

No. 828,266.

PATENTED AUG. 7, 1906.

A. J. BAZELEY.

UNCOUPLING MECHANISM FOR CARS.

APPLICATION FILED NOV. 7, 1904. RENEWED FEB. 5, 1906.

2 SHEETS—SHEET 1.

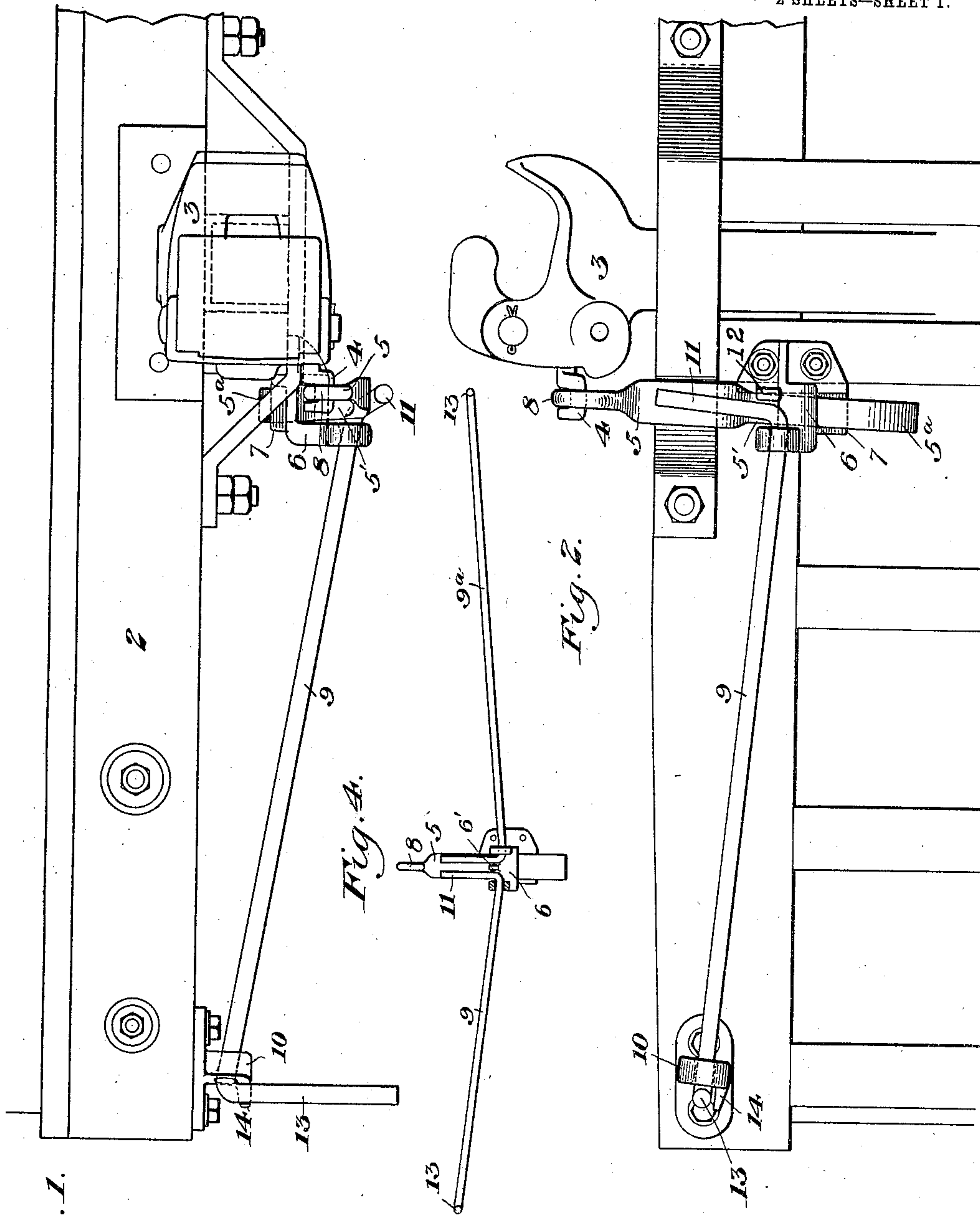


Fig. 1.

Fig. 2.

Fig. 4.

Fig. 3.

