

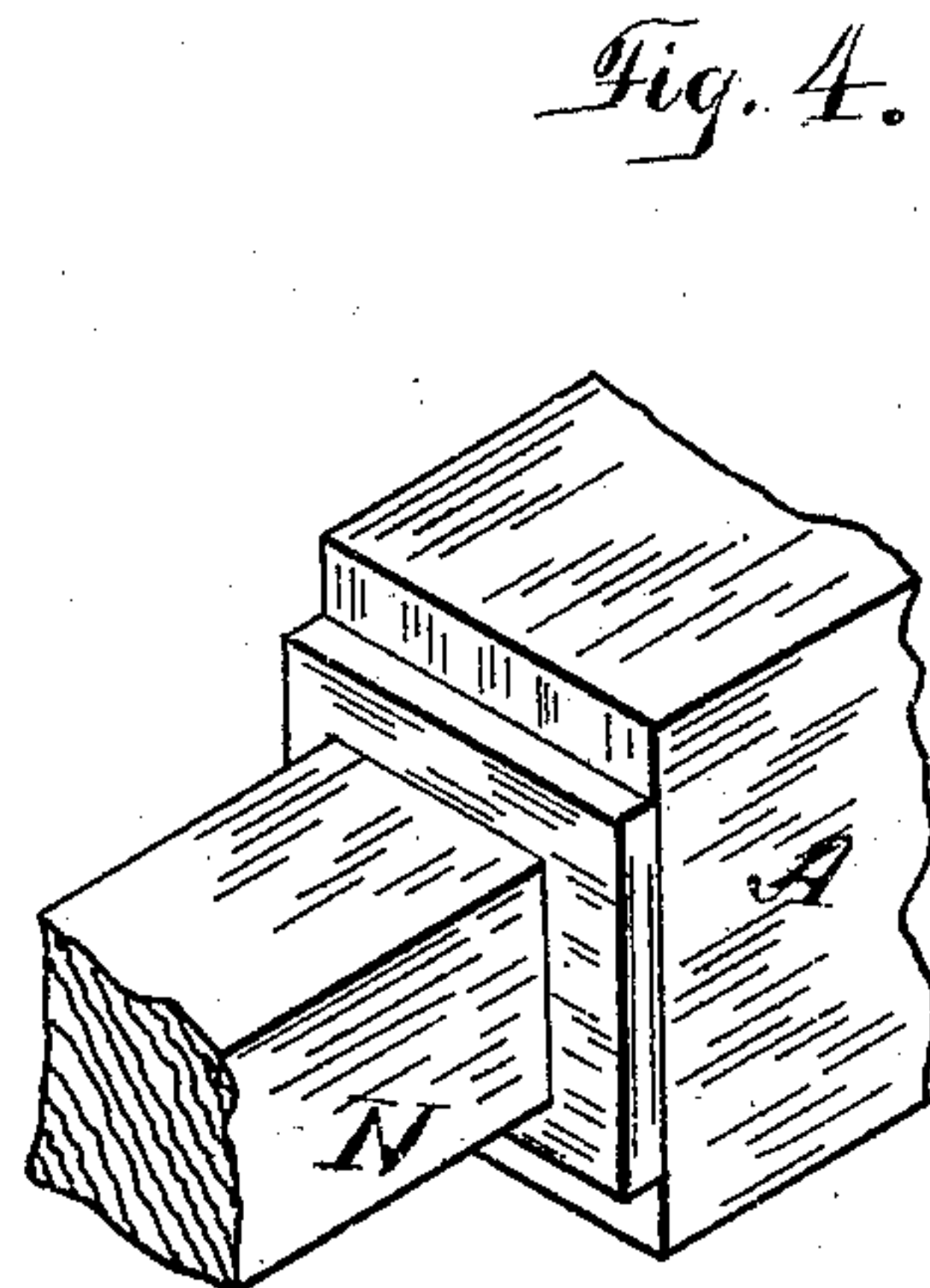
