

G. R. MOORE.  
Car-Couplings.

No. 145,746.

Patented Dec. 23, 1873.

Fig 1.

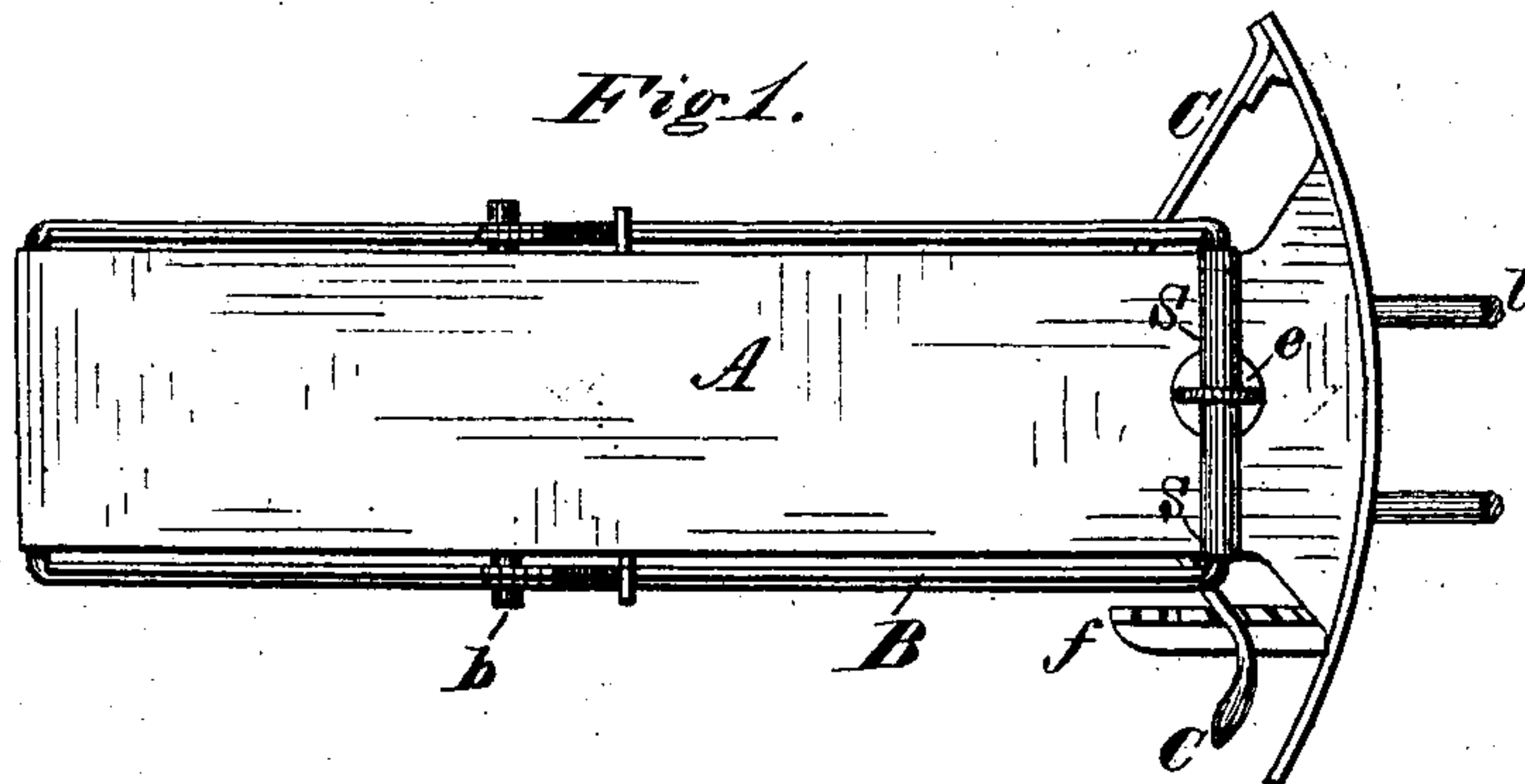


Fig 2.

