(No Model.) 2 Sheets—Sheet 1.

A. MIDDLETON.

CAR COUPLING.

No. 325,953. Patented Sept. 8, 1885.

FIG. 2.

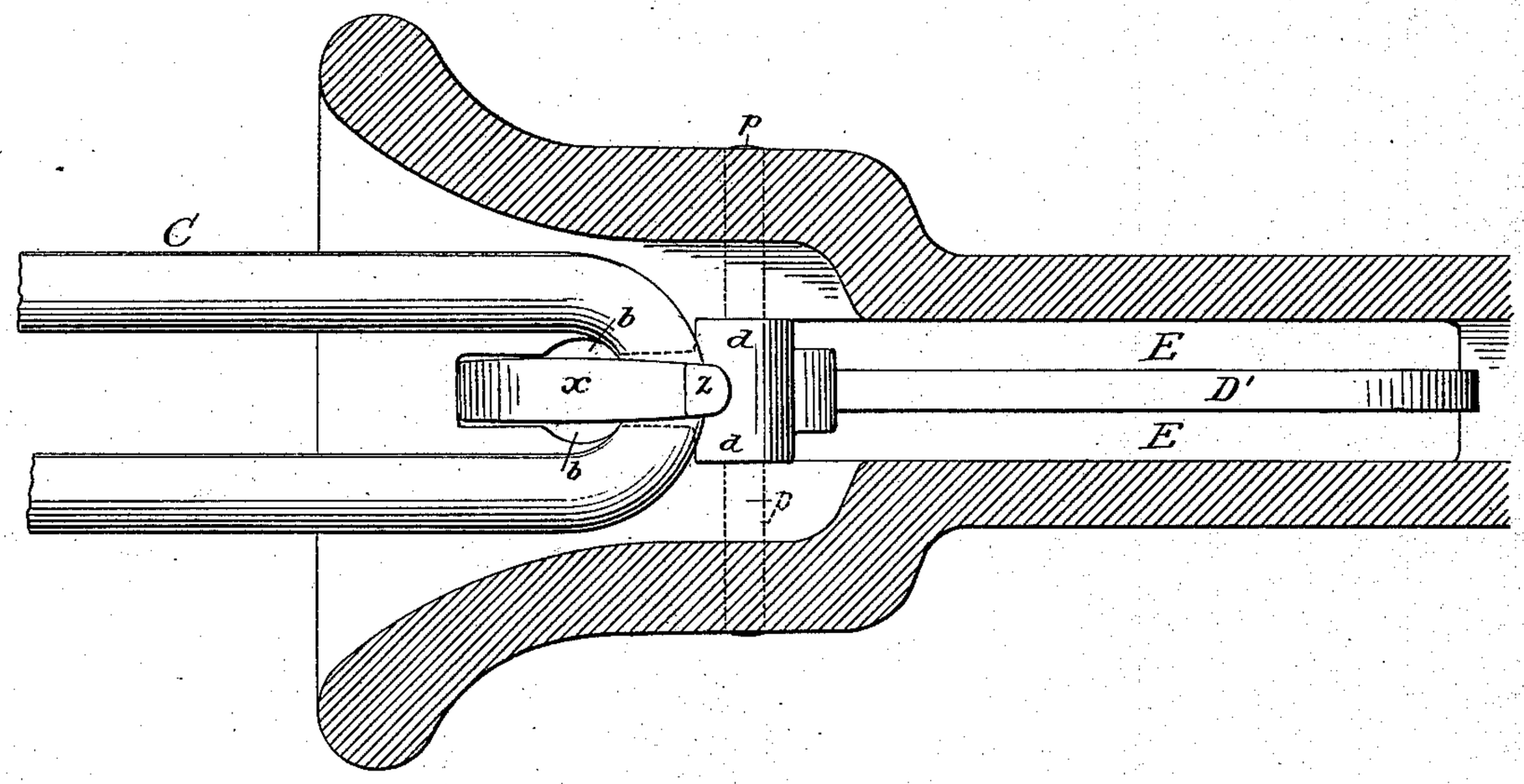
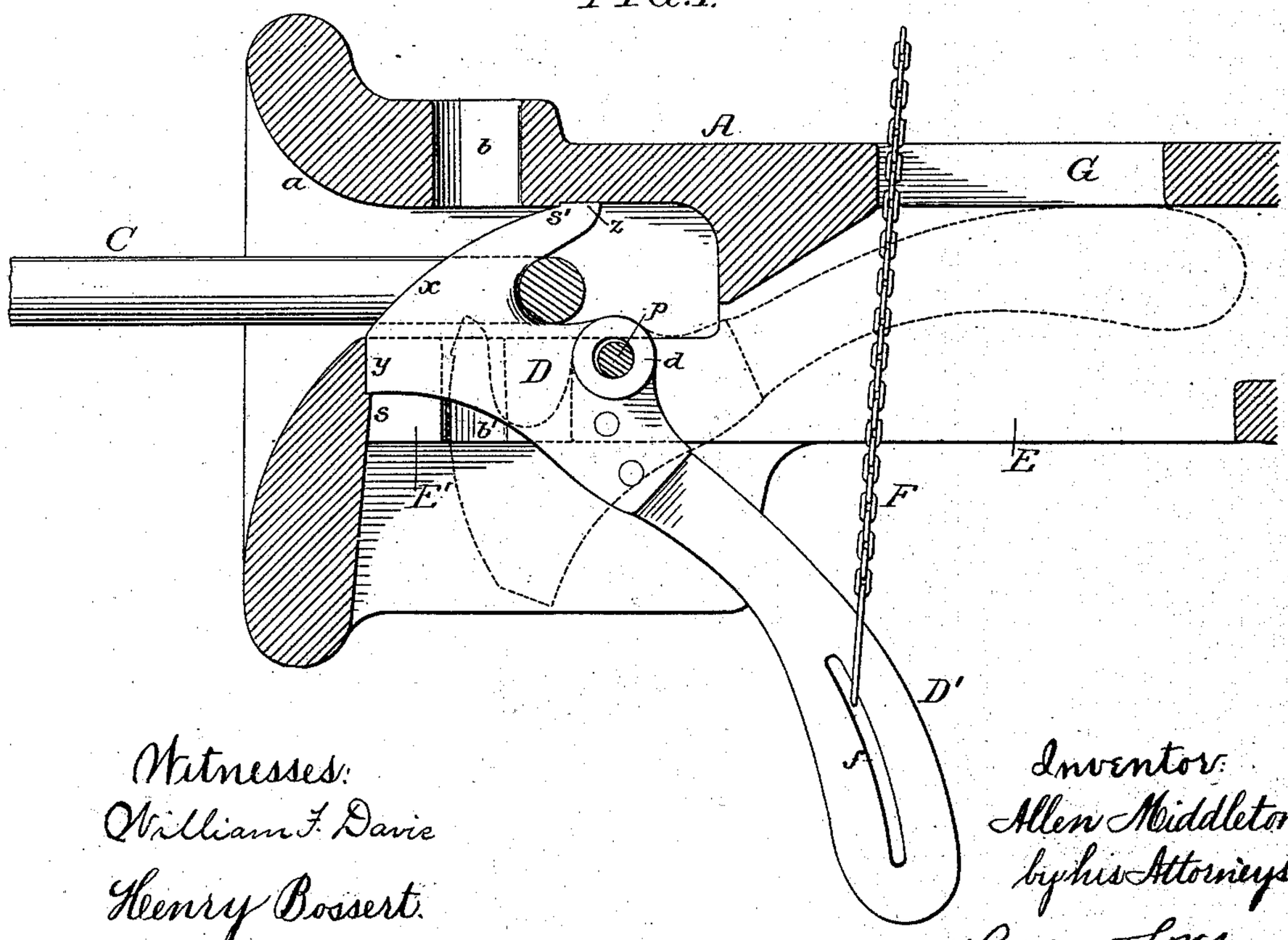


FIG. 1.