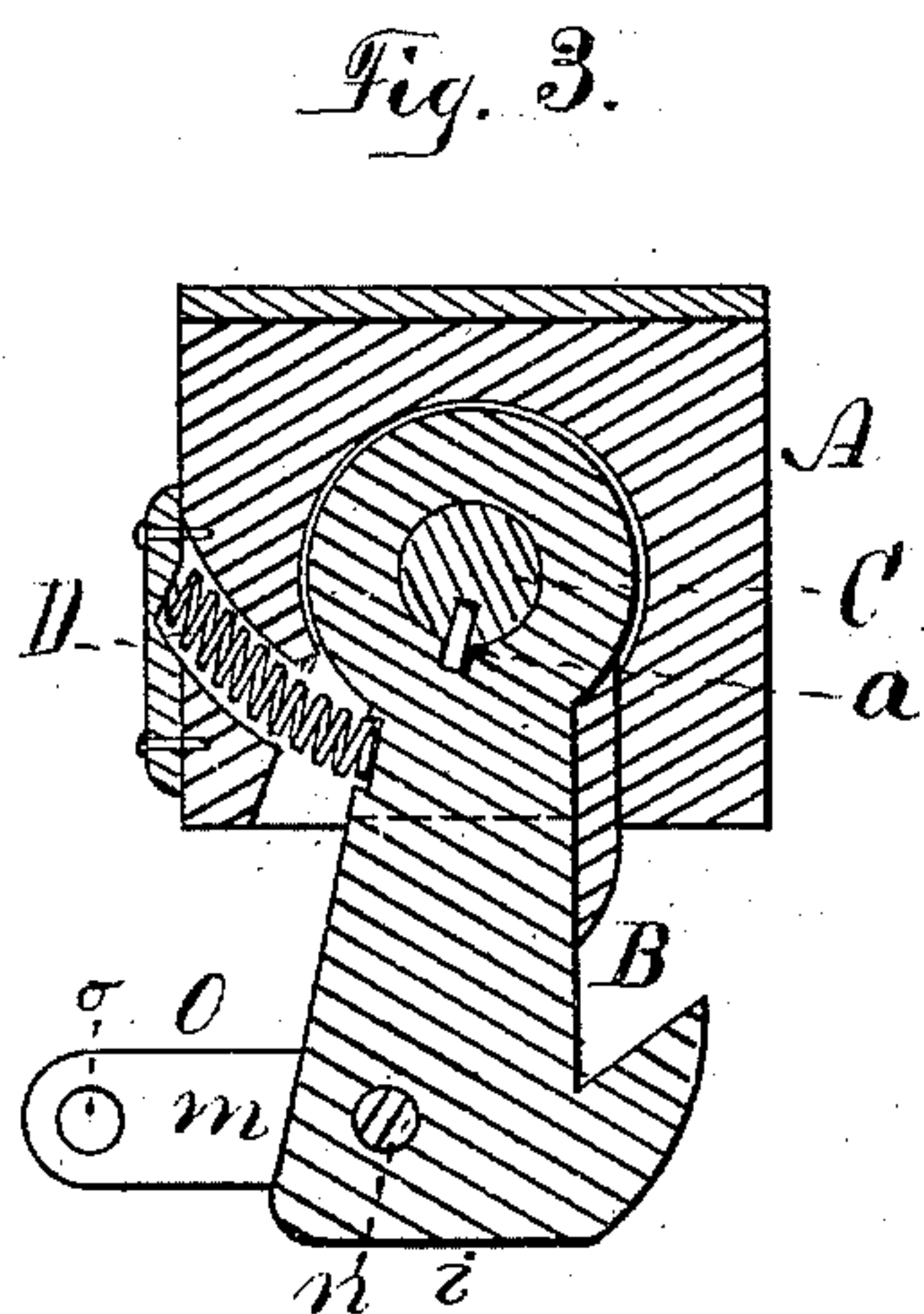
