No. 613,715. Patented Nov. 8, 1898.

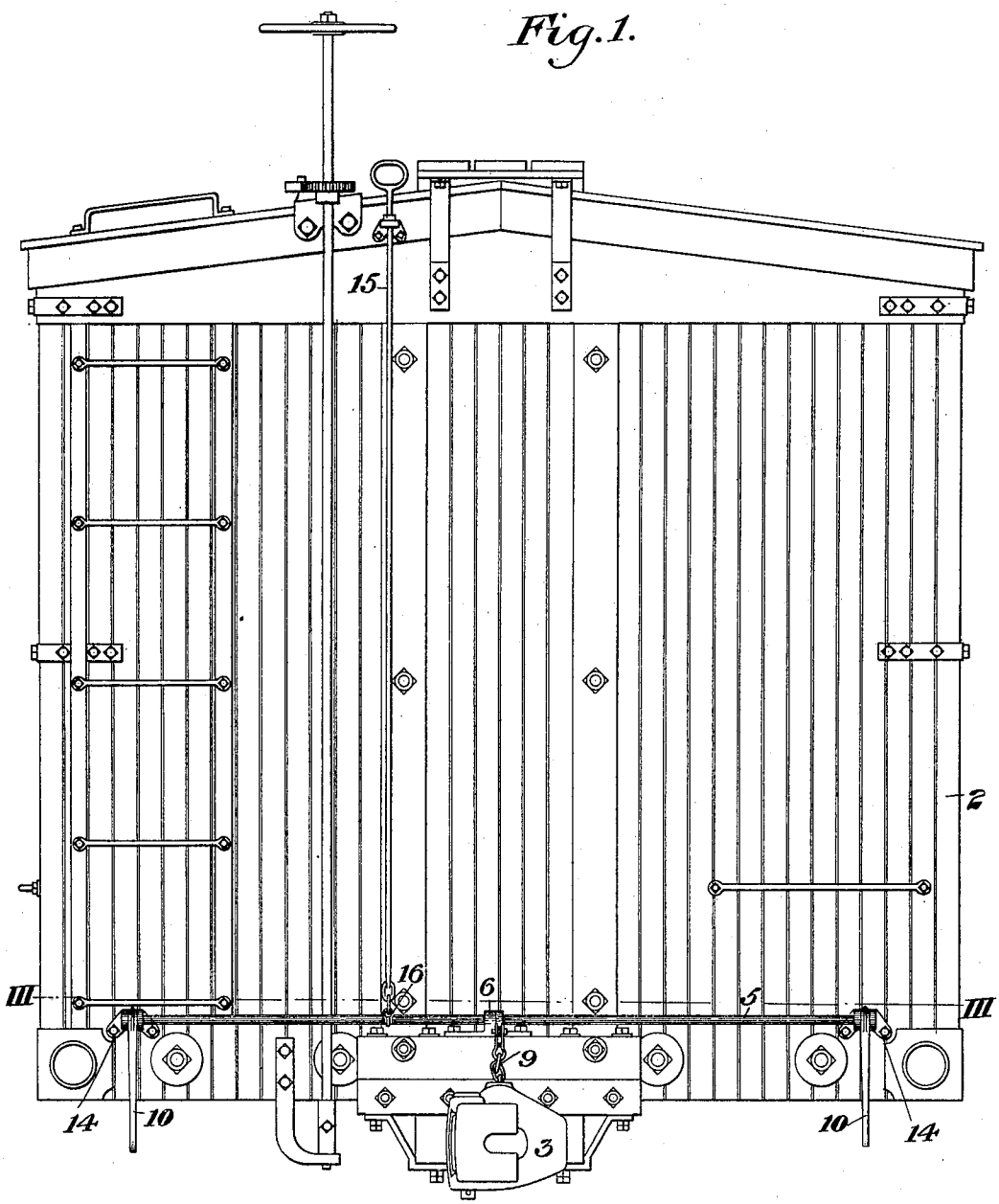
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COUPLING UNLOCKING DEVICE.