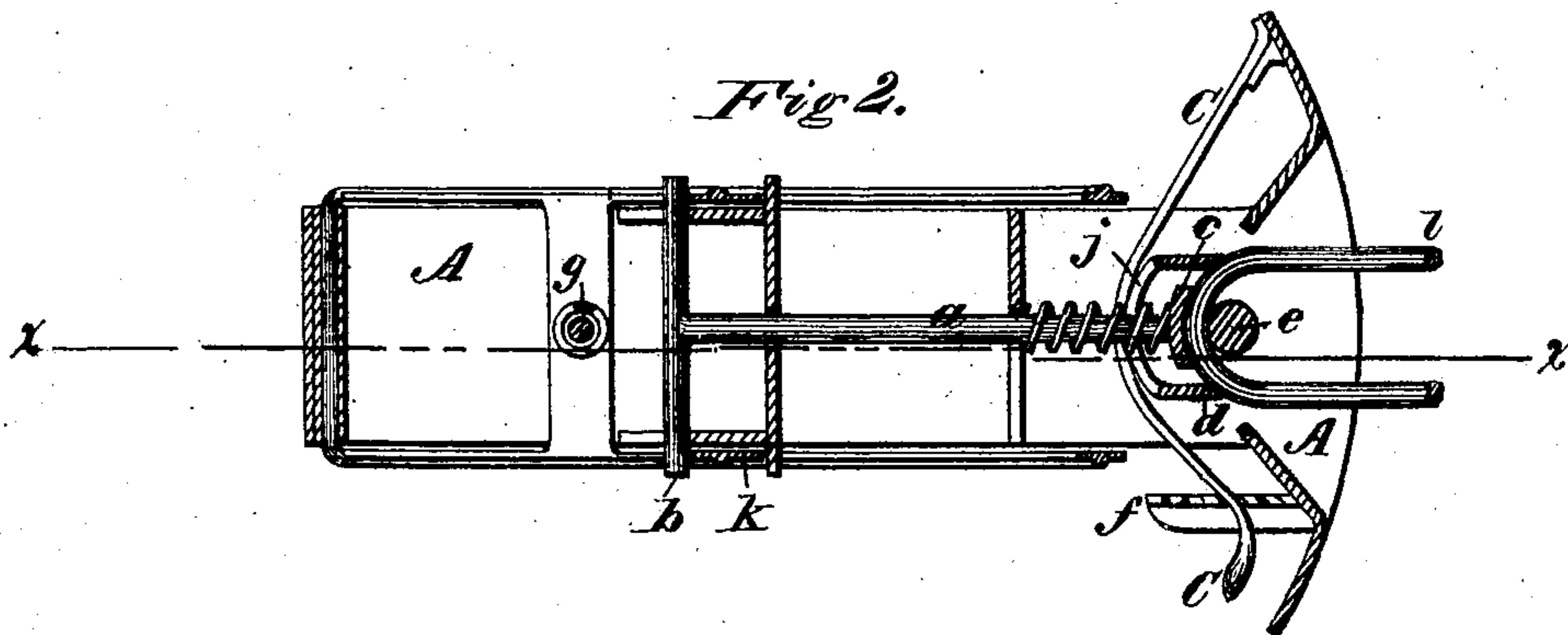


Fig 3.

