

(No Model.)

J. W. CRESWELL.
CAR COUPLING.

No. 453,375.

Patented June 2, 1891.

Fig. 1.

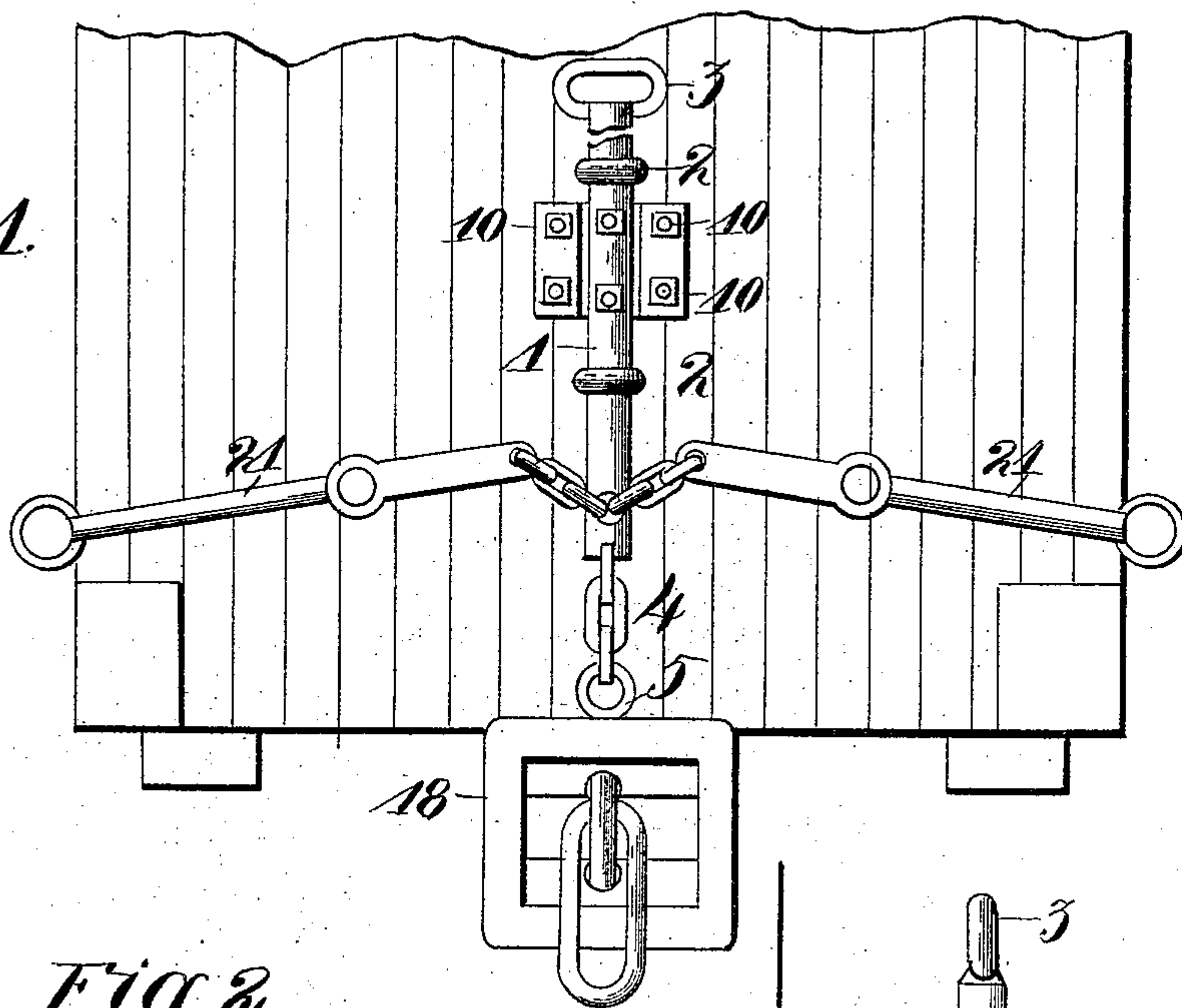


Fig. 2.