Witnesses:
William F. Davie
Henry Bossert.

Inventor:
Allen Middleton
by his Attorneys
Howson & Sons

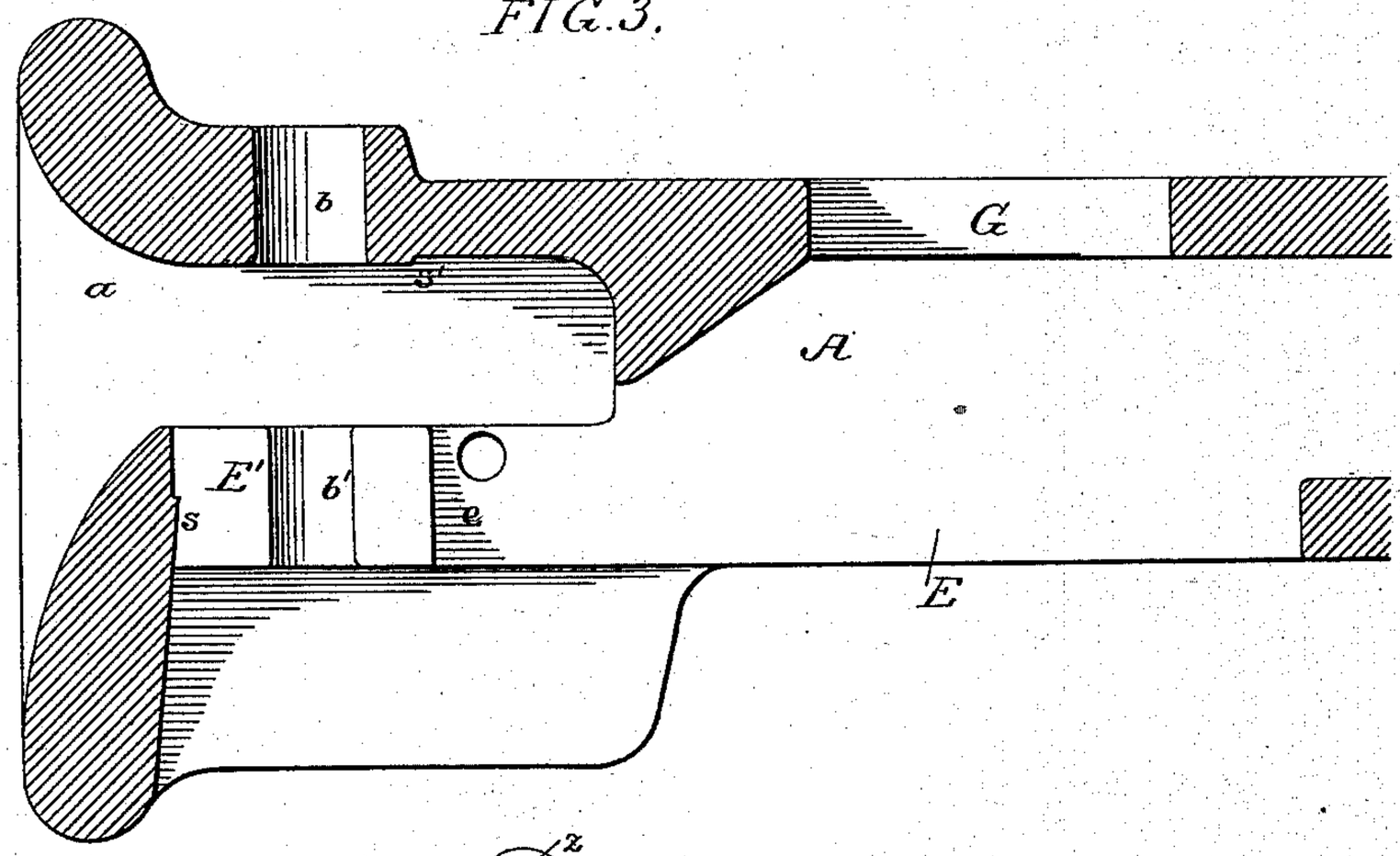
(No Model.) 2 Sheets—Sheet 2.

