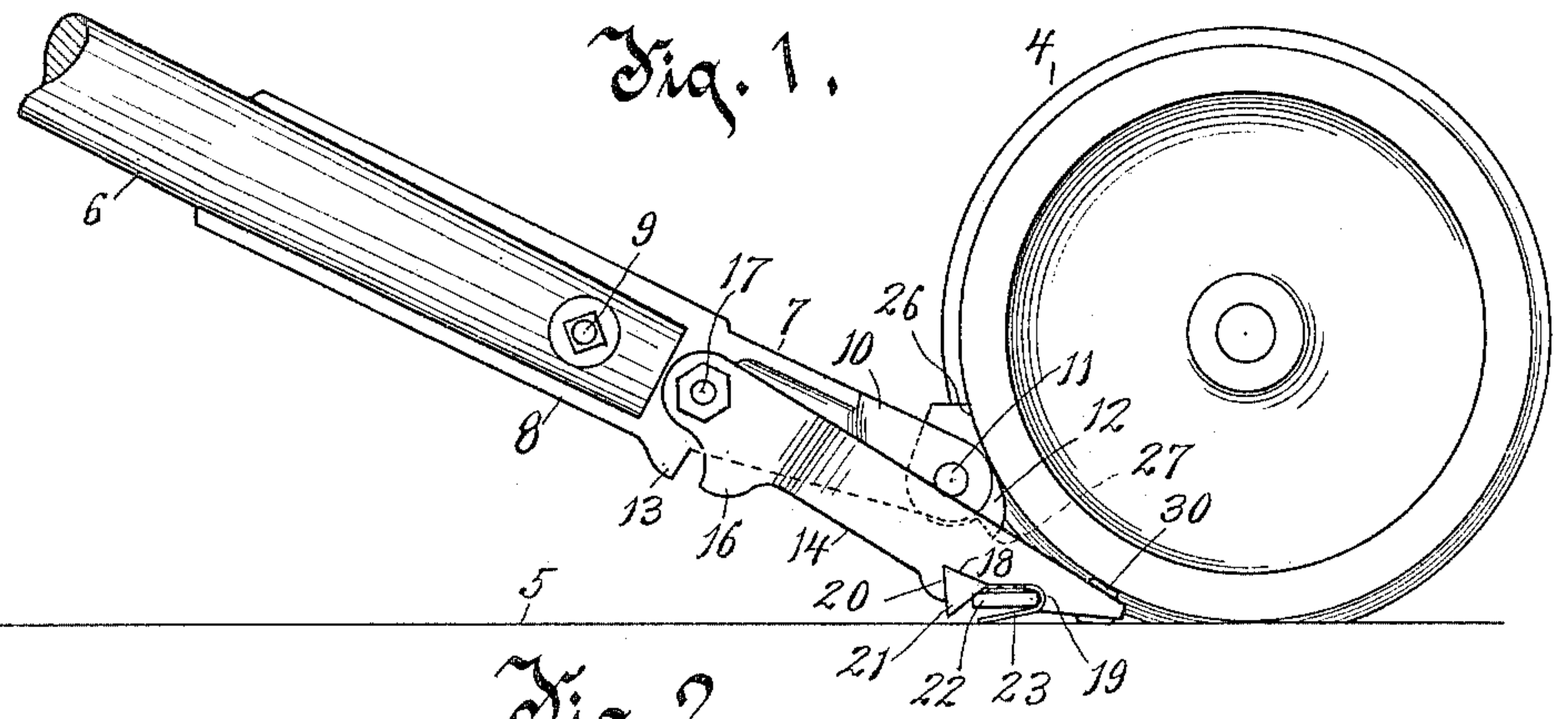


Fig. 2.

