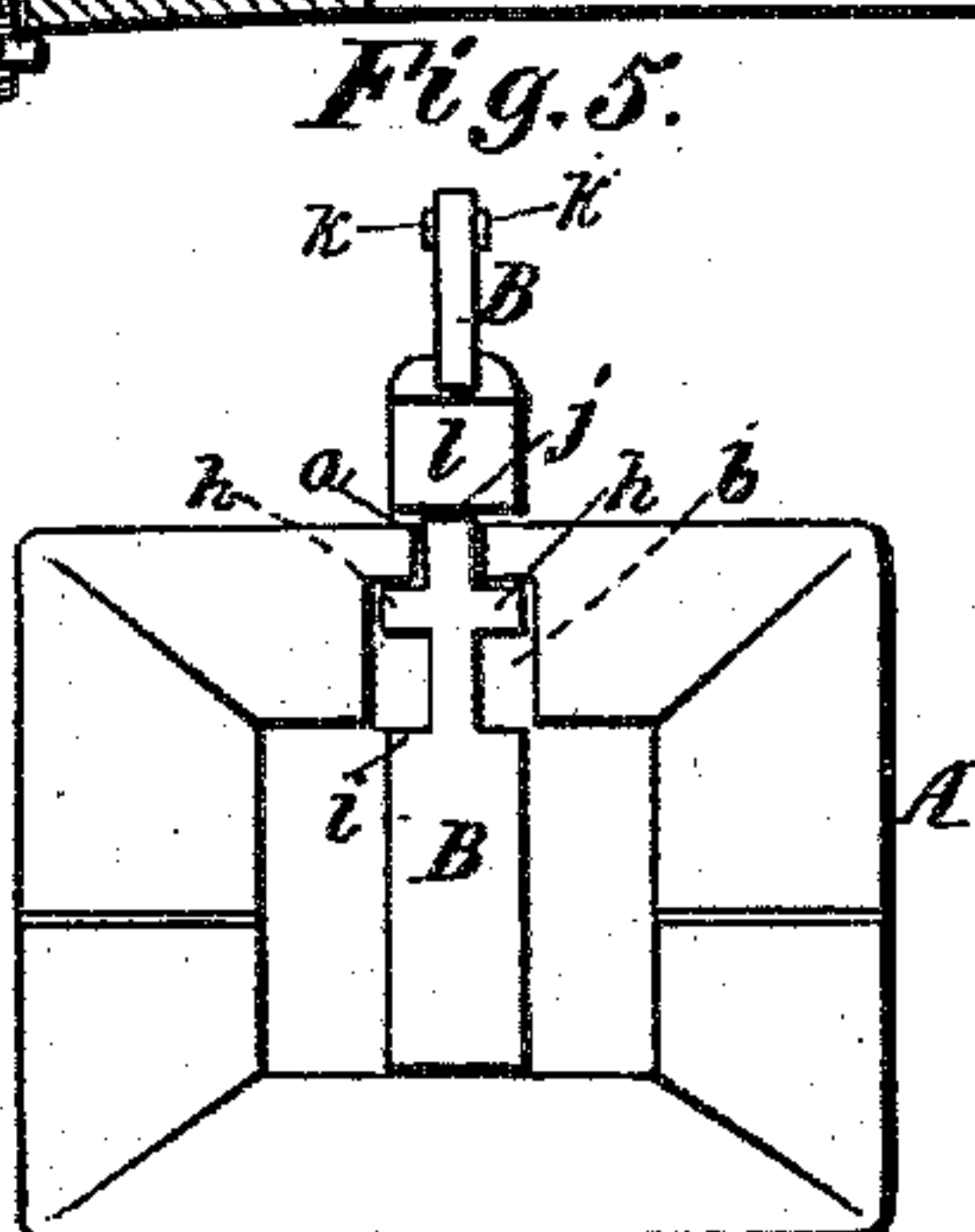
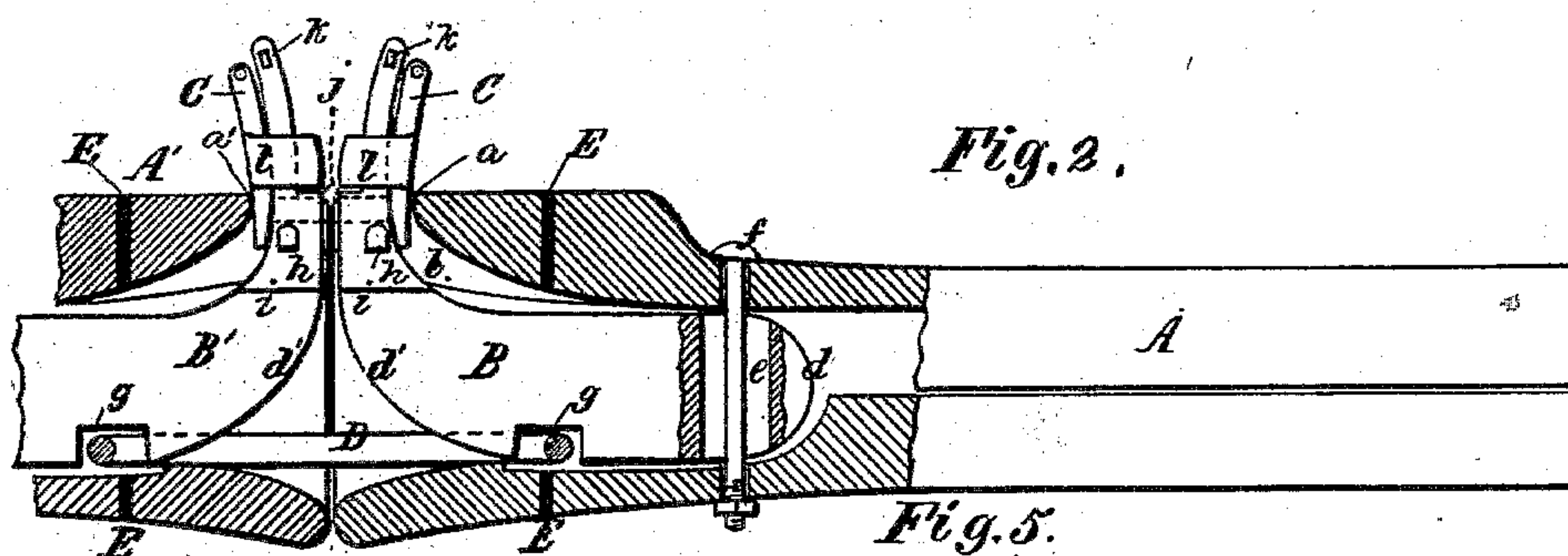
