

(No Model.)

S. A. KILMER & E. J. CRANDELL.

CAR COUPLING.

No. 348,747.

Patented Sept. 7, 1886.

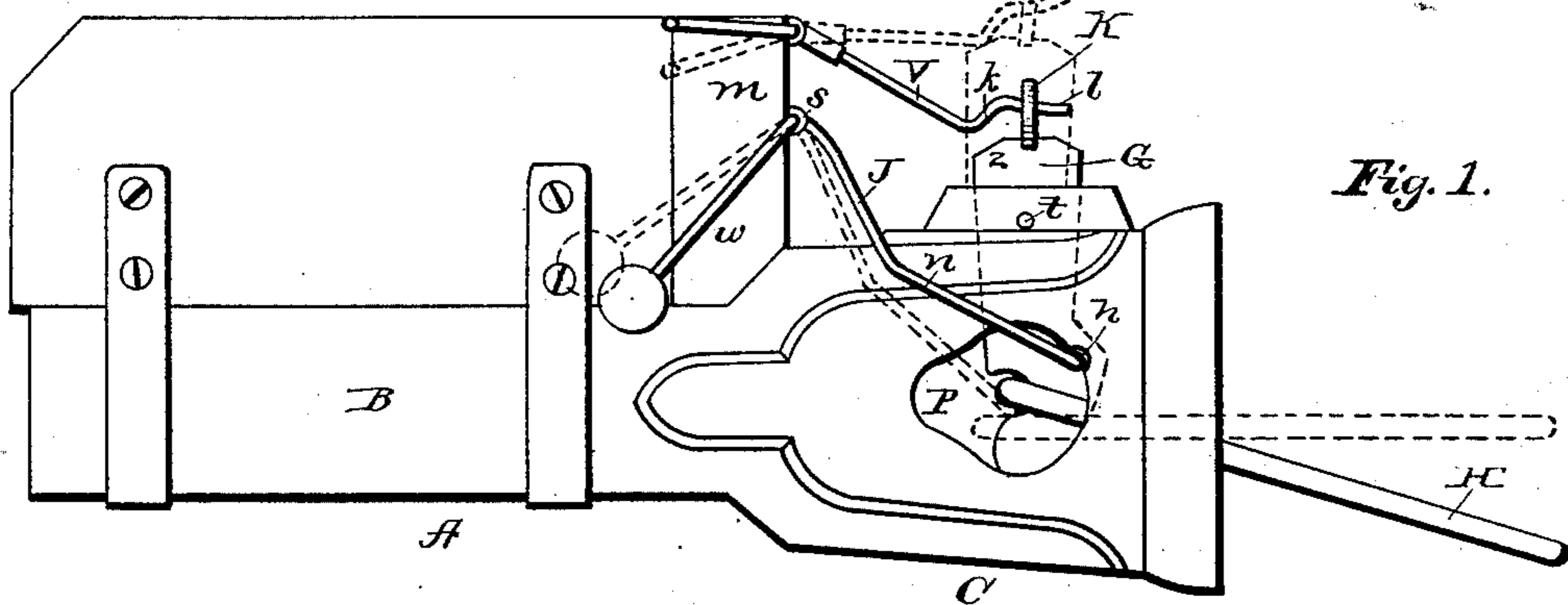


Fig. 1.