(Application filed Dec. 16, 1897.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



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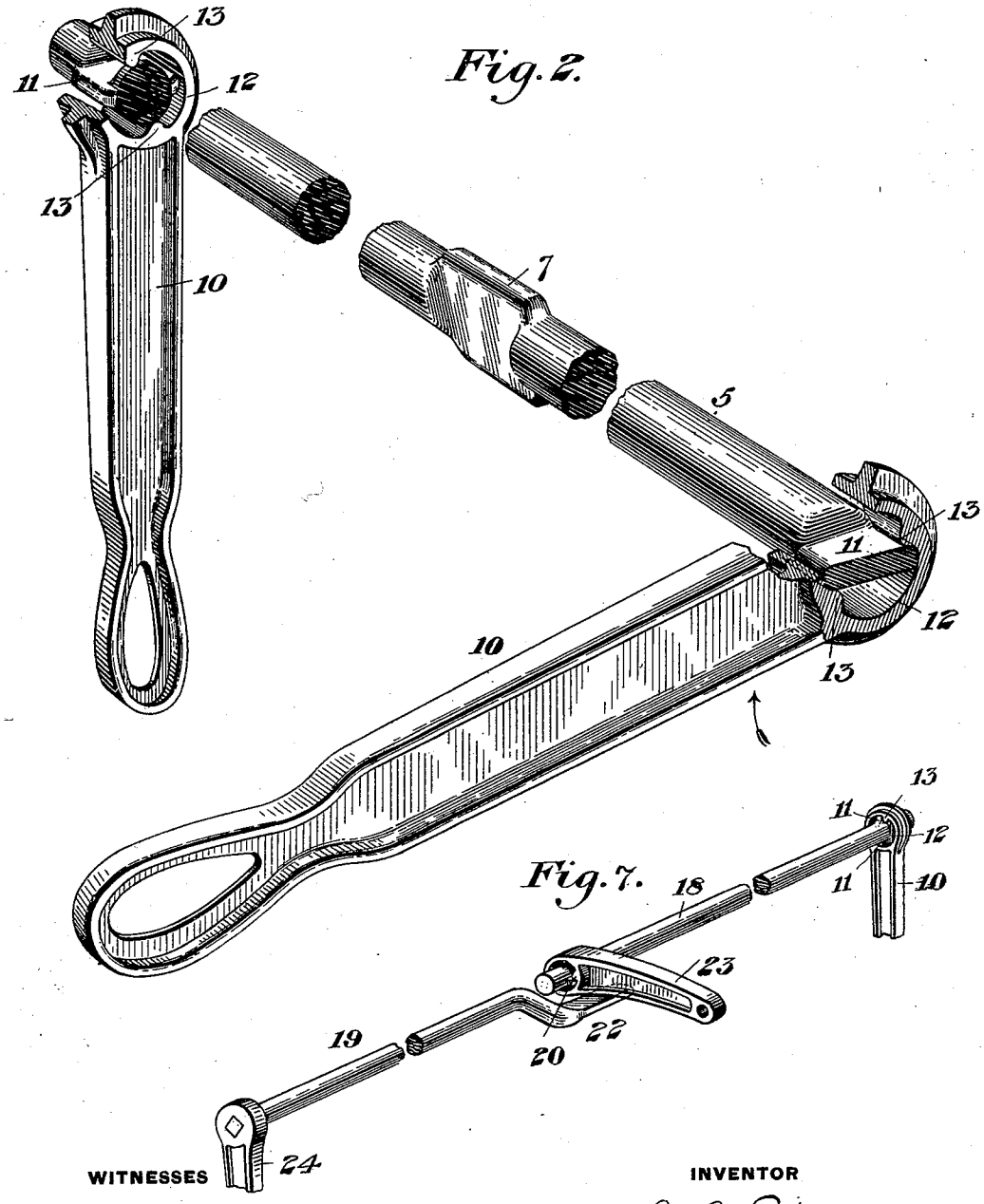


Fig. 2.

Fig. 7.

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Fig. 3.

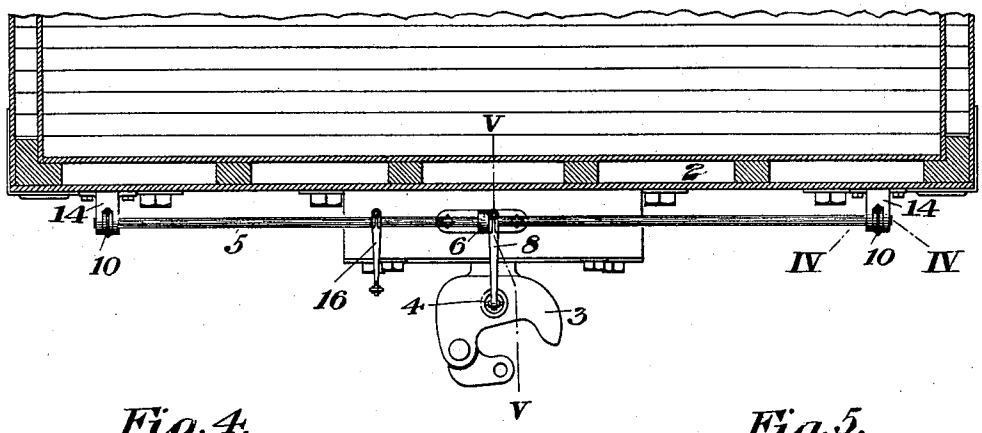


Fig. 4.