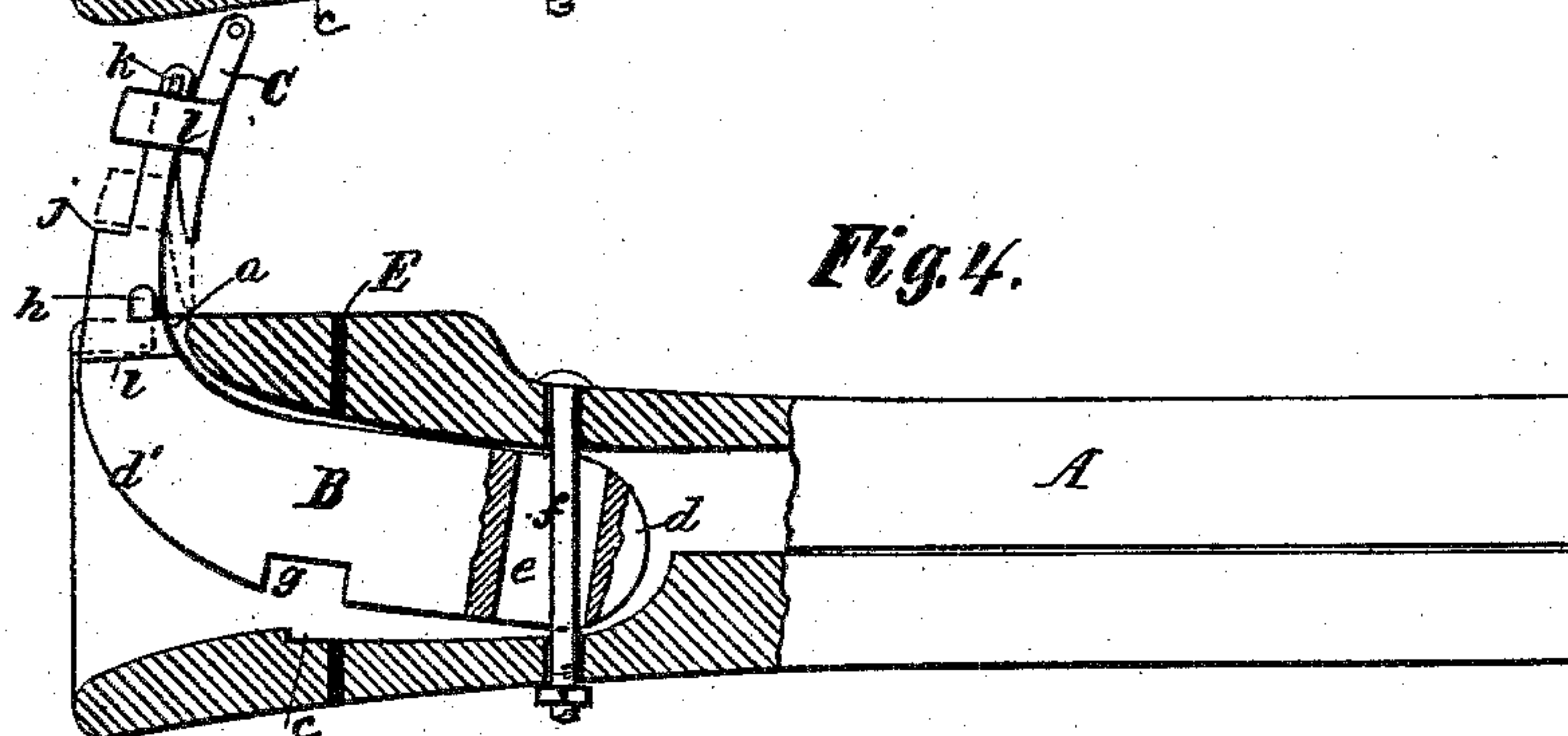
