

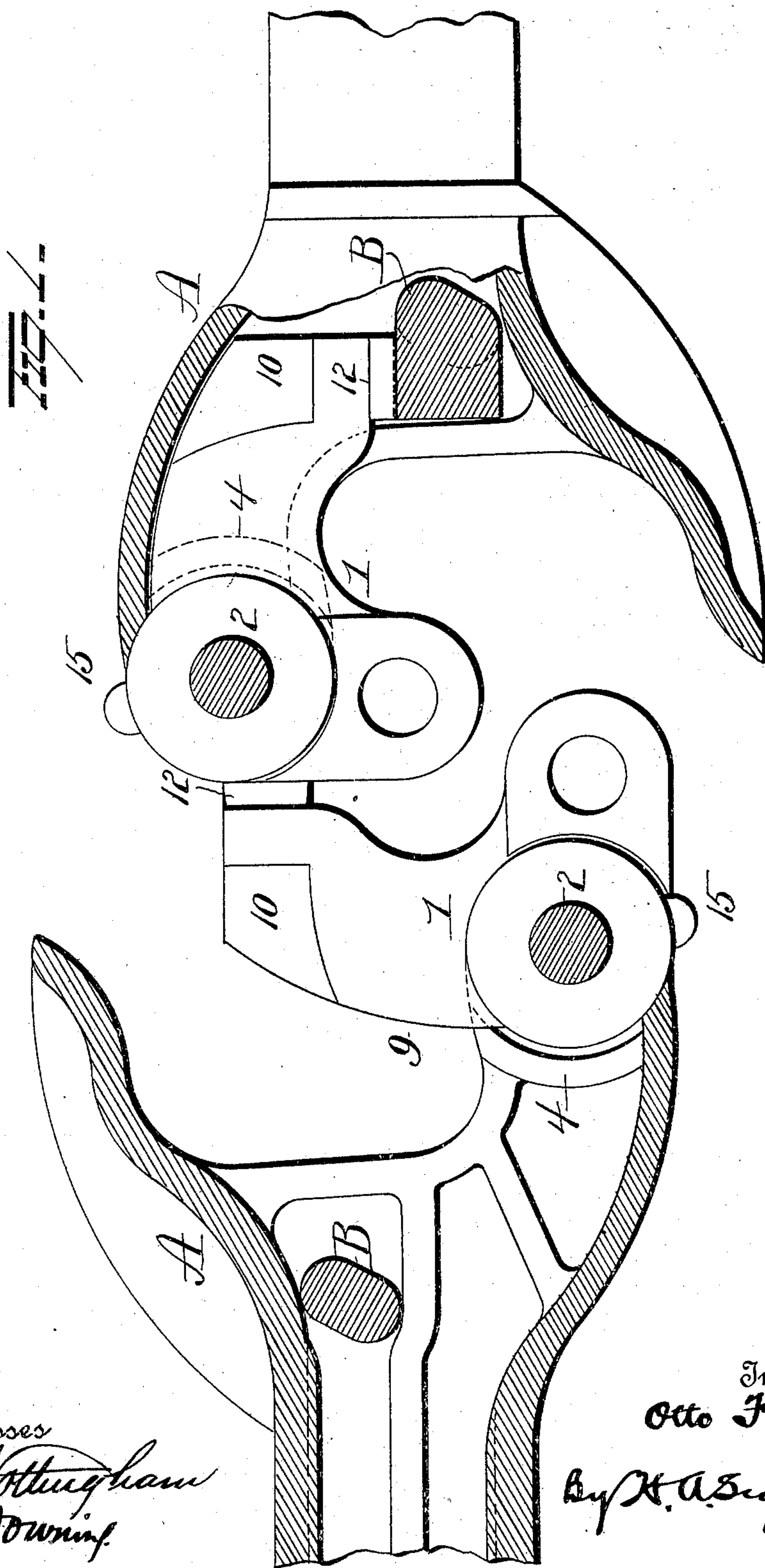
(No Model.)

2 Sheets—Sheet 1.

O. FLOHR.
CAR COUPLING.

No. 502,413.

Patented Aug. 1, 1893.