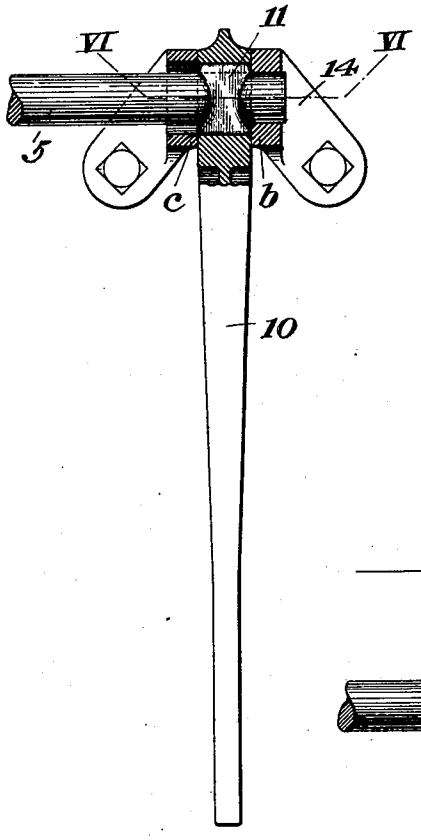


Fig. 5.

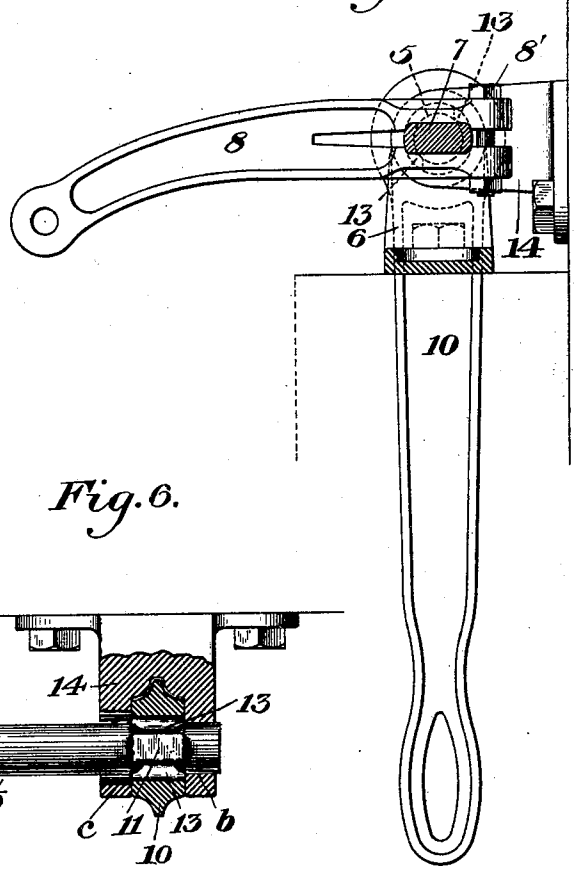


Fig. 6.

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UNITED STATES PATENT OFFICE.

ALFRED A. POPE, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF SAME PLACE.

COUPLING-UNLOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 613,715, dated November 8, 1898.

Application filed December 16, 1897. Serial No. 662,172. (No model.)

To all whom it may concern:

Be it known that I, ALFRED A. POPE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Coupler-Unlocking Mechanism, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows in end elevation a railway freight-car provided with my improvement. Fig. 2 is a perspective view showing the uncoupling-levers and their connection with the operating-shaft. Fig. 3 is a horizontal section on the line III III of Fig. 1, showing in plan view the shaft and its connection with the coupler. Fig. 4 is a vertical section on the line IV IV of Fig. 3, showing the end portion of the shaft in front elevation. Fig. 5 is a vertical cross-section on the line V V of Fig. 3, showing in side elevation the crank-arm by which the shaft is connected to the lock of the coupler and showing also one of the operating-levers. Fig. 6 is a horizontal section on the line VI VI of Fig. 4, showing the connection of the operating-lever to the shaft and the manner of journaling the shaft. Fig. 7 shows another form of operating-shaft I may employ.

In the drawings, 2 represents the end of a box railway-car, 3 is a car-coupler, and 4 is the lock. The purpose of my invention is to provide means for operating such lock in a better and more convenient manner than has been possible heretofore. To that end I employ an operating-shaft 5, which extends transversely across the end of the car toward it sides. At the middle portion this shaft is journaled in a bracket 6 and has a squared or flattened portion 7 to which a crank-arm 8 is applied, the rear portion of this arm being divided, as shown in Fig. 5, and being clamped upon the shaft by a bolt 8′.