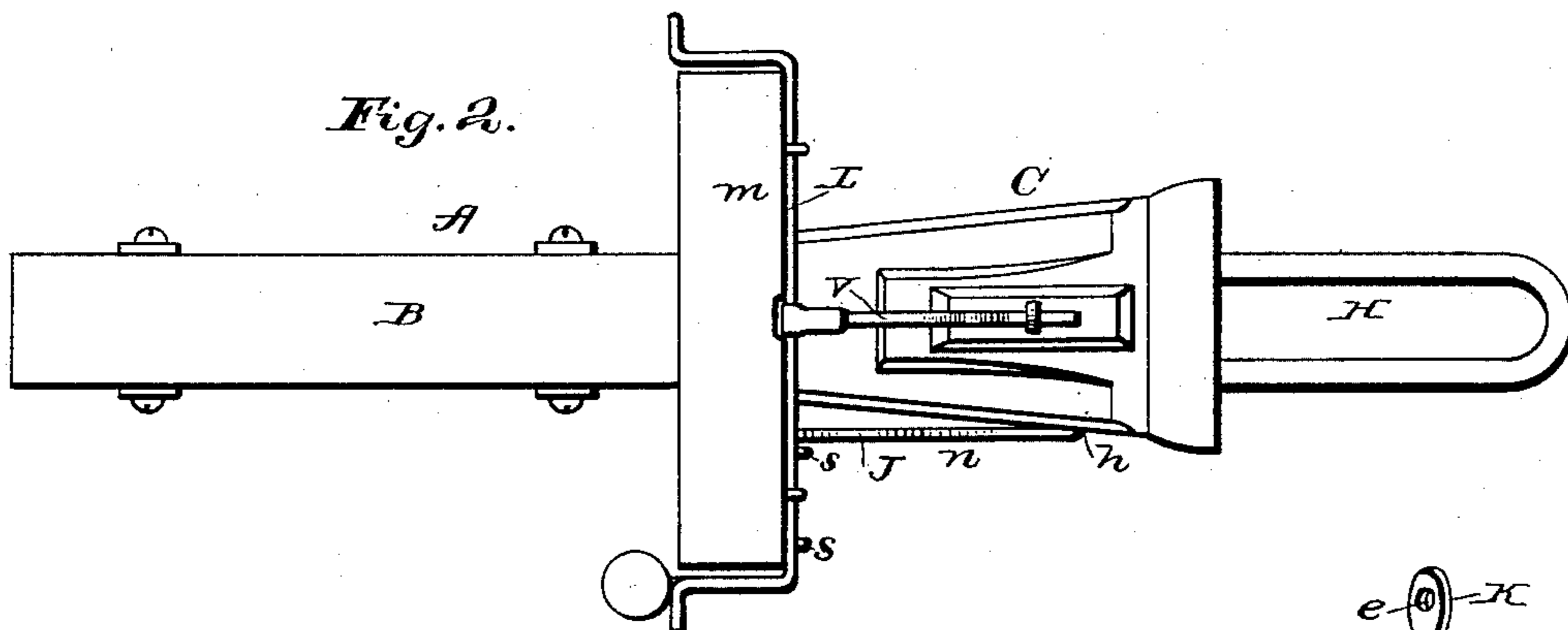


Fig. 2.