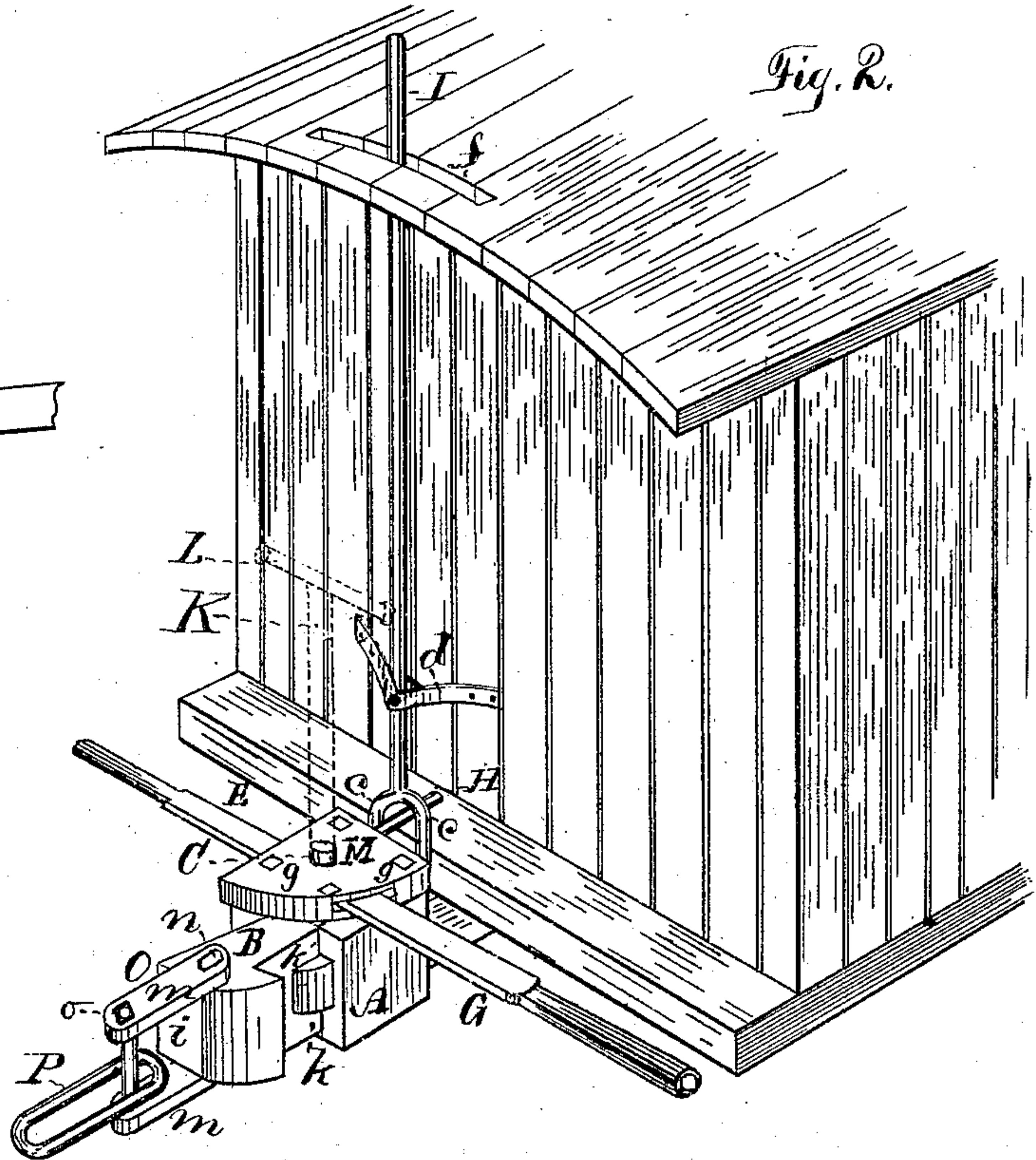