A. MIDDLETON.

CAR COUPLING.

No. 325,953. Patented Sept. 8, 1885.

FIG. 3.



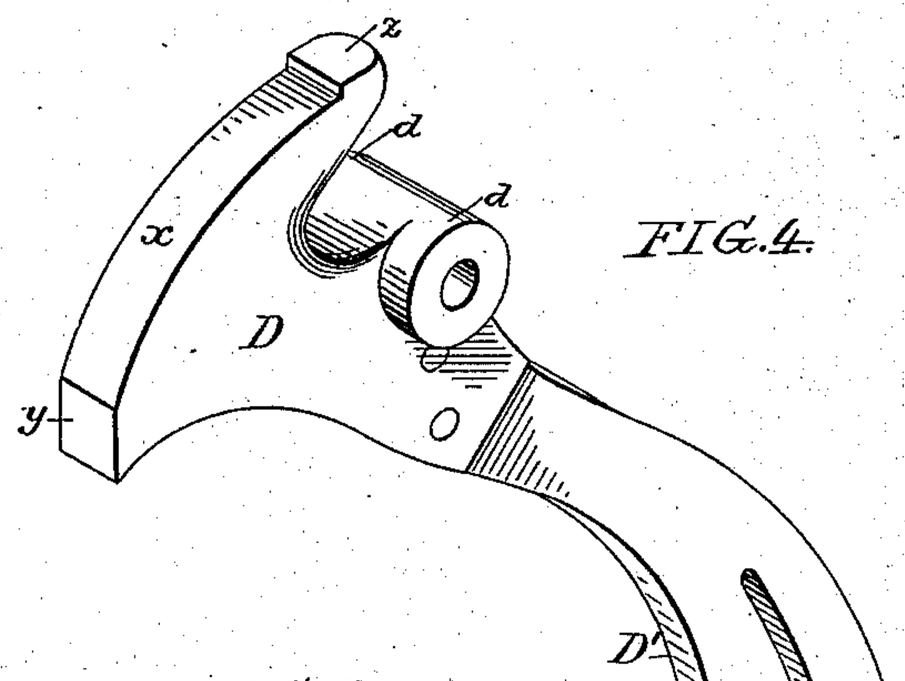
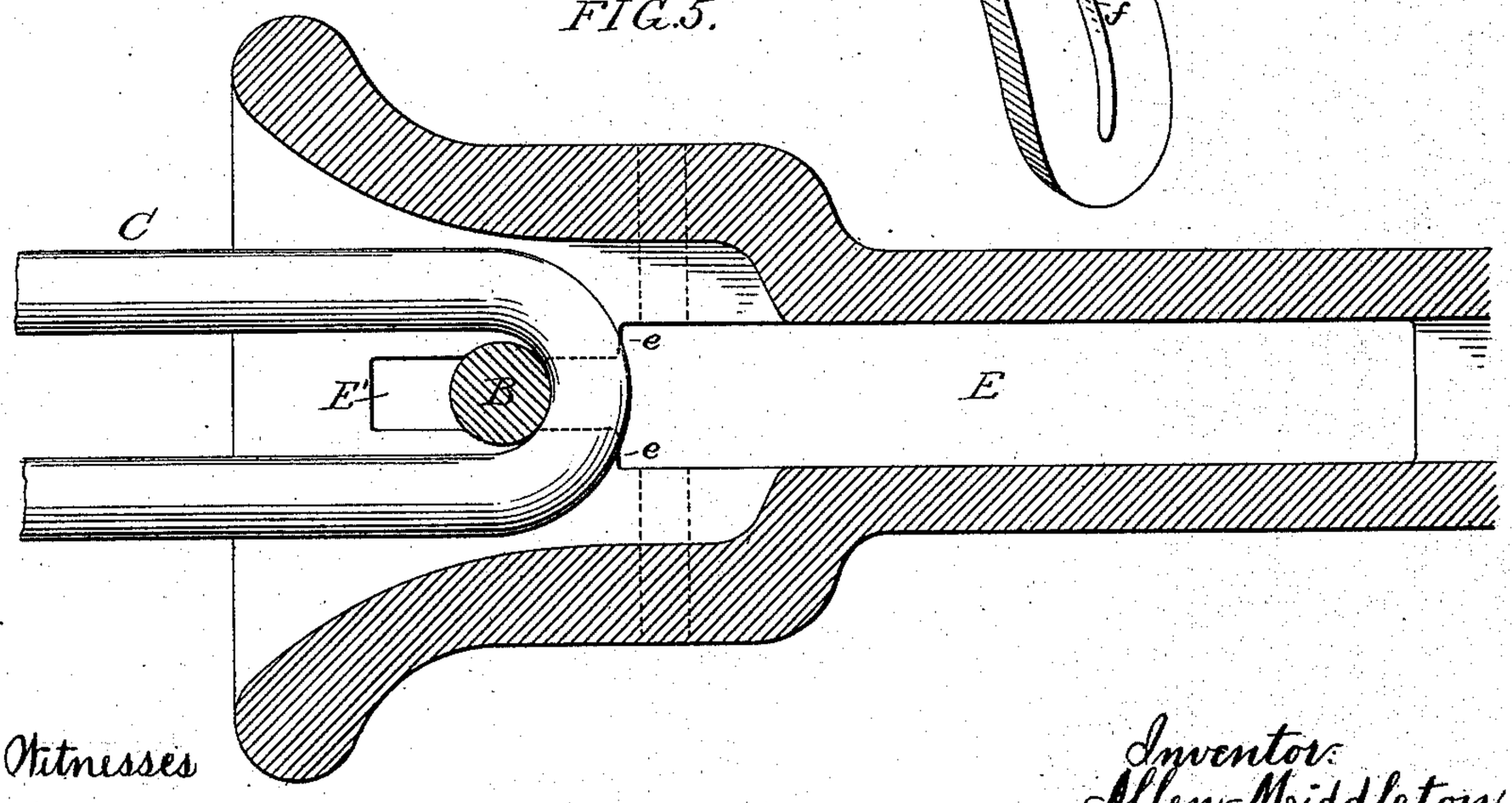