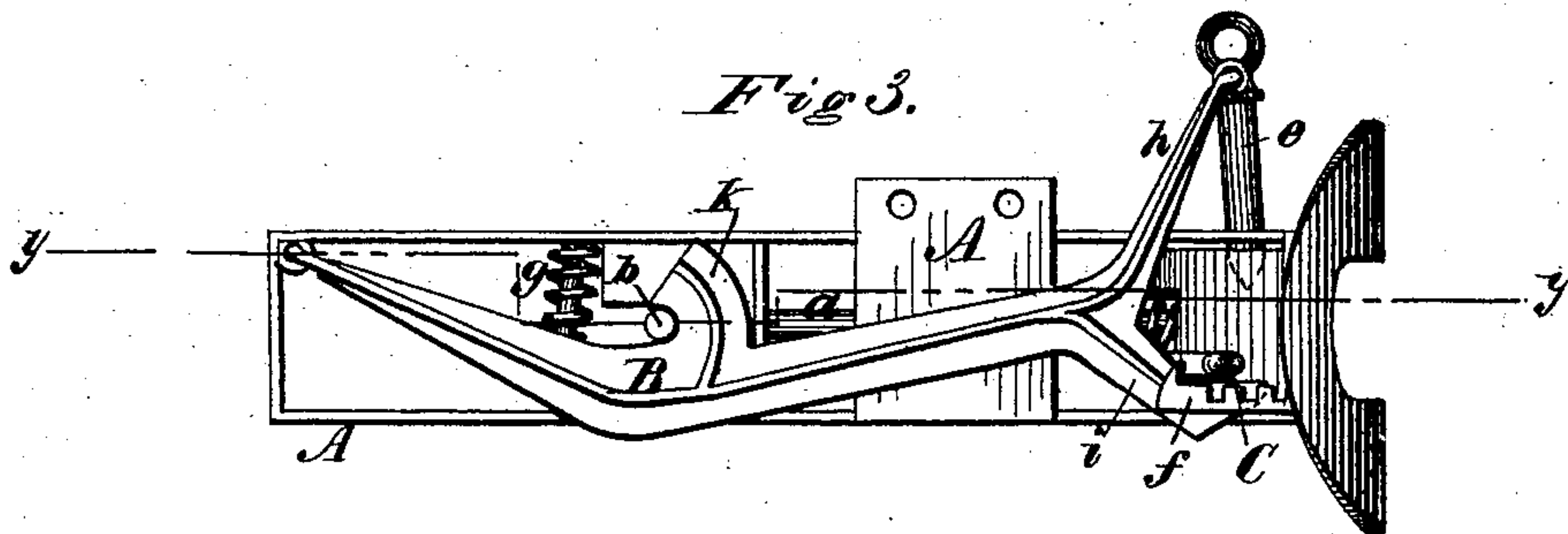


Fig 4.

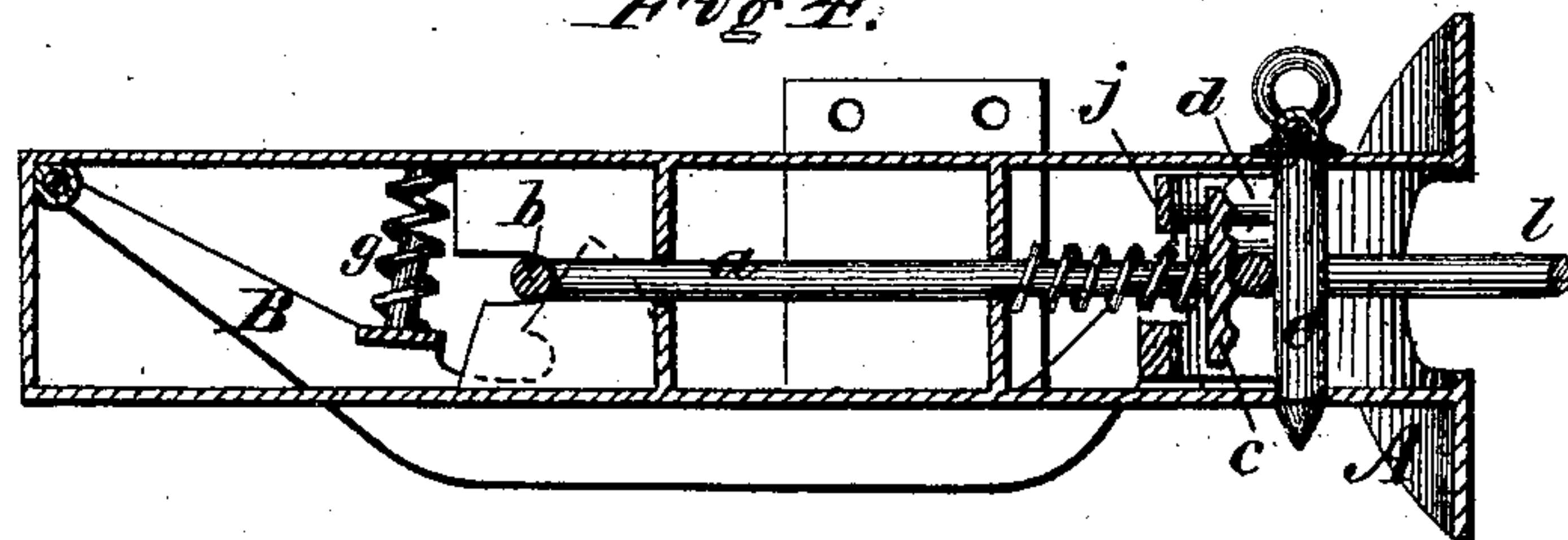
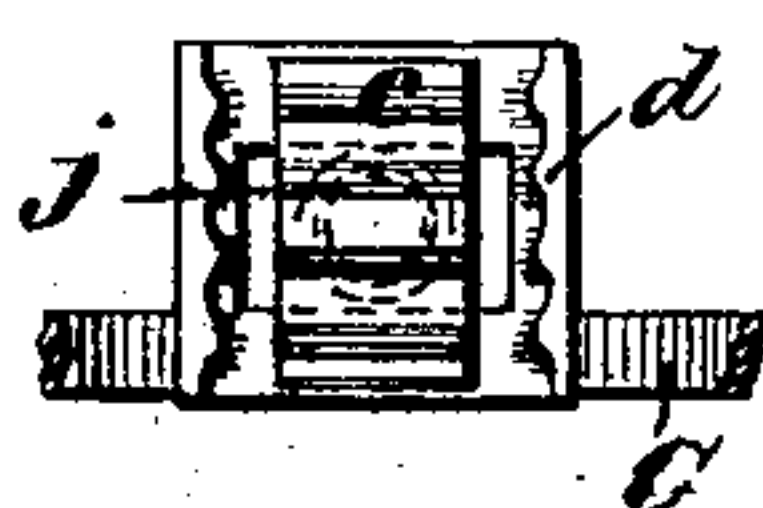


Fig 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

GEORGE R. MOORE, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 145,746, dated December 23, 1873; application filed September 25, 1873.