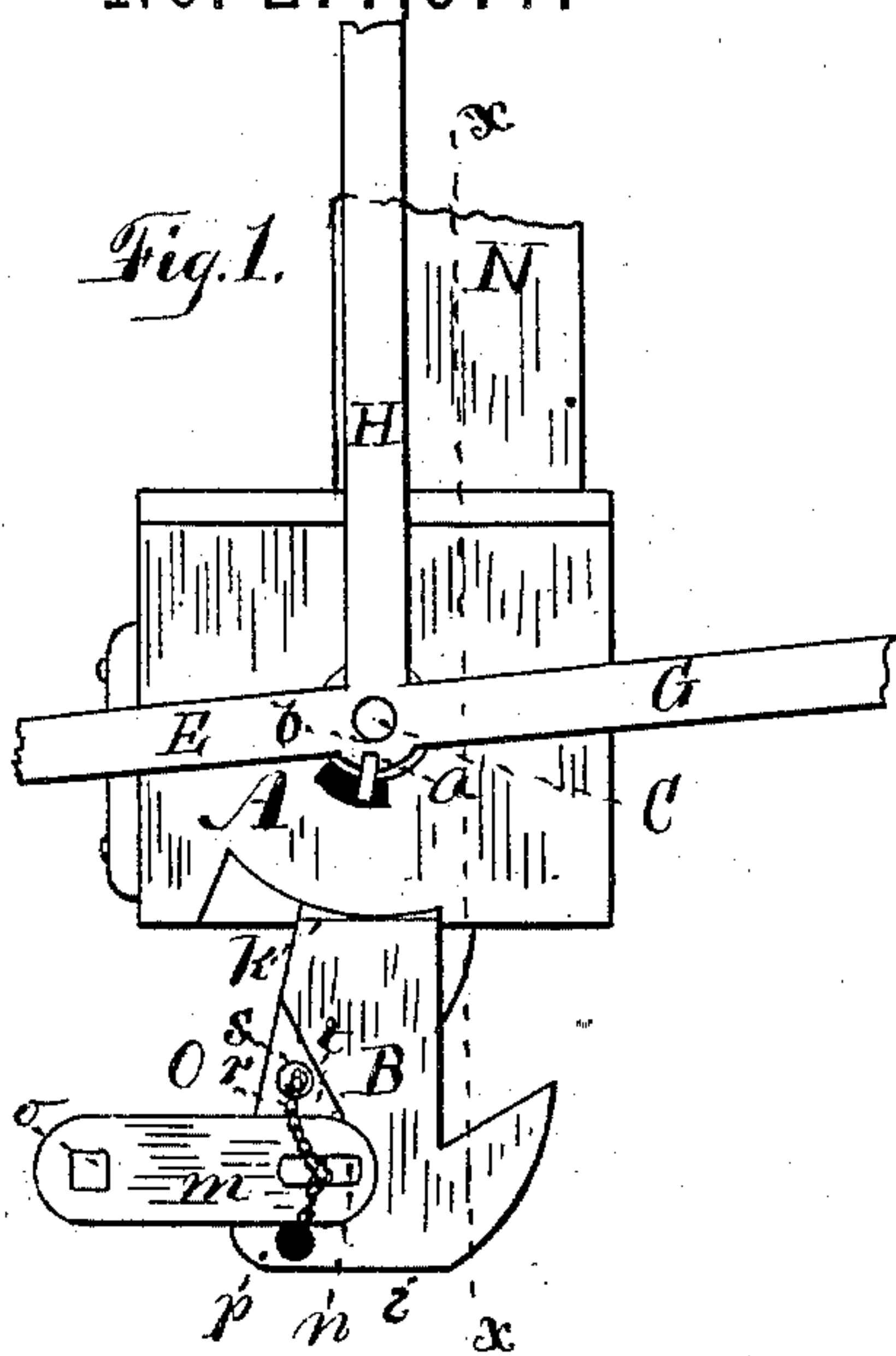
(No Model.)