Witnesses
E. Nottingham
G. F. Downing

Inventor
Otto Flohr
By H. A. Seymour
Attorney

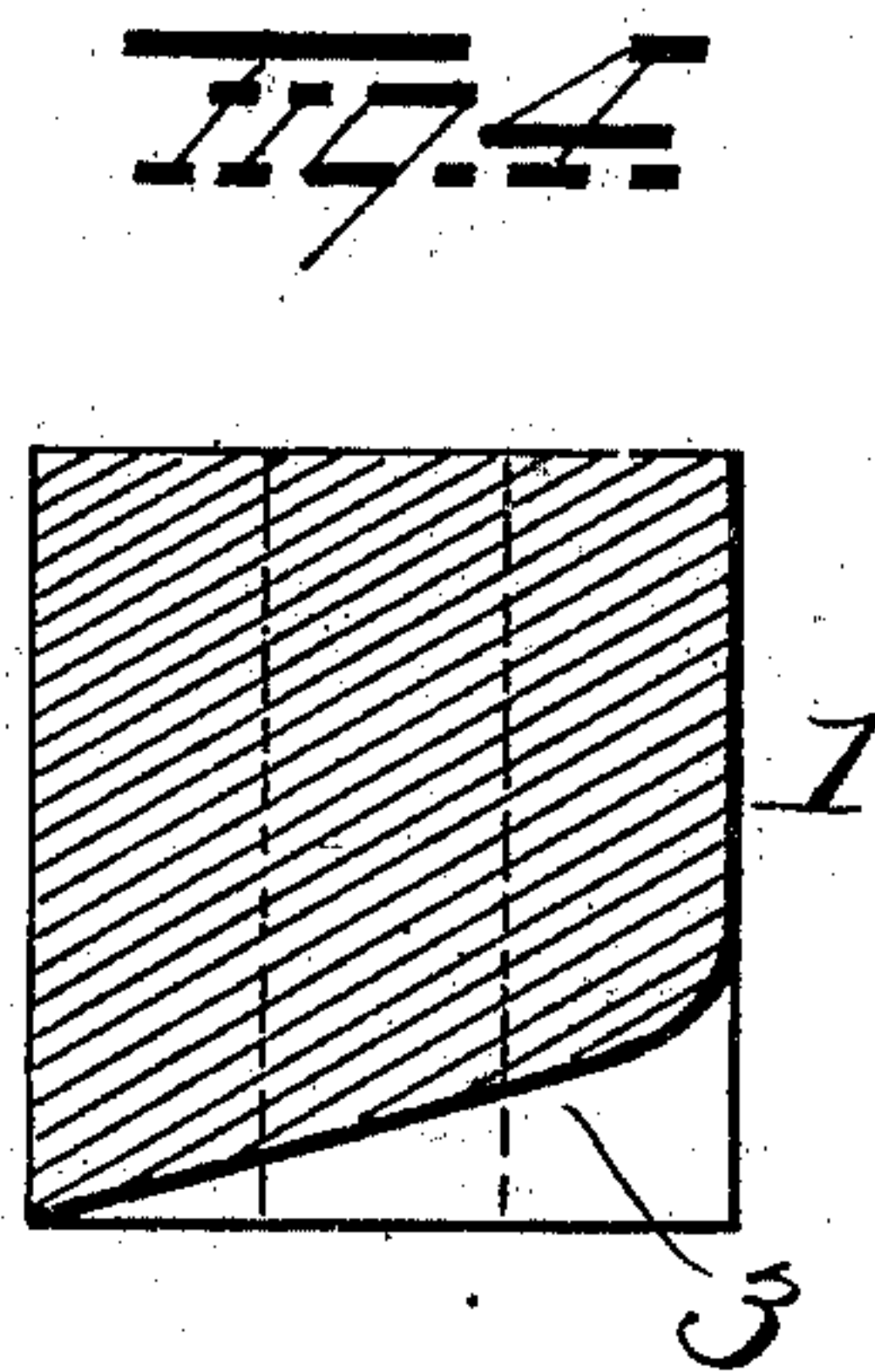
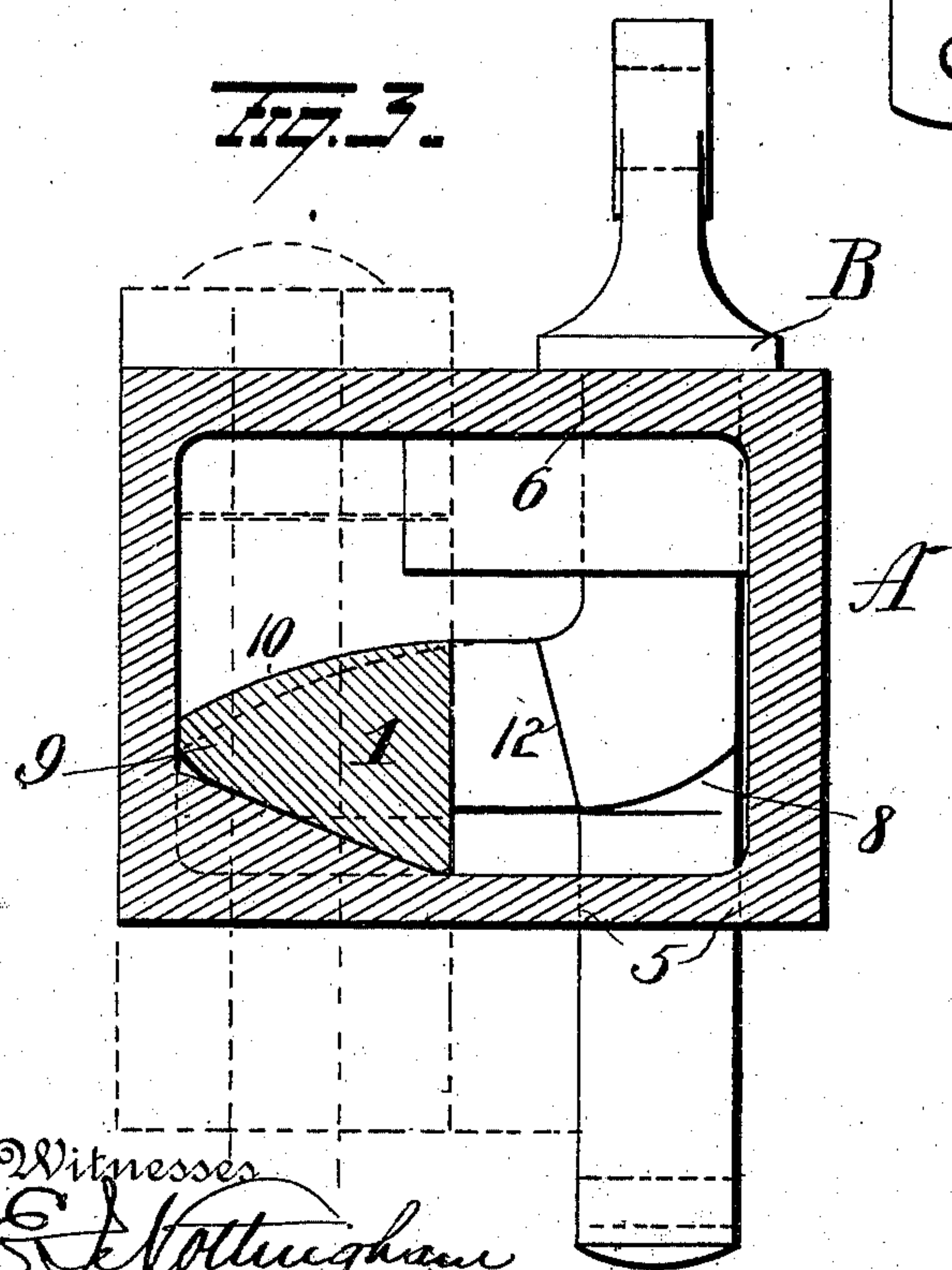
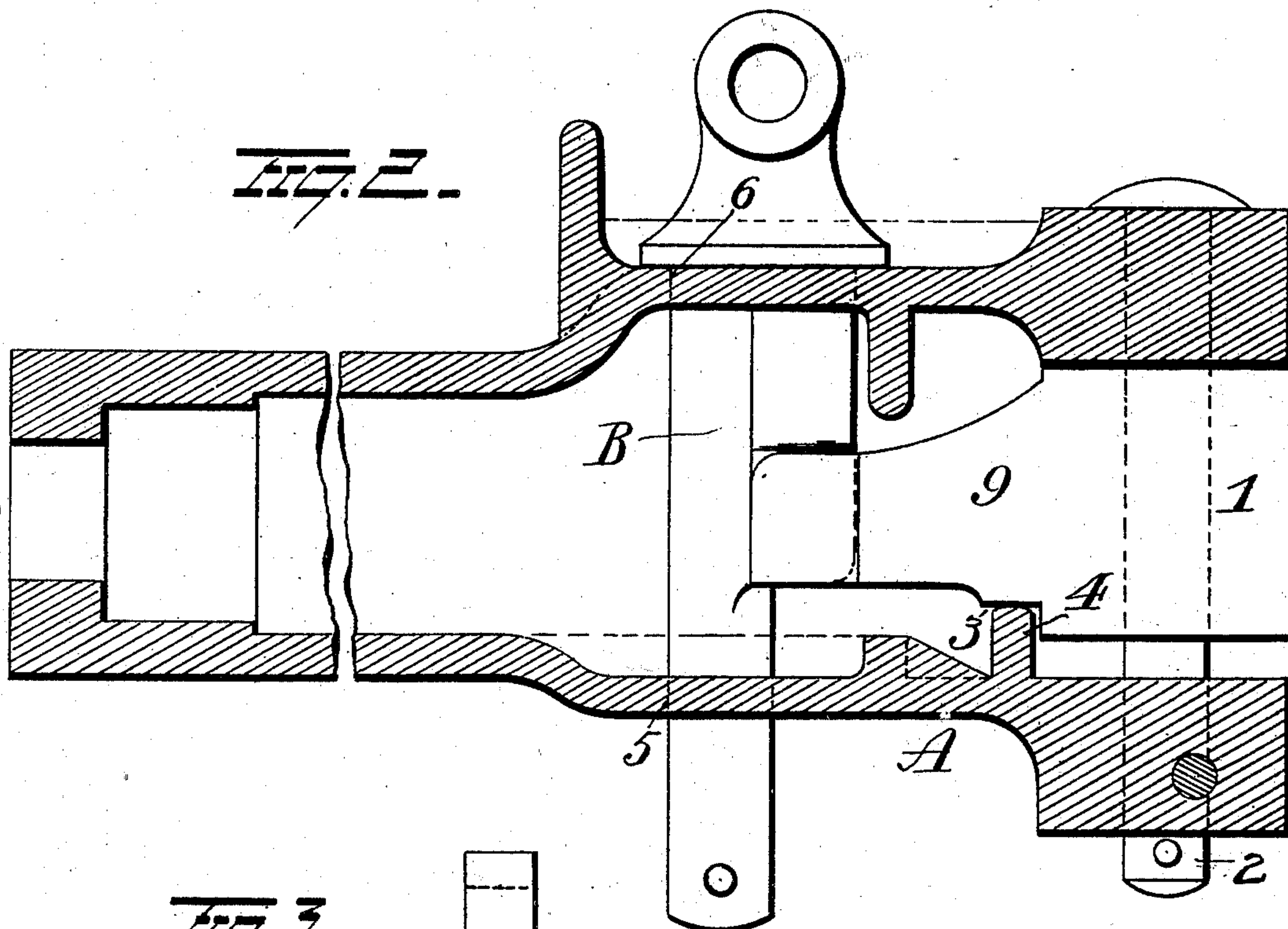
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UNITED STATES PATENT OFFICE.

