

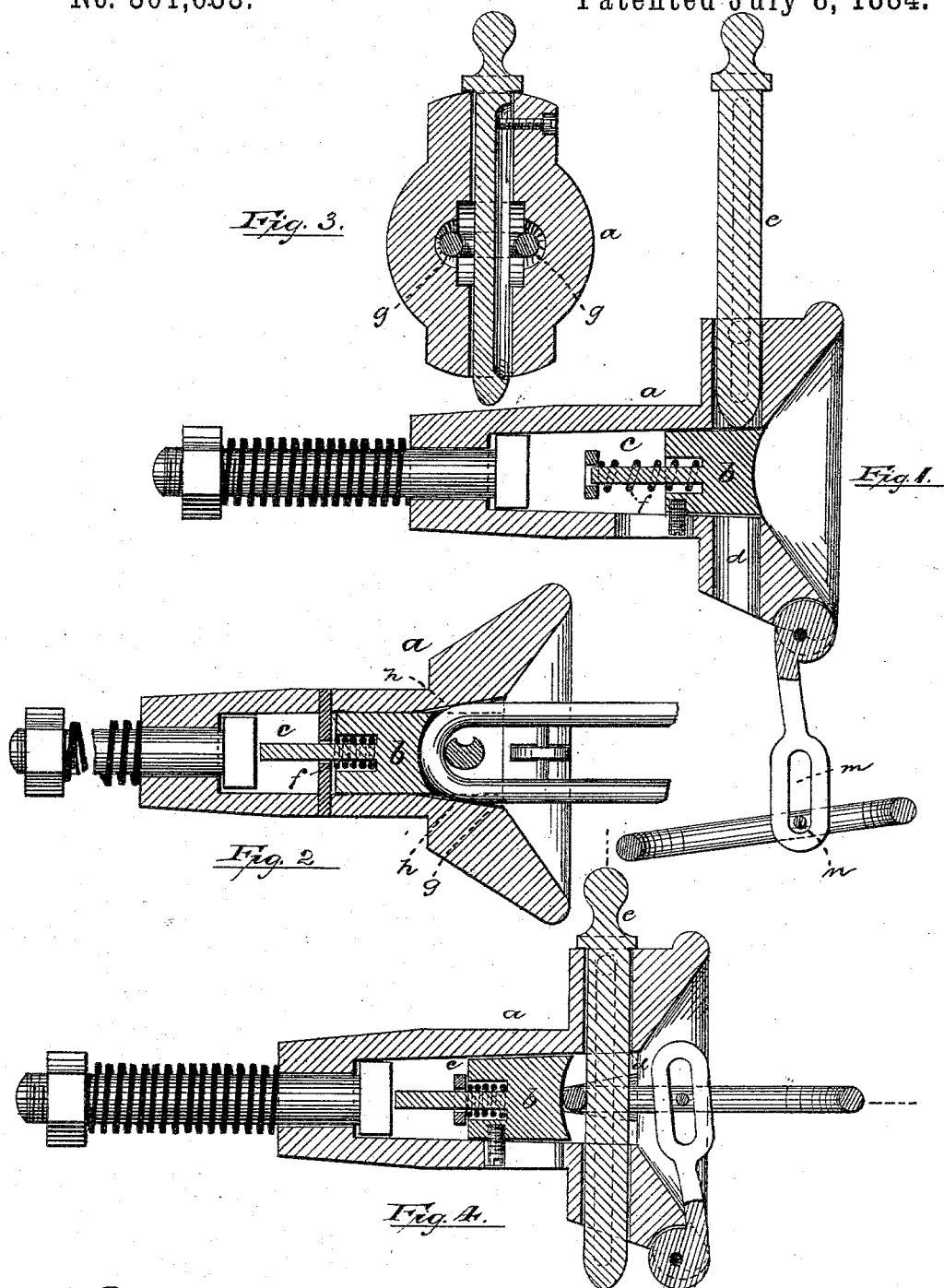
(No Model.)

G. W. SMILLIE.

CAR COUPLING.

No. 301,633.

Patented July 8, 1884.



Attest:
T. T. Campbell.
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UNITED STATES PATENT OFFICE.

GEORGE W. SMILLIE, OF NEWARK, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 301,633, dated July 8, 1884.

