

(Model.)

W. A. LOVELACE.
Car Coupling.

No. 243,587.

Patented June 28, 1881.

Fig. 1.

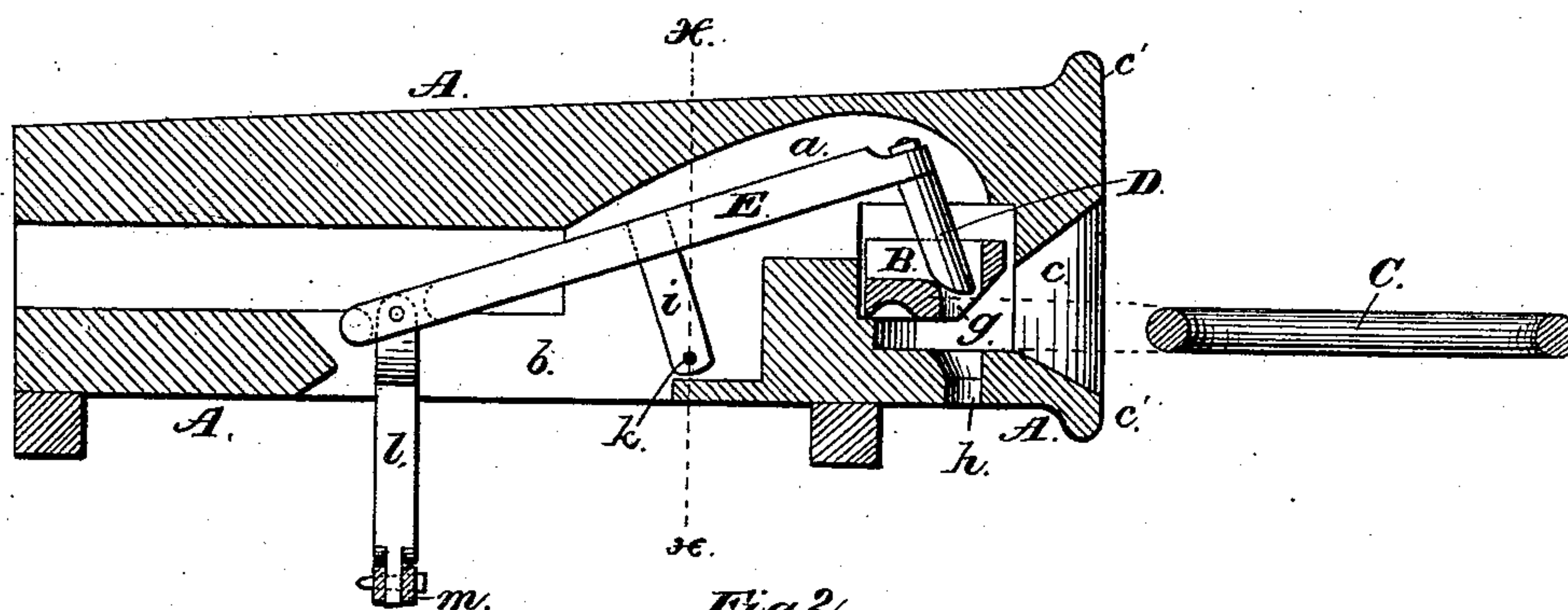


Fig. 2.