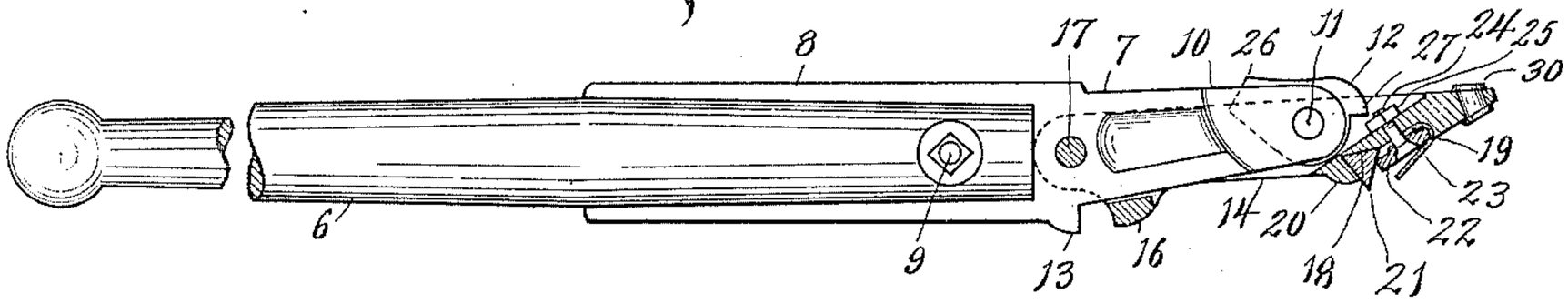


Fig. 3.

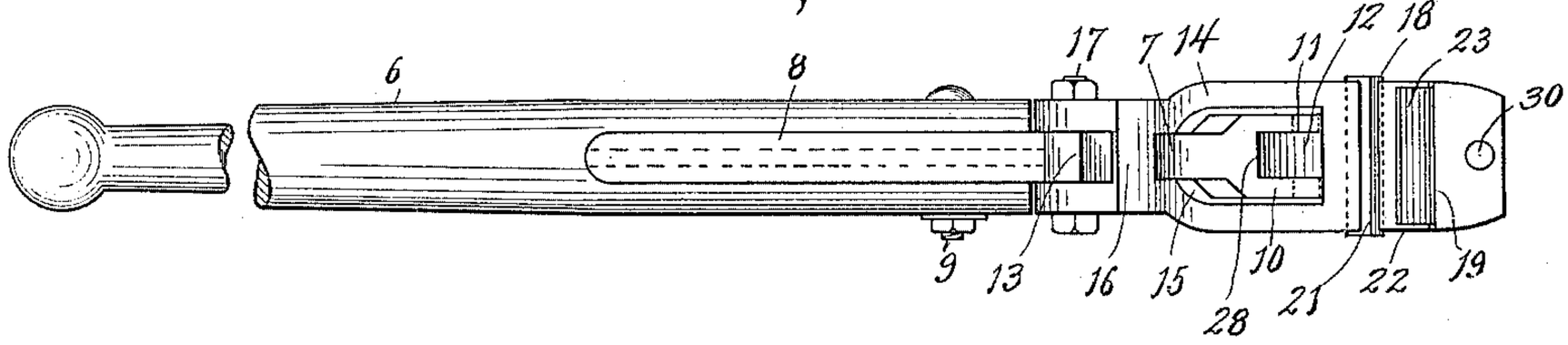
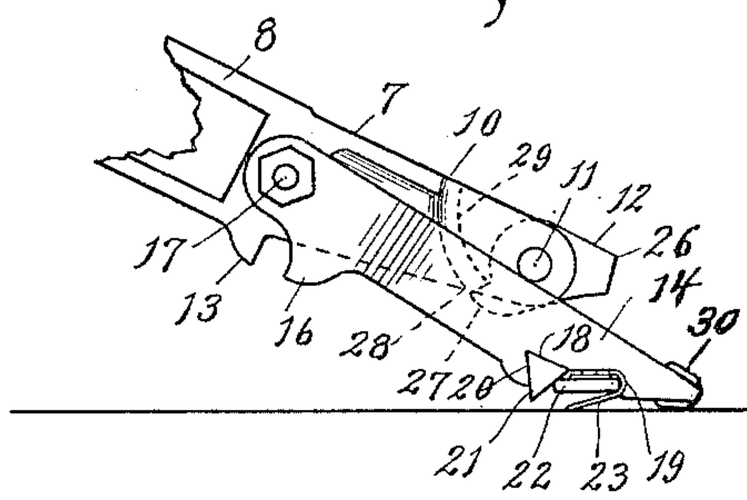


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUILFORD D. ROWELL, OF APPLETON, WISCONSIN.