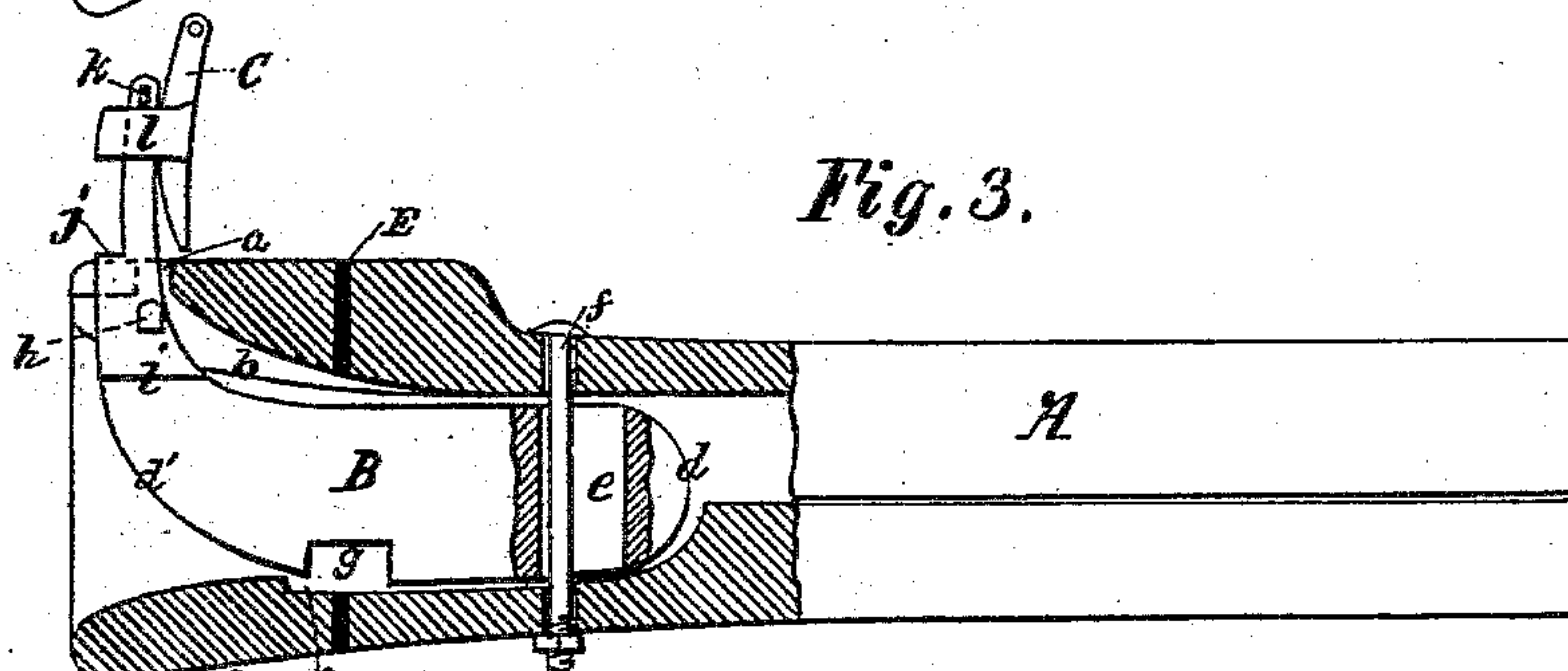
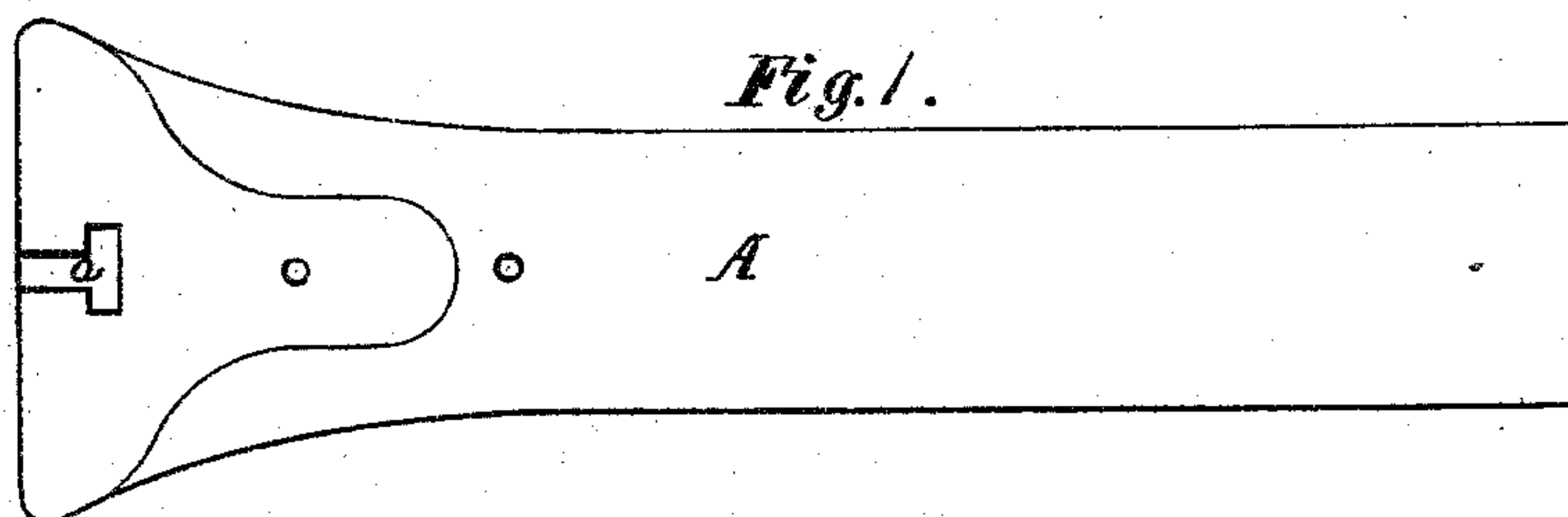