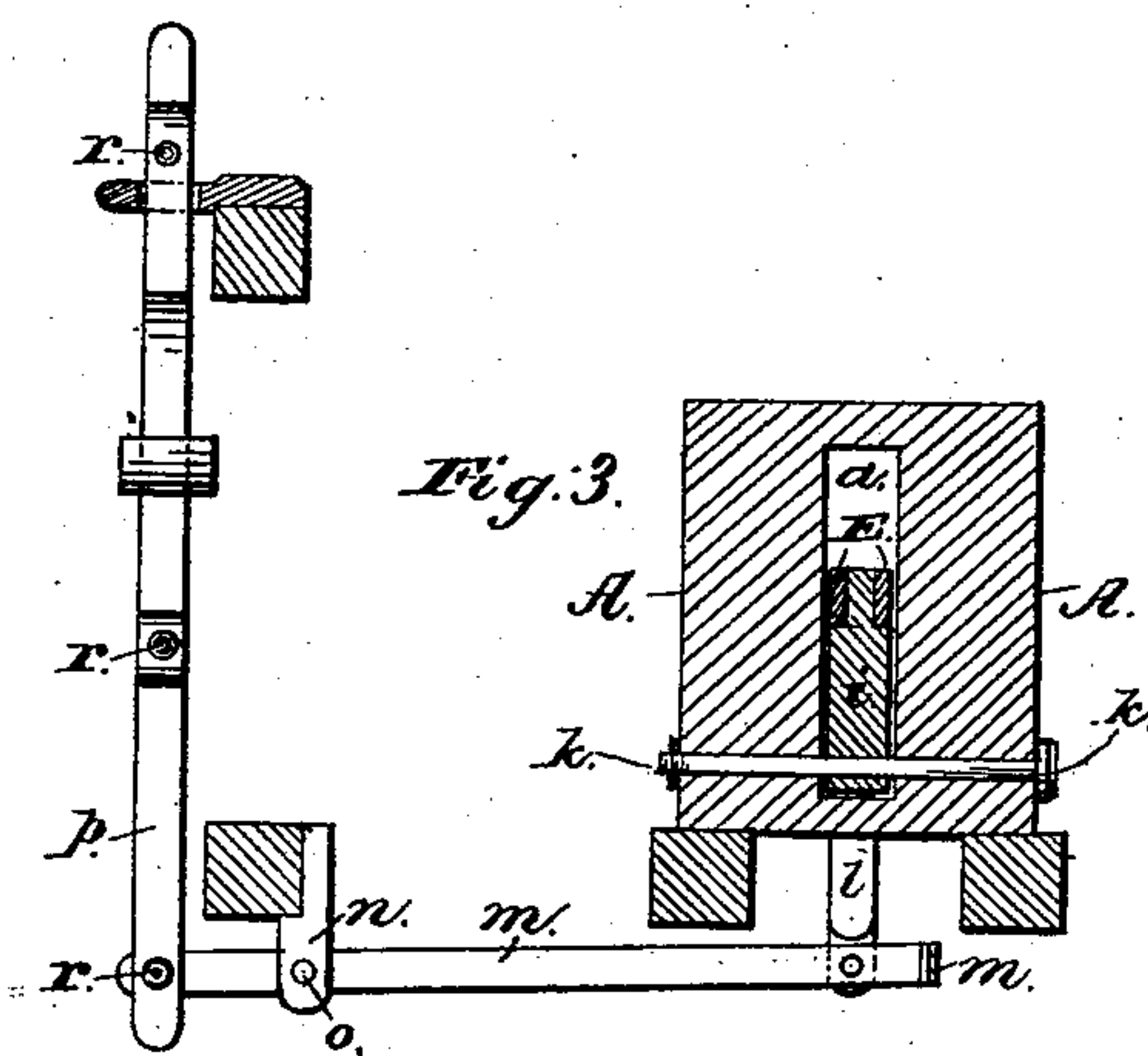
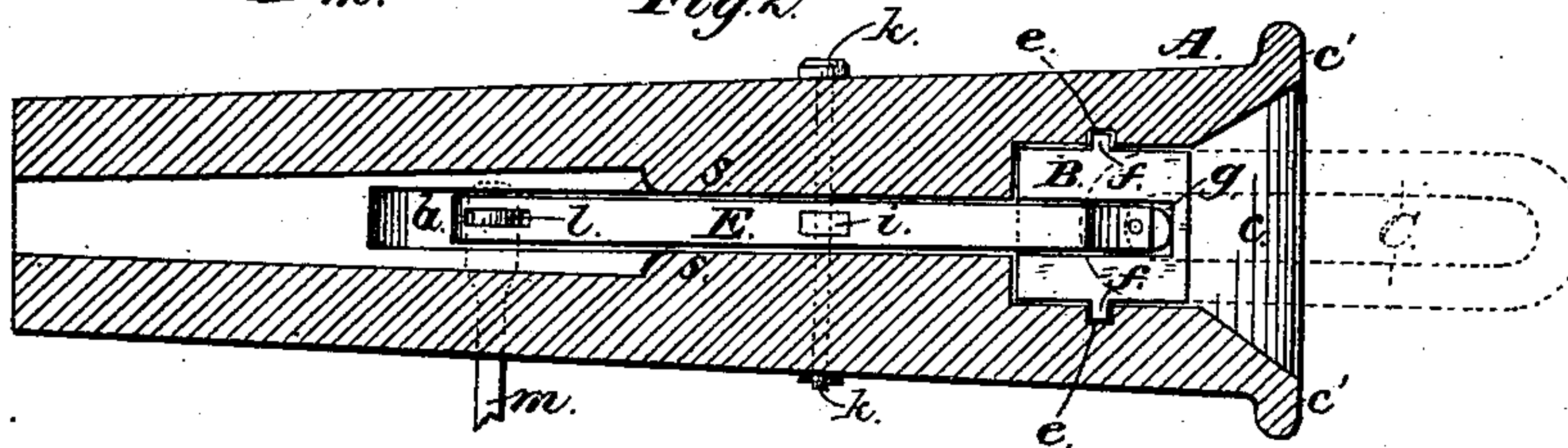
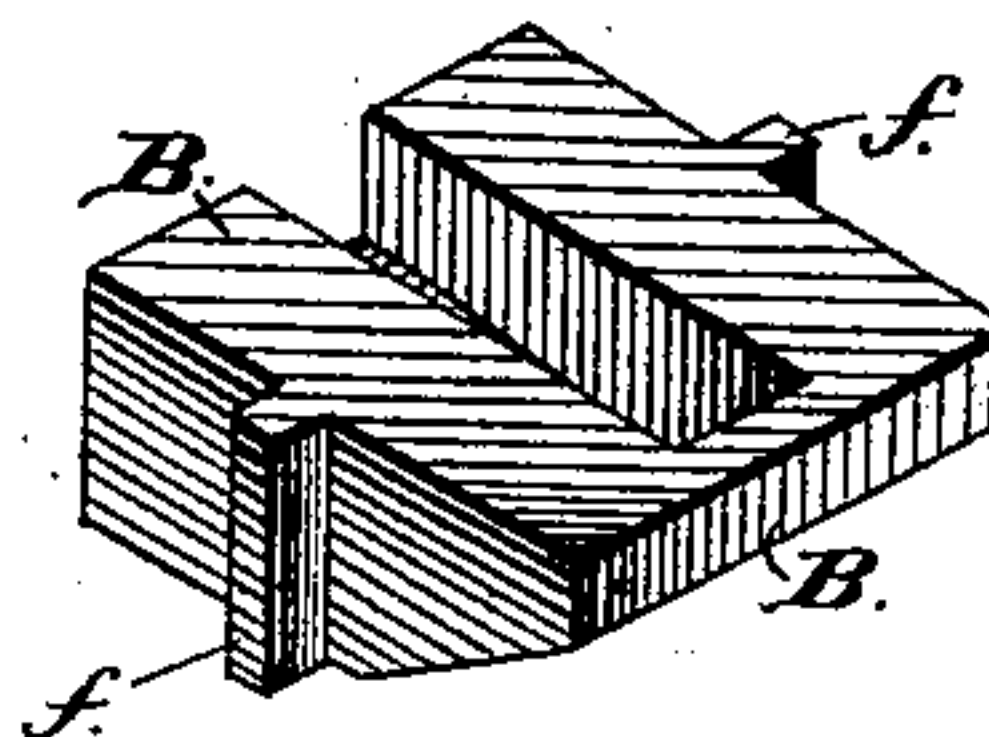