CAR STARTER OR MOVER.

SPECIFICATION forming part of Letters Patent No. 640,227, dated January 2, 1900.

Application filed March 27, 1899. Serial No. 710,633. (No model.)

To all whom it may concern:

Be it known that I, GUILFORD D. ROWELL, of Appleton, in the county of Outagamie and State of Wisconsin, have invented a new and useful Improvement in Car Starters or Movers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in car starters or movers.

The primary object in view is to provide an improved construction wherein the leverage is adjustable in order to provide for readily moving heavy railway-cars under one adjustment or for moving ordinary cars under another adjustment and at an increased rate of speed.

A further object contemplated is to provide an improved construction possessing the advantages of simplicity, cheapness, and maximum wearing qualities.

With the above primary and other incidental objects in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a view of a fragment of my device, showing it properly applied to the wheel of a car and the cam adjusted to the position for securing a short leverage. Fig. 2 is a detail view of the device, parts being in section and parts broken away, showing the cam in its normal position when the device is not in use. Fig. 3 is a view of the under side of the device, and Fig. 4 is a detail fragmentary view showing the adjustment of the cam to produce a long leverage.

Referring to the drawings, the numeral 4 indicates a car-wheel, and 5 the rail of the track on which said wheel is adapted to travel.

My improved starter consists of three principal parts or members, the numeral 6 indicating the handle portion thereof, which is preferably made of wood in order to secure as much lightness as possible. Another member or part consists of a casting 7. This casting is formed with a projecting arm 8, which arm is I-shaped in cross-section and is adapted to enter a suitable recess therefor in the end of the handle, the top and bottom flanges of this I-shaped arm resting, respectively, upon the top and bottom of the handle. This arm is rigidly secured to the handle by means of a transverse bolt 9, which passes through the handle and through the connecting-web of the I-shaped arm, as clearly shown. This casting is preferably composed of malleable iron, and its forward end is bifurcated, as indicated at 10. The furcate parts are connected by a transverse bolt 11, which forms a pivot for a cam 12. The casting is provided on its under edge just in advance of the arm 8 with a depending lug 13.

The numeral 14 indicates a wedging-shoe, which is also preferably made of malleable iron. The forward extremity or nose of this shoe is preferably solid and beveled upon its under side. From its solid front extremity said shoe is slotted rearwardly, as indicated at 15, forming a yoke, the slot being interrupted at one point upon the under side by a transverse connecting-web 16. The projecting portion of the casting 7 is adapted to be received in the slotted or yoked portion of the shoe, and the rear ends of the side pieces of said yoke are pivoted to the casting 7 by means of a transverse pivot-bolt 17. The nose portion of the shoe, upon the under side thereof, is provided with a recess 18, said recess forming two shoulders 19 and 20, respectively, the latter being beveled to accommodate and receive thereagainst the inclined side of a spur 21, said spur being preferably triangular in cross-section, so as to present a plurality of angles or corners. Adapted to bear against the opposite side of this spur is an inclined plate 22, the forward edge of said plate resting in the angle of the shoulder 19.

The numeral 23 indicates a flat spring-plate, preferably of steel, the free edge of which being below the plate 22, so as to leave a space therebetween, and said free edge also being just in advance of the angle or corner of the spur. The forward edge of this spring-plate is bent around between the shoulder 19 and the edge of the plate 22 adjacent to said shoulder and is clamped between the upper side of the plate 22 and the bottom of the recess 18. The rear edge of the plate 22 is held in firm engagement with the spur by means of a screw-bolt 24, whereby the spur is held firmly in place against the shoulder 20. This screw-bolt passes through plate 22 and through the nose of the shoe, the upper end of the bolt

being threaded for a desired distance to receive thereon a locking-nut 25.