The end of the crank-arm 8 is connected to the lock by an ordinary connecting link or chain 9, so that if the shaft is turned in its bearings it will raise the crank-arm and will lift the lock.

For the purpose of operating the shaft I provide the same with hand-levers 10 10, which are not welded or fixed to the shaft, as has been the practice heretofore, but are applied with a ratchet-like connection constituted as follows, Fig. 2: The end of the shaft is flattened, as at 11, and fits within a circular eye or socket 12, formed at the end of the lever and provided with opposite shoulders 13, which, when the lever is raised, are adapted, respectively, to engage diagonally opposite corners on the flattened portion of the shaft. The end portions of the shaft are journaled in brackets 14, applied to the end of the car, each of which brackets is forked or provided with an intermediate slot to receive the eye of the operating-lever. The outer arm *b* of the fork has a round hole, which fits around and constitutes the bearing for the extreme end of the shaft, and the other part *c* of the fork has a larger hole adapted to permit the insertion of the flattened portion 11 of the shaft, which fits between the arms of the fork and which by engaging the inner side of the outer arm *b* holds the shaft from longitudinal displacement. The levers at each end of the shaft are alike, the brackets being made right and left handed, respectively.

In their normal position the levers 10 hang vertically, as shown in Figs. 1, 4, and 5. If it is desired to raise the lock, the trainman standing on either side of the car lays hold upon and raises the lever next to him, bringing it into the position shown at the right hand of Fig. 2. Such raising of the lever will cause the shoulders 13 to engage the edges of the flattened portion 11 and will turn the shaft into the position shown in Fig. 2, so as to raise the crank-arm 8 and lift the lock; but it will have no effect upon the similar lever at the other end of the shaft, which, as shown at the left of Fig. 2, will remain in a vertically dependent position. When the lever which has been raised by the trainman—in the case supposed the right-hand lever—is released, it will drop back into vertical position, and by reason of the gravity of the crank-arm and chain the shaft will likewise turn back into its original position. The lever is thus a "drop-lever," inasmuch as it will drop back into a dependent

position and will act in the manner of a pawl working on a ratchet.

The coupler-lock may be upheld or unlocked by the application to it of any suitable lock-setting device.

For the purpose of operating the shaft not only from its ends, but from the top of the car when desired, I may provide a rod or connection 15, extending from the car-roof to a crank 16, which may be constructed and applied to the shaft in like manner as is the crank 8. By pulling on this connection the shaft may be turned and the lock raised without moving either of the operating-levers 10.

In Fig. 7 I show an improved form of operating-shaft which may be used either with or without my improved connection for the lever. Here the shaft is made in two parts 18 and 19, the part 18 having near its inner end a grooved enlargement engaged by inwardly-projecting ribs 20 of the crank-arm socket 21. The other half of the shaft is bent downwardly at its inner end and extended to form a crank 22, which is positioned below and in the rear of the crank-arm 23 and lifts the same whenever the lever 24 is operated. The lever 24 may have a squared socket fitting upon a squared part of the shaft, as shown at the left hand of Fig. 8, or may have the loose connection above described, as shown at the right hand of this figure. It will be noticed that in this form of shaft the right-hand half may be operated without oscillating the other half.

Within the scope of my invention as defined in the claims changes in the form and construction of the parts of apparatus may be made by the skilled mechanic, since

What I claim is—

1. The combination with a two-part uncoupling-shaft, of a crank-arm fixed to one part of the shaft, the other part having a projection extending out of line from the axis of the shaft and adapted to engage and raise said crank-arm; substantially as described.

2. A coupler-unlocking device comprising a shaft having a flattened portion 11, and a drop-lever having a circular eye shouldered at opposite points to engage said flattened portion and turn the shaft; substantially as described.

3. A coupler-unlocking device comprising a shaft having an angular portion 11, a drop-lever having an eye shouldered to engage the said angular portion, and a forked bracket within which the lever is set; substantially as described.

4. A coupler-unlocking device comprising a shaft, and a drop-lever applied to the shaft, and a forked bracket within which the lever is set; substantially as described.

5. An uncoupling-shaft made in two separate parts, a lever connected to each part, and a lock-operating crank secured to one part, the inner end of the other part having a crank extension arranged to make contact with the lock-operating crank; substantially as described.

In testimony whereof I have hereunto set my hand.

ALFRED A. POPE.

Witnesses:
LOUIS R. TAYLOR,
W. Z. GREENE.