Fig. 4.



Witnesses.

Jas. E. Hutchinson.
 1844

J. A. Rutherford

Inventor.

Walter A. Lovelace,

By James L. Norris.

Attij

UNITED STATES PATENT OFFICE.

WALTER A. LOVELACE, OF RICHMOND, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 243,587, dated June 28, 1881.

Application filed April 11, 1881. (Model.)

To all whom it may concern:

Be it known that I, WALTER A. LOVELACE, a citizen of the United States, residing at Richmond, in the county of Berkshire and State of Massachusetts, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

The invention relates to that class of car-couplings which can be coupled and uncoupled from the side or top of the car, thereby avoiding the necessity of the brakeman passing between the platforms, which is exceedingly dangerous.

The object of my invention is to provide a simple construction of such class of couplings, whereby they can be easily and conveniently coupled and uncoupled, and in which the usual link can be retained in horizontal position for engaging the adjoining draw-head. This I accomplish by the construction and arrangement of devices illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal central sectional view of a draw-head embodying my invention, with the parts in position to engage the draw-head of an adjoining car; Fig. 2, a plan view with the top wall of the draw-head removed to show the interior thereof; Fig. 3, a transverse sectional view on the line *x x* of Fig. 1, with devices arranged to be operated from the side or top of a car; Fig. 4, a perspective view of the gravitating weighted pawl.