The pivoted cam 12 is formed with a projecting toe 26, terminating in a squared end. One edge of the cam is also formed with a shoulder 27, which is adapted when the cam is turned to the Fig. 4 position to contact with a stop 28, formed by the under front edge of the casting 7. Between the furcate parts of the bifurcated portion 10 of the casting 7 is a curved surface 29, forming a seat for the cam when said cam is turned to the Fig. 2 position. A steel plug 30 is riveted through the nose of the shoe and hardened, whereby the maximum wearing capacity and long life to the wearing parts are secured.

In the operation of my invention when it is desired to move heavy railway-cars the device is slid along the rail of the track until the nose of the shoe is brought in proper position beneath the wheel, as shown in Fig. 1. When it is thus slid along and brought into position, it will be seen that only the forward extremity of the nose of the shoe and the free edge of the flat plate-spring 23 bear on the rail. This plate-spring therefore prevents the corner or angle of the spur from coming into contact with the rail until pressure is brought to bear on the handle. It will therefore be obvious that this spring-plate prevents undue wear on the angle of the spur, only permitting said spur to come into operation when the actual work of starting the car begins. From Fig. 1 it will be seen that the nose of the shoe extends into the contracted space between the rail and the car-wheel. In the adjustment of the cam shown in Fig. 1 said cam is turned back, so as to produce a short leverage, and thereby well adapting the device for moving heavy railway-cars, as by reason of the shortening of the leverage the power against the car-wheel is increased. In Fig. 4 I have shown an adjustment of the cam whereby the leverage is lengthened. This adjustment adapts the device for ordinary cars, which of course by reason of the increased length of the short arm of the lever will be moved with very much greater rapidity. Under either of the adjustments of the cam just explained and when the device is properly applied to the car-wheel all that is necessary in order to start the car is simply to bear down on the end of the handle 6. This will cause said handle and its casting 7 to turn on the pivot-bolt 17 and cause an up pressure of the cam 12 on the periphery of the car-wheel. The extent of this down pressure on the handle is limited by contact of the depending lug 13 of the casting 7 with the transverse connecting-web 16 of the shoe. The movement just described will cause the car to travel a certain distance, and if it is desired to move the car a further distance the device is again adjusted to position and the same operation repeated.

My improved car starter or mover possesses the great advantage of combining power and speed. In view of the fact also that it is compound there is no danger of slipping.

What I claim as my invention is—

1. In a car starter or mover, the combination, of a handle, a member or part rigidly connected to one end of the handle and projecting therefrom, and a cam pivoted in the forward extremity of said forwardly-projecting member or part, and provided with a projecting toe, said cam adapted to be thrown forwardly and rearwardly on its pivot, the forward turning increasing the length of the forwardly-extending member or part, and the rearward turning decreasing the length of said member or part, and said cam when thrown forwardly adapted to be held at such position as to bring its toe into position to engage a car-wheel, and when thrown rearwardly being brought to such position as to have its side edge engage a car-wheel.

2. In a car starter or mover, the combination, of a handle, a member or part rigidly connected to one end of said handle and projecting therefrom, a cam pivoted in the forward extremity of said forwardly-projecting member or part, and provided with a projecting toe, said cam adapted to be thrown forwardly and rearwardly on its pivot, the forward turning increasing the length of the forwardly-extending member or part and the rearward turning decreasing the length of said member or part, and said cam when thrown forwardly adapted to be held at such position as to bring its toe into position to engage a car-wheel, and when thrown rearwardly being brought to such position as to have its side edge engage a car-wheel, and a shoe pivoted to the forwardly-projecting member or part, and adapted to have its forward extremity or nose pass into the space between a car-wheel and the rail of a track.

3. In a car starter or mover, the combination, with a handle having a forwardly-extending member or part, said forwardly-extending member or part formed or provided with a stop, of a cam pivoted in the forwardly-extending member or part, and provided with a projecting toe, and also provided with a projecting shoulder, said shoulder adapted to contact with the stop on one adjustment of the cam.

In testimony whereof I affix my signature in presence of two witnesses.

GUILFORD D. ROWELL.

Witnesses:

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C. D. COLLIFFE.