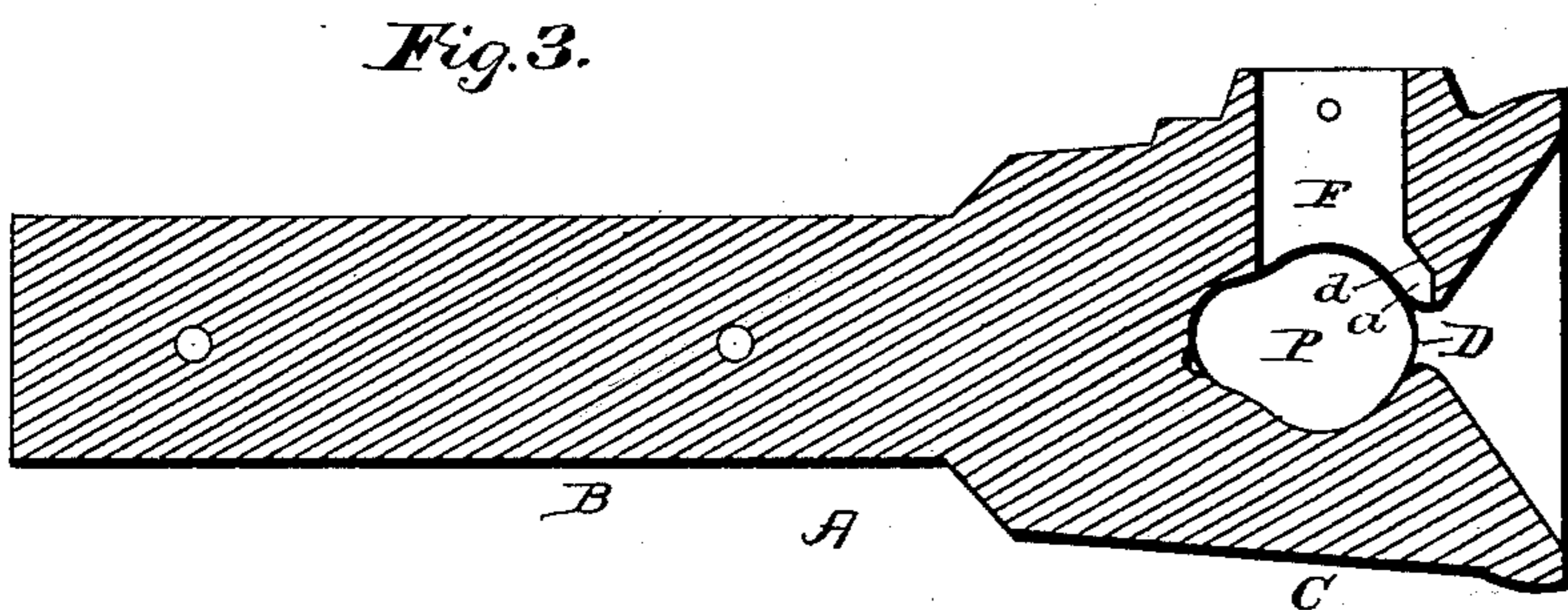


Fig. 3.

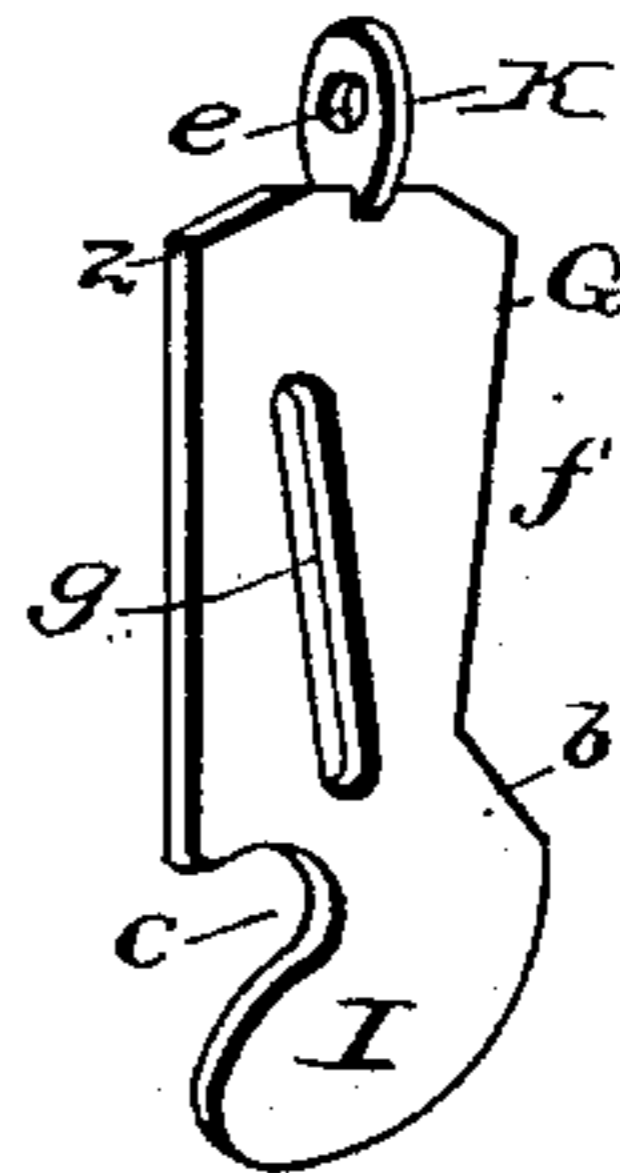


Fig. 4.