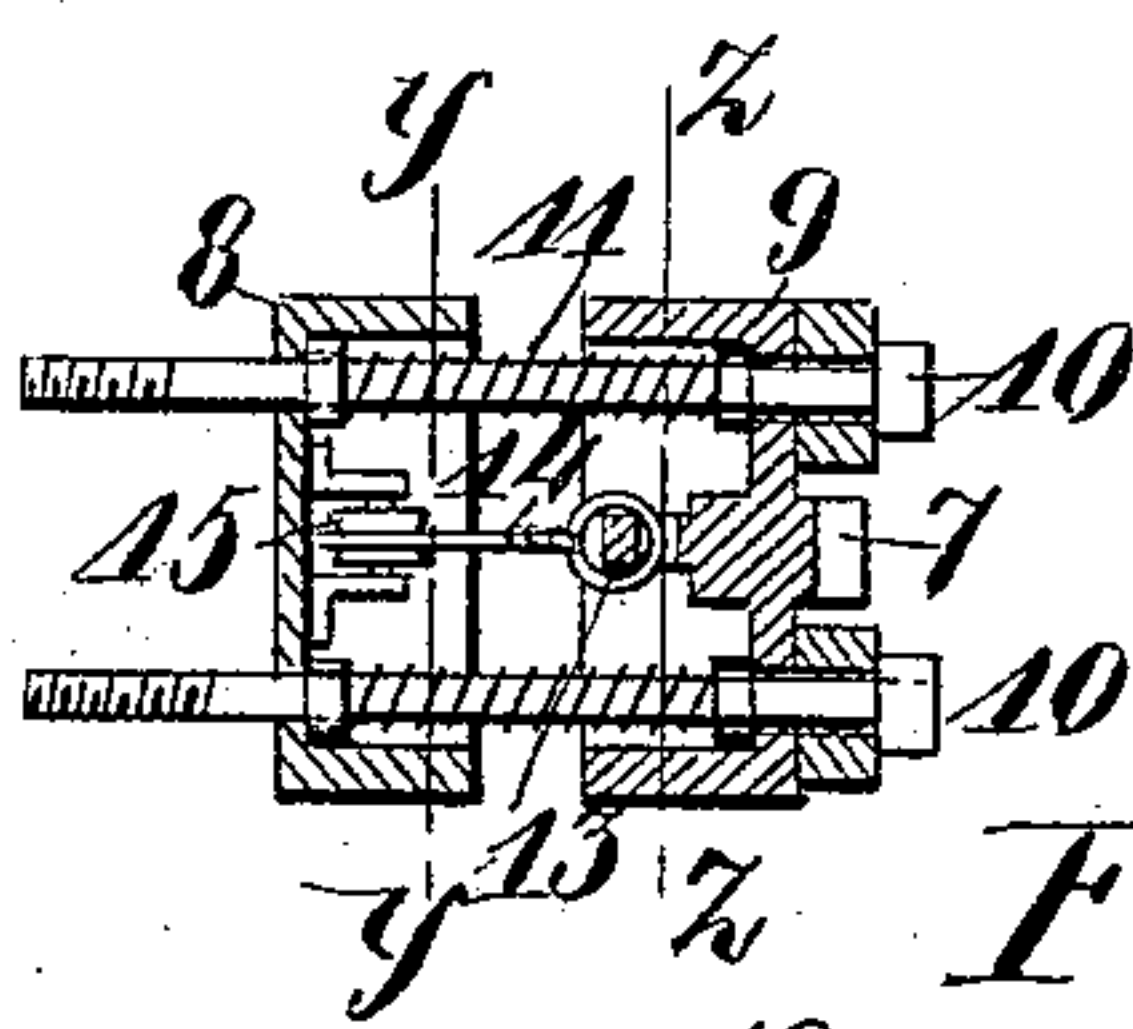


Fig. 3.