T. F. BYRON.

CAR COUPLING.

No. 277,677.

Patented May 15, 1883.



WITNESSES.
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UNITED STATES PATENT OFFICE.

THOMAS F. BYRON, OF LOWELL, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 277,677, dated May 15, 1883.

Application filed December 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. BYRON, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Car-Couplings; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a top view of my improved car-coupling; Fig. 2, a view of the car-coupling in perspective, showing its application to a freight-car, a portion of which is shown in connection therewith; Fig. 3, a central horizontal section of the car-coupling; Fig. 4, a rear perspective view of the draw-head and a portion of the draw-bar for the improved car-coupling.

Like letters designate corresponding parts in all of the figures.

My invention belongs to the class of double-hook couplings; and the purposes accomplished by the invention are, first, to render the act of coupling perfectly automatic; second, to adapt the coupling to any variation in the height of cars; third, to adapt it to all the various kinds of cars; fourth, to enable the cars to be uncoupled therewith by a person standing in any position on the car-platform, on the top of the car, or on the ground at either side of the car; fifth, to enable it to be used with cars having link-couplings; and, sixth, to combine the coupling and bunter in one, or so that the coupling itself will act as a bunter when two cars meet without injury thereto.

My invention is substantially as represented in the accompanying drawings, and is constructed and operated substantially as follows:

I show in the drawings the coupling for the end of one car, and a duplicate thereof on another car forms therewith a complete coupling. The coupling-hook B has at its rear end a rounded enlargement or hub, fitting in a socket in the draw-head A, and it is provided with a pivot-pin, C, which turns or vibrates in pivot-holes in the draw-head above and below the hook, the mouth of the socket being wide enough horizontally to allow sufficient lateral play of the hook for coupling and uncoupling. A coiled spring, D, is located inside of the draw-head, and is arranged to press against the outer side of the coupling-hook, as shown

in Fig. 3, to keep the hooks coupled together and to yield for uncoupling. The coupling-hook is deep enough vertically to insure its engagement with its fellow on the next car however much the draw-heads of the two cars may differ in height above the track. The pin C of the coupling-hook is coupled thereto, so that one will always turn with the other, since I operate the hook in uncoupling by turning its pin to the extent desired. I effect this by means of a spline, *a*, Fig. 3, which fits in two vertical grooves, one in the pin and the other in the hook, as shown. For simplicity and compactness, also, I employ or may employ the same spline to couple the operating-levers E G H to the pivot-pin. These levers are best, though not necessarily, made in one, being united at the center with a hub, *b*, which has a notch in which the spline enters. These three levers projecting two laterally in opposite directions and the third extending toward the center of the car enable the cars to be uncoupled from three different positions. The two levers E G, extending in opposite directions toward the two sides of the train, enable an attendant standing on the ground at either side to effect the uncoupling by turning the pin C in the right direction. These levers do not project exactly parallel with the front end of the car, but are a little inclined, as shown in Fig. 2, to allow room to swing the levers without touching the end of the car-platform, since in uncoupling the levers are always moved in one direction. The third lever, H, extends backward between the forks *c c* at the lower end of a vertical lever, I, pivoted to a bracket, *d*, secured to the end of the car, and extending up through a slot, *f*, in the roof of the car to a proper position to be handled by a brakeman on the top of the car. It will be seen that a lateral movement of the upper end of this lever, as thus arranged in connection with the lever H, will uncouple the car. This device is intended especially for freight-cars, a portion of such a car being shown in the said Fig. 2. For passenger-cars I prefer to employ the construction shown by dotted lines in the same figure. A rod, K, extends vertically upward from the coupling-hook pin C, or forms an extension thereof. On the upper end of this rod is a cross-lever, L, or its equivalent, for turning the pin C and uncoupling the car. Thus I am enabled by

these several connections with the pin C to uncouple the cars without touching the coupling itself, and without danger, in all the different positions necessary or desired.