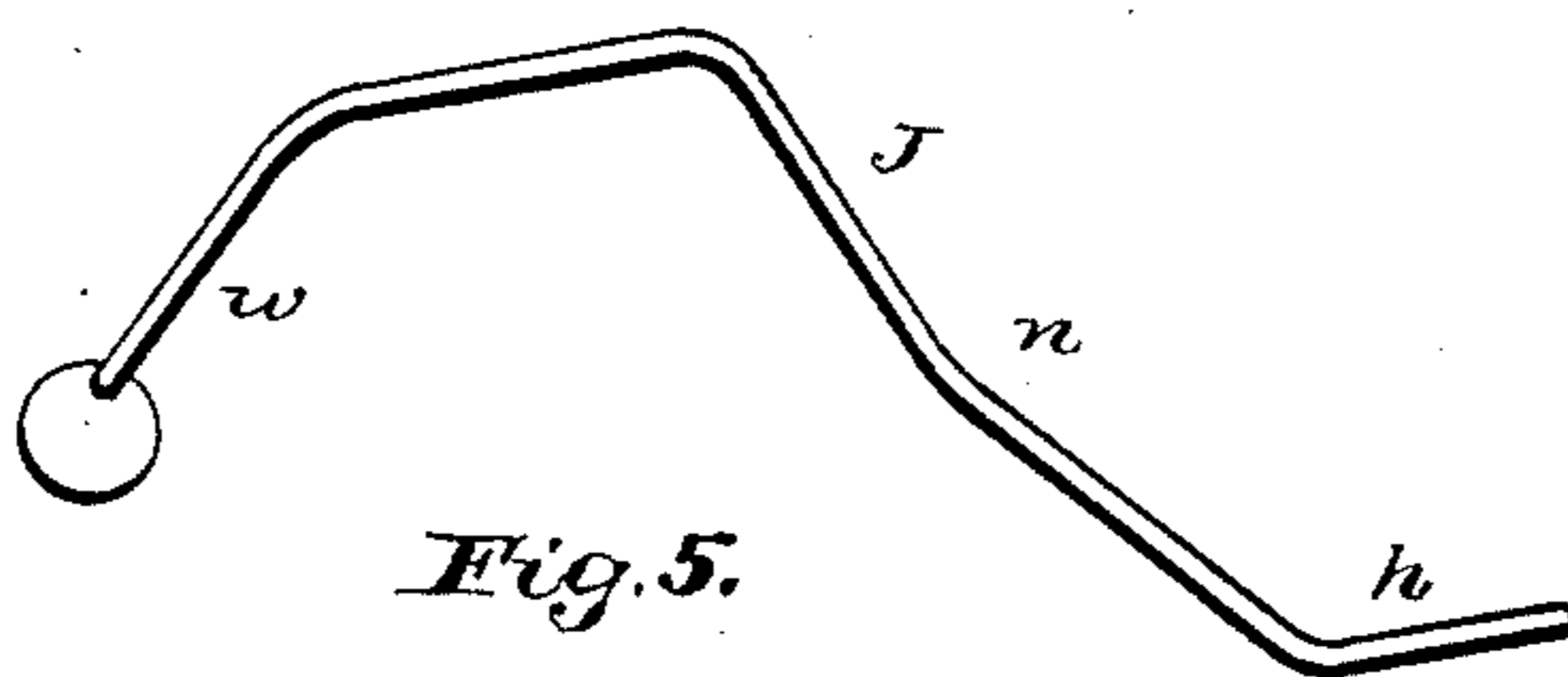


Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

SYLVESTER ANDRAL KILMER AND E. JAMES CRANDELL, OF BINGHAMTON,
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 348,747, dated September 7, 1886.

Application filed May 27, 1886. Serial No. 203,452. (No model.)

To all whom it may concern:

Be it known that we, SYLVESTER ANDRAL KILMER and E. JAMES CRANDELL, citizens of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Car-Couplings; and we do 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 or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of my invention and is a side view of the same, showing in dotted lines the key in locked position. Fig. 2 is a top view. Fig. 3 is a vertical longitudinal section of one of the draw-heads. Fig. 4 is a detail view of the coupling key or pin.

This invention relates to link draw-heads for car-couplings; and it consists in the construction and novel arrangement of devices, as hereinafter described, and pointed out in the claims.

In the accompanying drawings, the letter A designates the draw-head, which may be cast in one piece or in two sections longitudinally and centrally joined and bolted together. The draw-head is of usual external contour, having the bar portion B and the head portion C, the latter being provided with a recess opening forward to receive the link. The walls of the bell-mouth shelve toward the throat D, which is of proper size transversely and vertically to allow the link to enter easily and to have some play. This throat is short, however, and opens in rear into a transverse pear-shaped slot, P, the larger portion or fundus of which is toward the throat. This pear-shaped slot extends backward from the throat, and its rear or narrower portion serves to provide a rest for the rear end of the link in adjusting the latter in position for coupling. The slot extends entirely through the draw-head from side to side, and is of sufficient size to admit the hand or fingers thereof and to enable the brakeman to direct the link by taking hold of its inner portion, which is guarded by the front of the draw-head. The floor of the slot

curves upward and rearward to guide the key as it rises when pushed by the entering link.

From the pear-shaped slot or opening extends upward the key-slot F, which is narrow from side to side and broad from front to rear, communicating with nearly the entire length of the top of the opening P. The walls of this key-slot are parallel, except in the lower front portion, when the front wall extends obliquely toward the upper wall of the throat D, as shown at *d*, so that the key-slot has an offset at *a* to receive the shoulder of the coupling-key, which, when in coupled position, engages the front wall of the opening or chamber P.