WITNESSES

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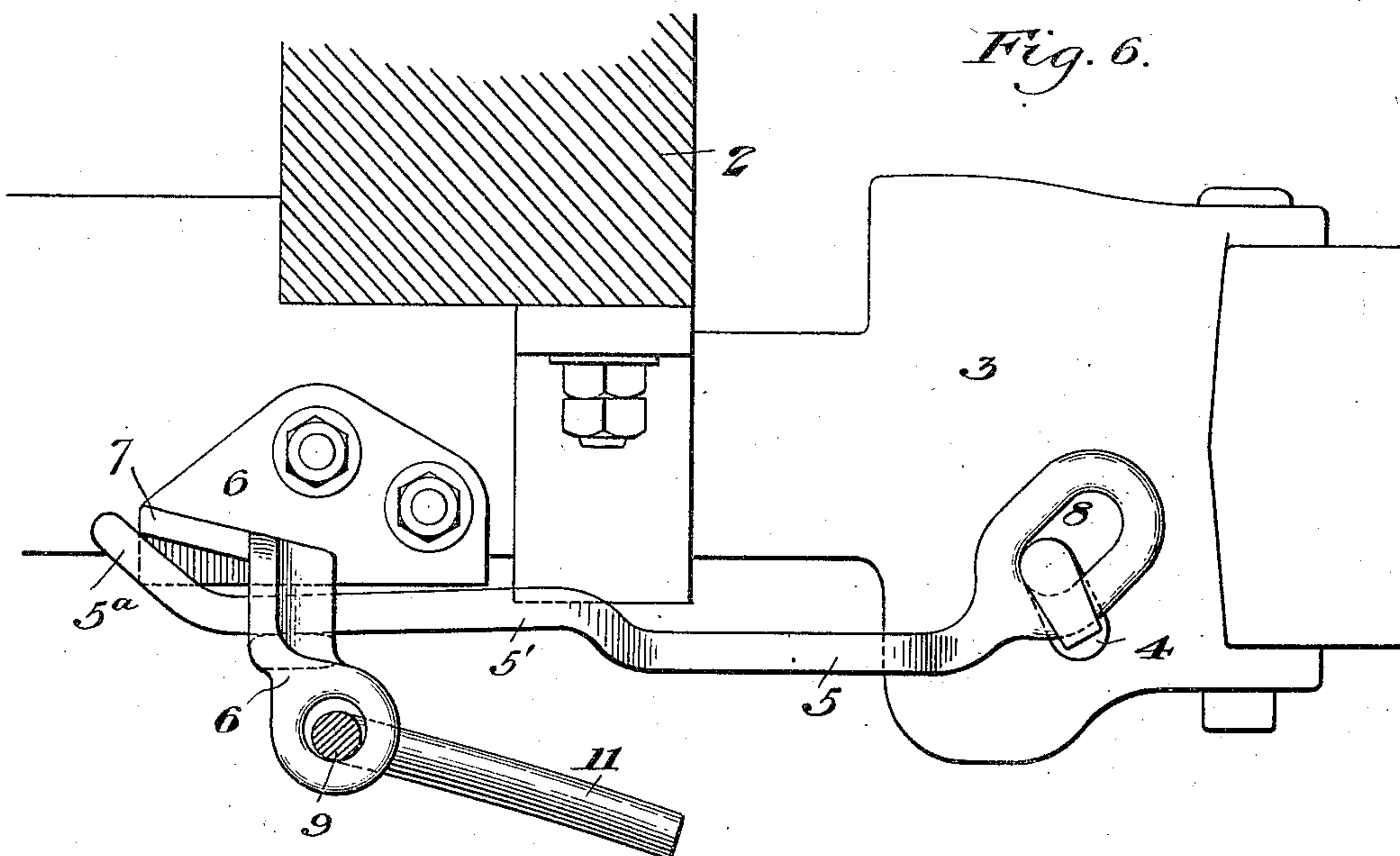
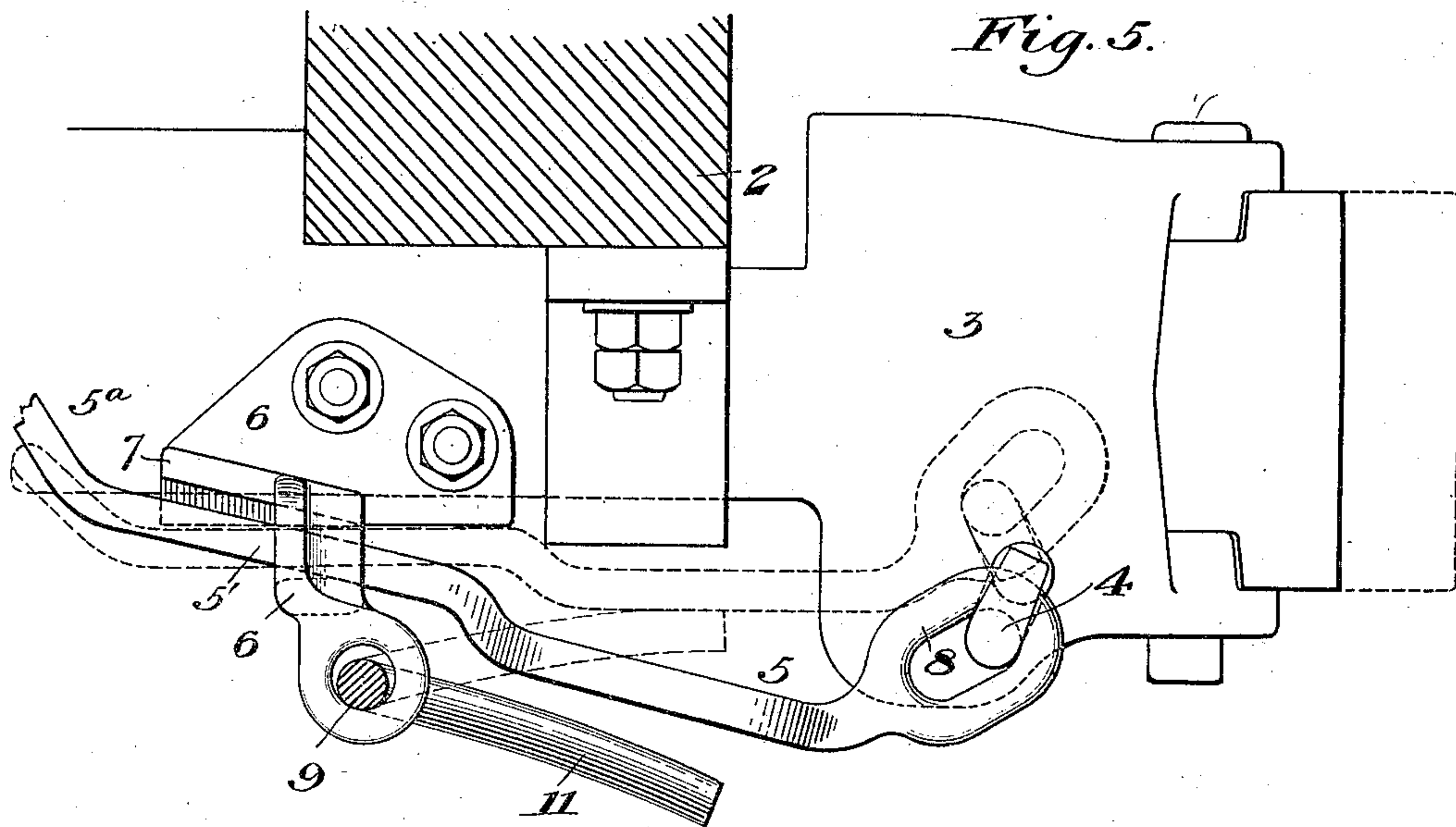
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ARTHUR JAMES BAZELEY, OF CLEVELAND, OHIO, ASSIGNOR TO THE
NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND,
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UNCOUPLING MECHANISM FOR CARS.