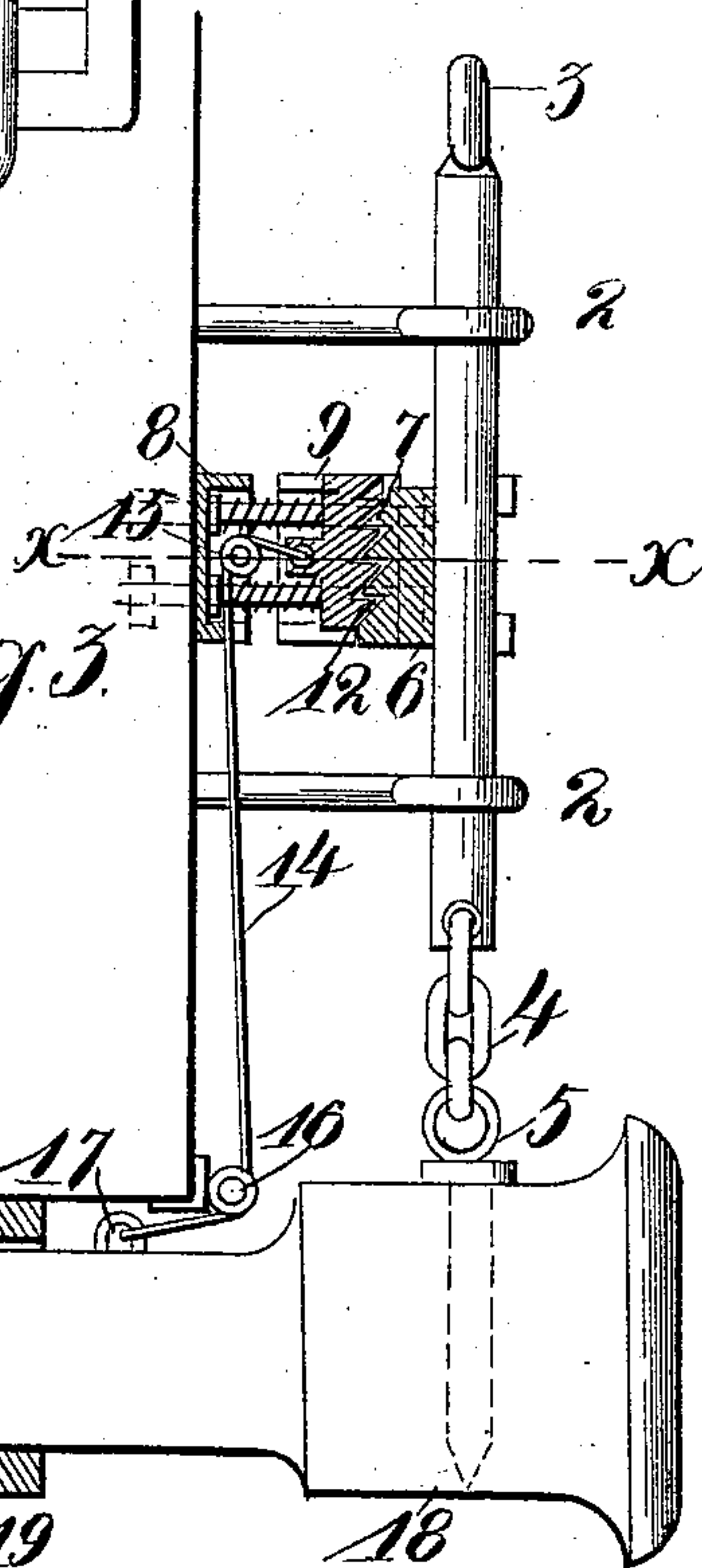
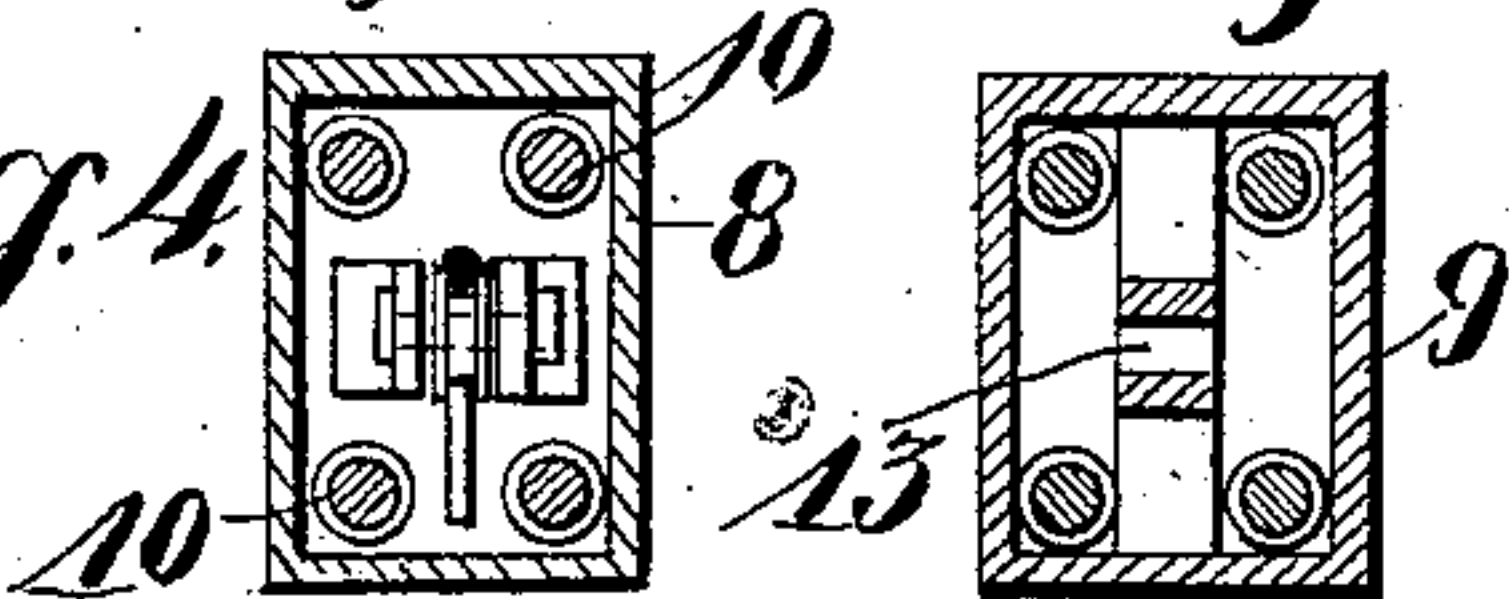