G represents the coupling key or pin, which is of flattened form from side to side, and is designed to slip easily into the key-slot. Its upper portion or shank is tapered a little in front, as at *f*, so that it will be allowed a little play in the slot when in the raised position. Its lower portion is in rounded-claw form. The upper front part of this claw I, being beveled at *b* and extending a little forward of the shank portion, is shown to form a shoulder. From this part the forward edge of the claw is rounded downward and backward to correspond with the contour of the fundus of the pear-shaped opening P. The back of the claw is recessed at *c* to engage the link H, as shown. The upper end of the key is usually provided with a lug, K, having an eye, *e*, which extends through said key-lug from front to rear. When the key is down or in engaged position, its shoulder *b* engages the bevel-wall *d* of the offset *a* of the key-slot, and its rounded claw-edge engages the lower front wall of the pear-shaped opening, so that the key is steadied in position, and casual disengagement on account of any upward jumping of the key is not liable to occur. When the key is raised, its lower portion moves rearwardly to allow the shoulder of the claw to clear the bevel-wall *d* of the offset *a*. This play is allowed by the angular recess in the front edge of the key, (indicated at *b f*.)

L indicates a transverse hand-lever, which is pivoted to a fulcrum-block, *m*, above the bar portion of the draw-head, and is provided with a forward arm, V, having the oblique angular portion, *k*, which extends upward and forward and connects the end portion, *l*, of said arm to the rear portion. The end *l* of

said arm is designed to engage the eye of the key, and when the lever is moved to raise the key the arm *V* rises, and as the key is drawn upward its rear top shoulder, *z*, is engaged by the bend or angular portion *k* of said arm, forming a lock, which prevents the key from being thrown upward out of the key-slot. The link, being properly directed, enters the mouth and throat of the draw-head, and will be automatically engaged by the key, as its end readily slips under the rounded claw into the back portion of the pear-shaped slot, and allows the key to fall and engage said link by its rounded recess or notch *e*.

15 In order to further facilitate the operation of adjusting the link in giving it the proper direction to enter the opposing draw-head, I have provided an angular lever, *J*, having a weighted rear arm, *w*, and pivoted at *s*. The front arm, *n*, of this lever has an inwardly-turned finger, *h*, designed to enter the opening *P* of the draw-bar far enough to engage the side bar of the link when said arm *n* is depressed. By means of this weighted lever the rear end of the link can be depressed to raise and direct the front end properly. When not in operation, the lever is held in proper position by its weighted arm.

When it is desired to lock the key to the draw-bar, a pin, *t*, may be employed, passing through an oblique slot of said key.

We are aware that draw-heads have been constructed with angular recesses on their floors, in which a pointed angular key may be received. It is obvious, however, that such construction is not the same as ours, inasmuch as it does not provide both an upwardly-curved rise on the floor and a key with a curved lower end adapted to be raised by a rolling movement on such rise.

We make no claim to a beveled or wedge-

shaped recess in the floor, as shown Gifford's Patents Nos. 267,307 and 158,059.

Having described this invention, what we claim, and desire to secure by Letters Patent, is—

1. A draw-head for coupling-links, having a transverse throat, and in rear thereof an opening having a rearwardly and upwardly curved guide-floor, and a slot in its upper wall, in combination with a laterally-flattened claw-shaped key resting on said guide-floor and adapted to rise on said guide-floor when pushed by the entering link, substantially as specified. 55

2. The combination, with a draw-head having a narrow key-slot, formed with an offset in its lower front portion, as at *a*, of the laterally-flattened key having the taper wall *f*, the shoulder *b*, and the lower rounded claw recessed in rear, substantially as specified. 60

3. The combination, with the draw-head having a key-slot and the key having a shoulder in rear of a top lug formed with an eye-opening from front to rear, of a hand-lever having an oblique or stop bend adapted, when raised, to engage said shoulder, substantially as specified. 65

4. The combination, with the draw-head having a key-slot, a narrow mouth, *D*, and a transverse opening, *P*, in rear of said mouth, of the lever *J*, having the weighted arm *W*, and the front arm, *n*, formed with the inwardly-directed finger *h*, substantially as specified. 70

In testimony whereof we affix our signatures in presence of two witnesses. 75

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Witnesses:

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