OTTO FLOHR, OF BUFFALO, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 502,413, dated August 1, 1893.

Application filed April 8, 1893. Serial No. 469,573. (No model.)

To all whom it may concern:

Be it known that I, OTTO FLOHR, a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Car-Couplings; 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 an improvement in car couplings of the class more particularly known as the vertical plane coupler, the object being to improve on the type of coupling known as this general class by rendering them more positive and certain in their action.

A further object is to so construct and place the parts that the resistance in uncoupling is reduced to a minimum and the opening of the knuckles positively assured.

A further object is to reduce the number of parts, to render it possible to operate the coupling from above or below, and finally to lessen the cost of manufacture and to so construct the parts that they will not be injured or distorted by any usual strains to which car couplings are ordinarily subjected.

With these ends in view my invention consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a horizontal section through a pair of draw heads the knuckle of one being open and the knuckle of the other closed. Fig. 2 is a longitudinal section. Fig. 3 is a transverse section, and Fig. 4 is a detail.

A A represent the draw heads. These are of the Janney type and being similar in every detail only one will be described. On one of the horns of the drawhead the knuckle 1 is hinged as shown by means of bolt or pin 2. This knuckle has the general shape common to knuckles of the Janney type and further it is provided on its lower surface with a bevel face 3 at a point adjacent to the hub and concentric with the pivotal support thereof. A corresponding circular spiral way 4 is formed on the floor of the draw head at a point preferably within an eighth of an inch from the knuckle hub and upon this spiralway

the bevel face is adapted to turn as a bearing. The object of this construction is obvious. By means of the bevel face and the spiralway the knuckle automatically swings open as a result of its own gravity when not held in a closed position by the pin or other means, it resting when in its closed position at the highest position on the spiralway from which it naturally and necessarily descends the moment it is released.

B is the locking pin, the general shape of which appears in Fig. 2 the pin preferably being larger at the upper end than at the lower end, and the length being sufficient to admit of a full vertical bearing throughout the height of the drawhead thus reducing all risk of bending or distorting the lock or in any way disabling the coupling. The holes 5 and 6 in which the locking pin operates conform to the shape of the pin and in that way prevent its turning. The locking pin is so constructed that it rises automatically to allow the arm of the knuckle to raise it and to this end, the lower end of the enlarged portion is inclined as at 8 and the arm 9 of the knuckle is tapered as at 10 to engage this inclined face 8 in turning whereby to force the locking pin up until the arm 9 swings by and clears it. Then the pin by its own weight drops down into the position shown in Fig. 3 and wedges itself between the beveled outer end 12 of arm 9 and the adjacent wall of the draw head. In this manner the knuckle is securely locked.

To unlock the coupling, it is simply necessary to raise the locking pin. The knuckle will then swing open or into the position shown in the left hand portion of Fig. 1 just as soon as the cars move apart sufficiently to allow it to swing open.

The locking pin may be raised in any convenient manner from the side of the car, from the top or in any other manner, and as I construct my locking pin, the mechanism for raising the pin could be connected with the upper or lower end of the pin and for this reason I have shown a hole in each end as in Fig. 2.

In order to prevent the knuckle from swinging open too far, a stop 15 is provided upon the outer face of the drawhead in position to be struck by a projection on the knuckle.

It is evident that slight changes might be

resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact construction herein set forth, but

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a draw head having a spiral way on its floor, and a knuckle hinged to the draw head, said knuckle having a tapering end and a bevel portion formed at one side of the tapering end, of a sliding locking pin having an inclining surface beneath which the tapering end of the knuckle engages in raising the pin and provided with a beveled side adapted to engage the beveled side of the knuckle, whereby the knuckle is locked, substantially as set forth.

2. The combination with a draw-head having a spiral way on its floor, and a knuckle hinged to the draw-head, said knuckle provided with a bevel face on its lower surface adapted to bear on the spiral way and tapering at its outer end, of a sliding locking-pin having an inclining portion adapted to be engaged by the tapering end of the knuckle whereby the pin is raised and the pin constructed to drop into the space between the knuckle and the wall of the draw-head when the knuckle is closed, substantially as set forth.

3. The combination with a draw head, and a knuckle hinged thereto, said knuckle provided with a tapering outer end, of a locking pin provided with a beveled portion adapted to be struck by the tapering outer end of the knuckle whereby it is raised, the outer end of the knuckle also beveled and the locking pin constructed to form a wedge between this portion of the knuckle and the wall of the draw head, substantially as set forth.

4. The combination with a draw head having a spiral way on its floor, and a knuckle hinged to the draw head, said knuckle provided with a bevel face on its lower surface adapted to bear on the spiral way and tapering at its outer end, of a sliding locking pin having an inclining portion adapted to be engaged by the tapering end of the knuckle whereby the pin is raised, and the pin constructed to drop into and fill the space between the knuckle and the wall of the draw head when the knuckle is closed, and a stop for preventing the knuckle from swinging open beyond a certain point, substantially as set forth.

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

OTTO FLOHR.

Witnesses:

FRANK BRUNDOP,
WALTER P. COOKE.