5 This coupling is self-coupling, like other couplings of this class. Over the draw-head A, I fit a removable cap, M, attached by bolts *g g* thereto. This cap has lateral slots for the several levers E G H to extend outward
10 through, one being shown at *h*, Fig. 2, and this cap serves to keep the said levers in position, and to limit the movements thereof. The levers may be additionally held down upon the pin C by a nut screwing down on the
15 rod K, if employed, or on a shorter extension of the said pin.

I construct each coupling-hook B so that it may serve as a bunter in case it strikes the draw-head or other part of a car not provided
20 with a similar coupling. For this purpose I make a portion of its outer end plane, as shown at *i*, which, however, does not interfere with self-coupling when the two cars have this improved coupling. This plane face is at right
25 angles to the longitudinal line of the car, so that there will be no tendency to turn the hook out of place if it strikes the bunter of another car. In this case it is necessary to give sufficient strength to the coupling-hook, and to
30 guard against injury to any part of the coupling, especially to the pivot-pin C. To this end I form strong solid shoulders *k k* on the hook, both upon its upper and under sides, and these
35 shoulders are opposite and close to the forward jaws or front edges of the draw-head A, so that the draw-head will take the shock, and not the pin C.

I arrange the draw-head A in a peculiar way on the draw-bar N, as shown in Fig. 1, it being eccentric thereto to this extent that the
40 central (dotted) line, *x*, of the draw-bar, which indicates also the central line of the car, shall be substantially in line with the center of the bearing of each coupling-hook, as indicated,
45 so that two hooks coupled together shall have equal work, equal strain, and no tendency to pull sidewise.

I provide for using my improved coupling with other cars having the ordinary link-and-pin coupling in case such cars get into the
50 train. For this purpose I attach to the coupling-hook a shackle, O, consisting of two shackle-bars, *m m*, respectively above and below the hook, a pivot, *n*, passing down through
55 the hook and through the two shackle-bars, and a removable pin, *o*, passing down through holes in the outer ends of the shackle-bars for attaching to the shackles a coupling-link, P.

The pivot-pin *n* is flattened or otherwise formed where it enters the shackle-bars *m m*, so as
60 not to turn therein, whereby the said shackle-bars are always held one above the other. The pin turns freely in the coupling-hook B. When this shackle is not in use it is swung round to one side, as shown in Fig. 1, so as to be out of
65 the way, and it is held there by a pin, *p*, inserted in a hole in the hook, as shown in Fig. 1. The pin may always be retained ready for use by attaching it to a chain, *r*, secured to the shackle, as shown. When the shackle is to
70 be used the pin *p* is taken from the place shown and shifted to a hole, *s*. Thus the coupling is fully adapted to be used with ordinary draw-heads on one of the two cars coupled. The shackle is held in the position shown
75 against a stop, *t*, on the coupling-hook.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination of the draw-head A, the coupling-hook B, socketed
80 therein, the pivot-pin C, turning in the draw-head and coupled to the coupling-hook, and the spring D, mounted inside of the draw-head, substantially as and for the purpose herein specified. 85

2. The combination of the coupling-hook B, pin C, coupled thereto and extending upward therefrom, and the levers E G H, coupled to the pin C, substantially as and for the purpose
90 herein specified. 95

3. The combination of the coupling-hook B, pin C, lever H, and forked lever I, substantially as and for the purpose herein specified.

4. The slotted cap M, in combination with the draw-head A, and levers E G H, substantially as and for the purpose herein specified. 95

5. The coupling-hook B, formed with a plane face, *i*, on its forward end for a portion of the width thereof, and with rear shoulders, *k k*,
100 to bear against the forward end of the draw-head A, substantially as and for the purpose herein specified.

6. The draw-head A, mounted on the draw-bar N, horizontally eccentric thereto, the center line of the draw-bar substantially coinciding with a line drawn through the middle of the draw-bearing of the coupling-hook in the line of the car's motion, substantially as and
105 for the purpose herein specified.

7. The shackle O, in combination with the coupling-hook B, substantially as and for the purpose herein specified. 110

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Witnesses:

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