FIG. 4.

FIG. 5.



Witnesses
William F Davis
Henry Bossert

Inventor:
Allen Middleton
by his Attorneys
Howson & Sons

UNITED STATES PATENT OFFICE.

ALLEN MIDDLETON, OF PHILADELPHIA, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 325,953, dated September 8, 1885.

Application filed April 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, ALLEN MIDDLETON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Car-Couplings, of which the following is a specification.

My invention consists of certain improvements in the construction of car-couplings, more especially adapted for use on freight-cars, my improvements being designed to be applied to the forms of draw-heads now in common use, and being of such a character that the coupling may be adapted either to operate automatically or to couple the cars with the ordinary link and pin, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a vertical section of my improved coupling. Fig. 2 is a sectional plan. Fig. 3 is a vertical section of the draw-head when the hooked coupling-lever is removed. Fig. 4 is a perspective view of the hooked coupling-lever, and Fig. 5 is a sectional plan of the draw-head when the hooked coupling-lever is removed.

A is the draw-head, which may be one of those now in common use, but modified, as hereinafter described, for the application of my improvements thereto. If preferred, the draw-head may be cast especially for the purpose. It is provided with the usual flaring or bell mouth, *a*, and vertical opening *b*, for the reception of the usual coupling-pin, B, which, when my attachments are removed, may be used in the ordinary way with the coupling-link C, Fig. 5.