Application filed April 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SMILLIE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Pin-and-Link Attachments for Draw-Heads; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to facilitate the operation of coupling cars, to prevent the loss of links, and to otherwise improve the construction of the draw-heads.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 is a vertical section of a draw-head, showing the same in position prior to coupling. Fig. 2 is a horizontal section through line *x*, Fig. 4, and Fig. 3 is a vertical section taken through *y*, same figure. Said Fig. 4 is a vertical section showing the link and pin in engagement for coupling.

In carrying out the invention, I form the draw-head *a* with a spring-actuated plunger, *b*, working in a longitudinal chamber, *c*, in said draw-head. Said draw-head is perforated vertically by a pin-receptacle, *d*, in which the pin *e* is secured.

Said plunger is adapted to be thrown by the spring *f* across the perforation when the pin is drawn upward, so that said pin rests on the top of said plunger. When the said plunger is thrown backward by engagement with the link, as in Figs. 2 and 4, the pin drops through the link and holds the same firmly in position.

To hold the link out horizontally or approximately, to enable the same to engage readily with the co-operating draw-head, I form the link wider than the plunger and chamber in

which said plunger operates, and laterally adjacent to said plunger in the draw-head I form recesses *g*, to receive the sides of the link, as shown more clearly in Figs. 2 and 3, and hold the same so that said link will remain out horizontally, even though the pressure of the plunger be removed therefrom, or should the pressure of the said plunger be insufficient for the purpose. Said recesses are flaring, substantially as shown, to allow the link a sufficient vertical and lateral movement, and to form bearings *h* for the link, so that when the latter is coupled in the draw-head the said draw-head receives the force of the impact where it has the most strength to resist it. Furthermore, the link, striking the bearings, prevents the spring back of the plunger and other smaller parts in the chamber *c* from being broken. The outer extremity of the draw-head is hopper-shaped, and to the lower edge thereof is pivoted a connective, *k*, independent of the usual coupling-pin, to carry the link *l*, so that it will be always at hand and cannot be abstracted surreptitiously. Said connective is pivoted between ears on the draw-head, and is provided with a slot, *m*, which allows play to the link. Said link is provided with a center bar, *n*, which works in said slot and keeps the connective where it will not interfere with or hinder the coupling process. The connective is preferably flat, and is so pivoted as to have but one positive pivotal movement, and it is connected to the link near one end thereof. By this construction the said connective lies, when the parts are coupled, entirely or almost entirely within the line of the edge of the draw-head. When the cars come together, the link projecting from one of the draw-heads first strikes the flaring or hopper-shaped portion thereof, and is guided against the plunger, which is repressed until the pin is allowed to drop. The link then strikes the shoulders or bearings in the recess, and the head is pressed back until the draw-heads make a contact. The links, therefore, are not required to bear any great pressure, and are prevented from bending or breaking.

Having thus described the invention, what I claim as new is—

1. In combination, in a coupling, a draw-head having a spring-actuated plunger narrower than the link, and having recesses *g g* in said head laterally adjacent to said plunger, and a link wider than the plunger, and adapted to have the sides thereof lie in said recesses, the end of said link lying centrally across the face of the plunger, said link thereby being held horizontally, or approximately so, to engage the co-operating draw-head.
2. In combination with the draw-head and link, the connective *k*, permanently uniting the said draw-head and link, substantially as and for the purpose set forth and shown.
3. In combination with the draw-head having the slotted connective *k* pivoted thereon, the link having the cross-bar or center bar, *n*, working in the slot in said connective, all substantially as herein set forth and shown.
4. In combination, the draw-head, connective, and link having the center bar, all said parts being arranged and operating substantially as and for the purposes set forth.

5. As an improved article of manufacture, a car-coupling consisting of a draw-head having a central chamber, *c*, and a spring-actuated plunger, *b*, working therein and bearing against the end of the link, and having laterally-adjacent bearings or shoulders adapted to receive the link after it has struck the said plunger and partly repressed the same, to prevent excessive repression, and a link and pin, said link being adapted to strike the plunger and repress the same, and subsequently strike the lateral bearings, all said parts being arranged and operating substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of April, 1884.

GEO. W. SMILLIE.

Witnesses:

OLIVER DRAKE,
F. F. CAMPBELL.