The letter A indicates a draw-head, which is chambered, as usual, for the working parts, and is preferably cast in one piece from malleable iron, with a longitudinal central groove, *a*, in its top wall, a longitudinal slot, *b*, in its bottom wall, and the usual flaring mouth and bumper-head, *c c'*, the bottom wall at its front end, *d*, being flat to afford a bearing for the usual coupling-link. The side walls of the draw-head, near the forward end thereof, are provided with vertical grooves *e e*, which serve as guides and stops to guide and retain the side ribs or flanges, *f f*, of a gravitating weighted block, B, which is adapted to freely slide vertically in said grooves. This block not only serves to level and maintain the link C in a horizontal position to engage the adjoining draw-head, but it serves as a bearing to support and sustain the upper portion of

the coupling-pin D against thrusts and strains in drawing the cars, and for this purpose the block is provided with a vertical aperture, *g*, in its forward portion, which is arranged coincident with the aperture *h* in the bottom wall of the draw-head, so that the pin passes through the block into the latter, and thus the block subserves the functions of maintaining the link level, and also to take up and resist the strains on the coupling-pin.

The coupling-pin D is connected to the forward end of a lever, E, arranged longitudinally in the upper portion of the chamber in the draw-head, said lever having intermediate its ends a depending fulcrum-arm, *i*, pivoted to a removable pin or bolt, *k*, which passes transversely through the lower portion of the draw-head.

To the rear end of the lever E is pivoted or otherwise attached one end of a vertical rod, *l*, which extends through the longitudinal slot *b*, and is pivoted at its lower end to a lever-arm, *m*, which extends to the side of the car, and is pivoted near its outer end to a bracket, *n*, by a removable pin or bolt, *o*, the outer end of said lever-arm *m* being pivoted to the lower end of a bar, *p*, which extends to the top of the car, and is provided at suitable points with handles *r r r*, by which it can be raised and lowered, thereby raising and lowering the coupling-pin D in a positive manner through the intermediate connections before mentioned.

The longitudinal lever E is guided in its vertical swinging or oscillating movements by side flanges or projections, *s s*, on the interior of the draw-bar; but other suitable means can be employed for this purpose, if such be found desirable or essential.

The object of the longitudinal slot *b* in the bottom wall of the draw-head is not only to permit the downward movement of the rear of the lever E, but also to permit said lever and the coupling-pin D to be readily removed, and for this purpose the fulcrum pin or bolt *k*, as well as the pins or bolts connecting the other rods and levers, are so made as to be readily detachable. When the pins or bolts are detached the lever E and coupling-pin D can be removed, when required, by drawing them down through the slot *b*, which latter must necessarily be of sufficient length and width to permit their passage.

The draw-head is connected with and sustained by the car-platforms in the ordinary manner, and may be made to yield by springs; but as such form no part of my invention I
5 have not illustrated them in the drawings.

It will be observed from the foregoing that the draw-head entirely incloses the lever D and coupling-pin C, and by the provision of the detachable fulcrum pin or bolt and the
10 longitudinal slot *b* it is evident that the lever and the coupling-pin can be conveniently removed from the draw-head through said slot in case the parts become injured or require repairs, or for other purposes.

15 I am aware that gravitating blocks have heretofore been employed to level the coupling-link and to hold the coupling-pin up until the block is pushed from beneath the pin by the link of the adjoining car; but I am not
20 aware that a gravitating weighted block has been so constructed and arranged as to level the coupling-link, and also to support and sustain the upper portion of the coupling-pin against thrusts and strains in drawing the cars.

25 What I claim is—

1. In combination with a draw-head, the gravitating block constructed and arranged to level the coupling-link and to sustain the
30 coupling-pin against strains and thrusts in drawing the cars, substantially as described.

2. In combination with a draw-head having the pin-aperture *h* and vertical side grooves, *e*, the gravitating block B, having the vertical pin-aperture *g* and side ribs or flanges, *f*,
35 substantially as described, whereby said block will level the coupling-link and sustain thrusts on the coupling-pin, as set forth.

3. The vertically-swinging lever, removably pivoted intermediate its ends within a longitudinal chamber formed in the draw-head, in
40 combination with the coupling-pin at its forward end, and devices connected with the rear end of said lever and extending through the bottom wall of the draw-head to the side of the car, substantially as and for the purpose de- 45 scribed.

4. The draw-head entirely inclosing the coupling-pin and longitudinal detachable lever E, and having the slot *b* in its bottom wall, for removing the lever and pin from the draw-
50 head, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WALTER A. LOVELACE.

Witnesses:

W. M. WORKMAN,
JOHN SHAW.