No. 828,266.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed November 7, 1904. Renewed February 5, 1906. Serial No. 299,510.

To all whom it may concern:

Be it known that I, ARTHUR JAMES BAZELEY, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Uncoupling Mechanism for Cars, 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 is a front elevation of uncoupling mechanism constructed in accordance with my invention. Fig. 2 is a plan view seen from below. Fig. 3 is a rear view of the bracket. Fig. 4 is an inverted plan view showing a modified construction of the device adapted to be operated from both sides of the car. Fig. 5 is a view on a larger scale, showing in side elevation the uncoupling mechanism, the full lines showing it in the position which it occupies when the coupler is locked and the dotted line showing it in the position which it occupies when the coupler is unlocked; and Fig. 6 is a view which illustrates the automatic opening of the coupler-knuckle by means of my device in the event of breaking of the draft-rigging and the consequent pulling out of the draw-bar.

One of the purposes of my invention is to provide a coupler-operating device in which the operating-rods are independent of the coupler, and no matter how much motion the coupler may have they are constantly in operative position and may be placed under the car-sill or car-body, so that they are not exposed to damage and are not in the way of other parts. Its purpose is to permit to the coupler not only the ordinary lateral and longitudinal movements, but also to permit a wide range of lateral movement. It is also adapted for use on cars, such as those in Europe, where the coupler projects beyond the end sill to an unusual extent and where long buffing and pulling movements are required.

My invention also enables me to operate a side-opening or bottom-opening coupler without the disadvantage of slackness, which would attend the use of a chain for the purpose.

My mechanism is of such nature that the operating-lever, being a floating lever, will always operate the lock irrespective of the lateral or longitudinal position of the coupler-head.