Fig. 5.

Fig. 4.



Witnesses

D. J. Keller.

Edward E. Langan,

Inventor

James W. Creswell.

By his Attorneys, Higdon & Higdon.

UNITED STATES PATENT OFFICE.

JAMES W. CRESWELL, OF FLAT ROCK, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 453,375, dated June 2, 1891.

Application filed February 24, 1891. Serial No. 382,554. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. CRESWELL, of the city of Flat Rock, Crawford county, State of Illinois, have invented certain new and useful Improvements in Automatic Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in automatic car-couplings; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is an end view of a car, showing my invention applied thereto. Fig. 2 is a horizontal section taken on the line *xx* of Fig. 3. Fig. 3 is a vertical section. Fig. 4 is a vertical section taken on the line *yy* of Fig. 2, and Fig. 5 is a similar section taken on the line *zz* of Fig. 2.

Referring to the drawings, 1 indicates a vertical operating-rod, which is firmly secured in horizontal arms or supports 2. Said vertical operating-rod is free to move in a vertical direction in its bearings in said supports. Said rod is provided at its top portion with a handle 3 for manipulating the same. The lower portion of said rod is provided with a perforation in which one end of a small chain 4 is secured. The other end of said chain is secured to the coupling-pin 5. Firmly secured to said vertical operating-rod 1 is a downwardly-formed ratchet-tooth plate 6, having a series of ratchet-teeth 7.

8 indicates a rearward boxing, and 9 indicates a similar boxing. Located in boxing 8 are four bolts or rods 10. Encircling said rods or bolts are spiral springs 11. Said boxing 9 is provided with a series of upwardly-formed ratchet-teeth 12, adapted to engage with teeth 7 of plate 6. Boxing 9 is adapted to slip over bolts 10 and yieldingly rest upon the spiral springs encircling said bolts. Boxing 9 is provided with a perforated lug 13, to which one end of a chain or cord 14 is adapted to be secured for pulling the same backwardly, thereby disengaging teeth 12 of said boxing with the teeth 7 of plate 6, as can be readily perceived by referring to Fig. 3.

One end of cord or chain 14 is secured to

perforated lug 13, then passes across and over a pulley 15, thence downwardly and over a similar pulley 16, and terminates at a staple 17, in which it is secured, which staple is secured to the draw-bar 18. As boxing 9 is yieldingly mounted on bolts 10 and is free to be drawn backward a short distance, it can be readily perceived that when a pressure or shock is applied to draw-bar 18 said pressure will be transmitted to the cord 14. Cord 14 will transmit the same to ratchet-toothed boxing 9, which will result in pulling said boxing backward against boxing 8, or nearly so, and thereby disengaging the ratchet-teeth 12 with ratchet-teeth 7, and permit the vertical operating-rod 1, and consequently the coupling-pin 5, to fall by the action of gravity, and thereby effect the desired coupling. The draw-bar 18 is yieldingly secured to the bottom of the car by means of bearings 19 and spiral spring 20.