In the under side of the draw-head I form vertical slots E E′, as shown in Figs. 1 and 5, and in the upper part of the head I form a short vertical slot G, Figs. 1 and 3, behind the link-chamber, for a purpose explained hereinafter. To the slots E E′, thus formed in the under side of the draw-head, is adapted my automatic hooked coupling-lever D, which is mounted on the horizontal pivoting-pin *p*. The construction of this coupling-lever is more fully illustrated in Fig. 4, in which it will be seen that the front portion of the hook is formed with an incline or curve, *x*, a flattened end, *y*, and a projection, *z*, on the top of the hook, while the portion through which the pivot-pin passes is provided with bosses, *d d*, on opposite sides.

On the rear end of the hook is a counter-weight arm or operating-lever, D′, which I prefer to form separately from the hooked portion, and to secure thereto bolts or rivets, the hook, with its bosses, being made of a steel casting.

The slot E extends to and forms shoulders *e e*, extending from the bottom of the draw-head to the holes for the transverse pivot-pin.

The coupling-hook, with its bosses *d d*, can be inserted upward into the draw-head from below until the hole in the hooked lever corresponds with the holes in the draw-head, when the pivot-pin can be inserted to swing the coupling-hook in position.

The hole in the coupling-hook is of somewhat larger diameter than the pivot-pin—say an eighth of an inch—and the upper ends of the shoulders *e e* are proportionately a short distance from the bosses *d d*, so as to leave sufficient clearance or lost motion in a horizontal direction to allow the flattened end *y* of the hook to come into contact with the front of the draw-head, and thereby relieve the pivot-pin from any pulling strain. The inner face of the front of the draw-head is provided with an offset, *s*, Figs. 2 and 3, on which the end of the hooked lever can rest and be supported when the pulling strain is put on the hook, as shown in Fig. 1. Another offset, *s′*, is preferably formed in the under side of the top of the draw-head, to receive and form a bearing for the projection *z* on the point of the hook.

In the end of the counter-weight arm D′, I form a slot, *f*, to which is adapted the hook or loop on the end of a lifting link or chain F, which passes upward through the slot G to the end of the car, and is there connected to a chain running over pulleys to the side of the car, or to a lever pivoted to the end of the car, and either of them adapted to be operated by the train-hands from the side, without requiring them to enter between adjoining cars to uncouple or couple them.

In coupling, the ordinary link, C, of the approaching car will slide up the inclined front face of the hook D and force the latter downward against the action of the counter-weight, until the end of the link passes over the hook,

when the parts will assume the position shown in Fig. 1.

The slot E′ and the corresponding portion of the hook D are made slightly narrower than the diameter of the ordinary coupling-pin, and in the sides of this slot E′, I form vertical recesses *p p*, immediately under the pin-hole above, so that when it becomes necessary to take out the coupling-hook the ordinary coupling-pin may be put in its place and find a bearing in both the top and bottom of the draw-head.

The object of making the openings *f* and G slotted is to allow for the longitudinal movement of the draw-head in pulling and bumping, thus permitting a straight pull on the lifting chain or link F at all times.

I claim as my invention—

1. The combination of the draw-head having shoulders *e e*, a pivoted hook having bosses *d d*, adapted to engage with said shoulders, and a pivot-pin smaller in diameter than the hole in the pivoted hook, substantially as set forth.

2. The coupling-hook D, made of cast-steel, and having an arm, D′, made separately therefrom, but rigidly secured thereto, substantially as specified.

3. The combination of the pivoted hook of a car-coupling with the counterweighting-arm, having a slot, *f*, and the lifting device adapted to said slot, as and for the purpose set forth.

4. The draw-head having the pin-hole *b* in the upper part and the slot E in its lower part, provided with recesses *b′* in line with the pin-hole, as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALLEN MIDDLETON.

Witnesses:

WILLIAM F. DAVIS,

HENRY HOWSON.