In the drawings, 2 represents the end sill of the car. 3 is the coupler-head, and 4 is a crank-shaft which operates the coupler-lock. This shaft is turned by a lever 5, whose shank 5' can slide freely back and forth in the bracket 6. The rear end of this shank, as shown in Figs. 5 and 6, is somewhat upturned or is otherwise formed with a projection, as at 5^a, and is thus adapted to engage a shoulder or stop 7 on the bracket and to provide for automatic opening of the knuckle in case the draft-rigging should break. The front end of the lever 5 is connected with the shaft 4 by an eye 8 or other suitable connection of sufficient size or length to afford loose motion between the connected parts, and its opening is somewhat inclined, so as to facilitate the initial movement of the shaft. The operating-rod 9 extends transversely of the car and is journaled at the end of the sill 2 in a bracket 10. Its inner end is bent into crank form, as at 11, and there is a lip 12 on the bracket 6, which prevents its endwise displacement. The rod 9 has a handle-lever 13 at its outer end, and the bracket 10 has a stop 14, which prevents its back motion. The crank 11 of the shaft 9 is beneath the lever 5, which is broadened, as shown in Fig. 2, so as to permit a considerable lateral play without taking it out of the path of the crank 11. The part of the lever which projects forward of the bracket is preferably formed at a lower level than the remainder, thus bringing it nearer the level of the axis of the operating-rod 9 and enabling the crank-arm to have a long bearing on the lever.

If it is desired to operate the coupler-lock, the operator turns the operating-rod 9, thus lifting the lever 5 and by means thereof turning the crank-shaft 4. As the lever 5 can slide freely back and forth in the bracket 6, it will always remain in operative position relatively to the crank-arm 11, and the widening of the lever 5 will also permit some lateral motion of the coupler, so that irrespective of the position which the coupler assumes in operation the lock can always be operated by the workman standing at the side of the car. Moreover, the device affords a slackless connection between the operating-rod and the coupler-lock which, unlike the chains commonly used, will permit the necessary independent motion of the coupler

without disturbing the capacity for direct and positive transmission of motion from the rod to the locking mechanism.

In case the draft-rigging should break and the coupler-head should pull out from the car it is important that the coupler should be automatically uncoupled from the adjacent car. I accomplish this by providing the lever 5 at its rear end with a projecting or upturned portion 5^a, adapted to engage the shoulder 7 on the bracket 6. In case the coupler-head should pull out for the reason above stated the longitudinal motion of the lever 5, causing the projection 5^a to engage the stop 7, will tilt the forward end of the lever 5 upwardly in the same manner in which it is moved by the operation of the crank 11, and this will automatically operate the crank-shaft 4 of the coupler-lock and will unlock the coupler.

In Fig. 4 I show a modification of my invention in which there are two operating-rods 9 9^a, and the lever 5 is made broad enough to accomodate both of them on its under side. The longitudinal displacement of these rods is prevented by a stop 6' on the bracket between their ends.

Within the scope of my invention as defined in the claims the parts of the device may be modified by the skilled mechanic, since

What I claim is—

1. A coupler having a lock mechanism, an operating-lever moving with the coupler, an operating-rod whose crank engages the lever with a floating bearing and means for automatically actuating said lever; substantially as described.

2. A coupler having a lock mechanism, an operating - lever connected with the lock mechanism and adapted to move with the coupler, a bracket in which it moves, an operating device, and a projection on the lever which when it is moved beyond a desired limit engages the bracket and actuates the lever; substantially as described.

3. A coupler having a lock mechanism, a lever moving with the coupler and having a broad bearing-surface, and an operating-rod adapted to engage said surface; substantially as described.

4. A coupler having a lock mechanism and crank-shaft, and a lever connected with the crank-shaft with an elongated eye; substantially as described.

5. A coupler having a lock mechanism and crank-shaft, and a lever connected with the crank-shaft with an elongated and inclined eye; substantially as described.

6. A coupler-operating lever constructed and arranged to slide lengthwise in its supporting - bracket, and means for actuating said lever to open the coupler, upon too great forward movement of said lever; substantially as described.

7. A coupler-operating lever adapted to slide lengthwise in a bracket and to be moved radially to operate the coupler-lock, and a crank-arm for moving it, said lever having a portion beyond the bracket extending at a lower level than the remainder to bring it near the level of the journal of the crank-arm; substantially as described.

8. A coupler-operating lever adapted to slide lengthwise in a bracket and to be moved radially to operate the coupler-lock, and a projection for operating the lever automatically in the event of too great drawing forward of the coupler-head; substantially as described.

9. A sliding coupler-operating lever, connected with the coupler at one end and having a projection at the other end for automatic operating of the lever; substantially as described.

In testimony whereof I have hereunto set my hand.

ARTHUR JAMES BAZELEY.

Witnesses:

HENRY F. POPE,
HARRY E. ORR.