21 indicates operating-levers, which are pivotally secured to the end of the car, and one arm of said levers is secured to vertical operating-rod 1 by means of chains 22. By the aid of these levers the vertical operating-rod 1, and consequently the coupling-pin 5, secured to the same, may be elevated from the ground, or the pin may be elevated or withdrawn partially from the draw-bar by taking hold of handle 3 of the vertical operating-rod 1 on top of the car.

It will be readily perceived that I can manipulate my coupling equally as well on the ground as on top of the car.

The first step in coupling the cars of course is to elevate pin 5 and get the same in the right position for coupling, which is accomplished as hereinbefore stated. The pin should never be pulled clear out of the hole in the draw-bar, as it is not liable to strike the hole as it falls by the action of gravity. For this reason the end of the point should be left in the coupling-pin hole, so as to guide the same when it falls.

Having fully described the mechanical parts of my invention, I will now proceed to describe in detail its operation.

When it is desired to effect a coupling, the operator should lift the operating-rod by either of the means, as hereinbefore stated, and engage the teeth 7, formed on plate 6, which plate

is rigidly secured on said rod, with the teeth 12 formed on the yielding-mounted boxing 9. By this engagement the pin 5 will be brought about the appropriate position. 5 When the opposite car strikes the draw-bar 18, the concussion produced thereby will cause the boxing 9 to be pulled in a rearward direction or against frame or boxing 8, which will result in disengaging teeth 12 and 7, thereby 10 permitting vertical operating-rod 1 and pin 5 to fall by the action of gravity.

Having fully described my invention, what I claim is—

1. A car-coupling consisting of a vertical 15 operating-rod 1, to which a coupling-pin, such as 5, is adapted to be secured, a handle 3, formed on the upper end of the same for manipulating said vertical rod, supports 2 for holding said rod in the desired adjustment 20 relative to the operative mechanism, plate 6, rigidly secured to said vertical operating-rod, adapted to rest on or firmly against the yielding-mounted boxing 9 for holding said vertical rod, and consequently the coupling-pin 25 attached thereto, in an elevated position, and means for tripping said vertical rod, substantially as set forth.

2. A car-coupling consisting of a vertical rod, to the lower end of which a coupling-pin, 30 such as 5, is adapted to be secured, levers 21, secured to said rod for elevating the same from the ground, a ratchet-tooth plate 6, rigidly secured to said rod, a yielding-mounted ratchet-tooth boxing 9, adapted to engage with 35 plate 6, thereby holding said rod in an elevated position, and means for disengaging

said ratchet-toothed plate, substantially as set forth.

3. A car-coupling consisting of a vertical rod 1, ratchet-toothed plate 6, rigidly secured 40 to the same, supports 2 for said rod, ratchet-toothed boxing 9, yieldingly mounted on bolts 10, which bolts are encircled by spiral springs 11, cord or chain 14, one end of which is adapted to be secured to said boxing 9 and 45 the other end adapted to be secured to the draw-bar 18 of the car, substantially as set forth.

4. The combination of a vertical operating-rod 1, supports 2 for the same, ratchet-tooth 50 plates 6, rigidly secured to said rod, pin 5, adapted to be secured to the lower end of said rod, handle 3, formed on the upper end of the same, and levers 21, secured to the same also, for elevating said operating-rod, a ratchet- 55 tooth plate 6, rigidly secured to said rod, boxing 8, in which is located pulley 15, and bolt 10, encircled by spiral springs 11, ratchet-tooth boxing 9, yieldingly mounted on said bolts, the teeth thereof adapted to engage 60 with the teeth formed on plate 6 for holding vertical rod in an elevated position, a cord or chain 14, one end of which is adapted to be secured to boxing 9 and the other to the draw- 65 bar, substantially as set forth.

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

JAMES W. CRESWELL.

Witnesses:

ALFRED M. CALVIN,
JOSEPH M. CRESWELL.