*To all whom it may concern:*

Be it known that I, GEO. RODNEY MOORE, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a Car-Coupling, of which the following is a specification:

The object of my invention is to provide an automatic car-coupling for coupling cars closely and safely. I prefer the ordinary draw-head, bumper, link, and coupling-pins of the kind shown in the accompanying drawings. I attach to the draw-head and to the pin devices for holding the link, and for holding and operating the pin, to insert it through the link at the exact moment of the connection of the draw-heads, so that slack, so commonly found in automatic couplings, is avoided.

As the two draw-heads are precisely alike, including my devices upon each one of them, it will be borne in mind that one link only is required for two draw-heads and pins; so that when a link is placed in one draw-head, the other one to be coupled with it must be at the same time without a link. Still, all the draw-heads are provided with facilities for either holding or receiving the link. When a given draw-head is to hold the link, provision is made for clamping it firmly against the pin, as will be more fully explained.

Figure 1 is a top view of an ordinary draw-head and bumper, with my improvements applied. A is the draw-head and bumper. Fig. 2 is a horizontal section taken in the line of *yy* in Fig. 3. Fig. 3 is a side elevation. Fig. 4 is a vertical transverse section taken in the line *xx* in Fig. 2. Fig. 5 is a front end view taken in the central portion of the bumper.

B is a lever, extending on both sides of the draw-head from its fulcrum in the rear to the pin *e* in front. It is shaped so as to keep all parts of it below the platform of the car until it comes forward of the same or near the pin *e*. *e* has side arms *s s*, making it T-shaped, that it may be the more easily guided to its place. C is an elastic lever attached to one side of the bumper, and, passing over the lower plate of the draw-head and just back of the clamp *d*, which it operates, it is stayed by the ratchet *f*. *a* is a

plunger, having a cross-bar, *b*. When the pin *e* is drawn up, till it brings the lever B with its groove in the arm K to a level with the cross-bar *b*, it is forced into the groove in the arm K by the spring *j*, and the lever B is held up at that point until it is released by pressure upon *a* from the front to carry *b* back out of its groove. *i* is an arm of the lever B, branching downward and extending forward under the lever C, and at such a level that when the pin *e* is drawn up it causes the arm *i* to strike the lever C and throw it out of its ratchet, *f*, thus releasing the clamp *d* from its pressure upon the link. *g* is a spring, bearing upon B, to aid the operation of the latter in throwing in the pin quickly, although the weight of the lever and pin may be sufficient without it. *c* is a jamb-plate upon the end of the plunger *a*. *j* is a spring upon the said lever. This spring and jamb-plate may be sufficient to hold the link for coupling; but lest it should not be, the following means are provided: *d* is a clamp, which is operated by the lever C for clamping the link *l* firmly against the pin *e*, when desired. It may be corrugated to give a firmer hold upon the link, as seen in Fig. 5.

The operation of this automatic coupling is as follows: The pin in one of the draw-heads being raised up, the clamp *d*, if before against the pin, is, by this act, set free, because the branch *i* of the lever B, extending under the lever C, has lifted it out of the ratchet *f*, and the latch *b* has also fallen into the groove upon K, thus holding the pin up; and everything is in readiness now in this draw-head to receive the link from the other; and now in doing so, as the link enters this draw-head it presses back the jamb-plate *a* until the cross-bar *b* is thrown out of its groove. Thus the lever B is released and throws the pin instantly in place, and the car is coupled.

The uncoupling of the cars is not automatic. It requires the raising of the pin, as heretofore. Now, in regard to the draw-head which holds the link, nothing whatever is to be done there, except, if need be, to set the link at any desired height, pitch, or angle, and clamp it there, in which case the lever C is to be pushed forward upon the ratchet *f* to any desired tightness. The lever C is light and

elastic, and the creases in the jaws of *d* are horizontal, so as not to injure the link.

I claim as my invention—

1. The plunger *a*, having cross-bar *b* and the levers *B* pivoted at the rear of the draw-head, in combination with the spring *g* and the pin *e*, as set forth.

2. The lever *C* and ratchet *f*, in combination with the clamp *d* and arm *i* of the lever *B*, as described.

GEO. R. MOORE.

Witnesses:

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