(No Model.)

A. B. MAHON.
CAR. COUPLING.

No. 288,083.

Patented Nov. 6, 1883.



Witnesses:

Robert Fenwick.
Robert Fenwick.

Inventor:

Alexander B. Mahon
by his Atty
Fenwick Lawrence

UNITED STATES PATENT OFFICE.

ALEXANDER B. MAHON, OF PENSACOLA, FLORIDA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 288,083, dated November 6, 1883.

Application filed April 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER B. MAHON, a citizen of the United States, residing at Pensacola, in the county of Escambia and State of Florida, have invented a new and useful Improvement in Automatic Car-Couplers, of which the following is a specification.

My invention relates particularly to automatic couplings for freight-cars which usually are constructed without platforms, and are uncoupled by connections extending down from the top of a car to the draw-head or bumper, or by entering between two cars.

The improvement which I have made consists, mainly, in the combination, with a draw-head or bumper provided with a peculiar slot in its top, and a sliding locking-wedge under the control of the conductor or brakeman, of a notched draw-head hook which is capable of swinging up and down, and sliding backward and forward, and which is provided with side projections serving to keep the draw-head hook closed down upon the coupling-link, while the said link is connected with it, and for holding up the hook ready for the self-coupling operation which takes place when two draw-heads are brought together for the purpose of coupling the cars.

In the accompanying drawings, Figure 1 is a top view of a draw-head or bumper provided with the peculiar slot. Fig. 2 is a longitudinal section of two draw-heads or bumpers of freight-cars with my improved self-coupler applied to them, the same being coupled and in bumping relation. This view illustrates the manner in which the hooks, by the oblong notches therein, are permitted to move with the draw-heads when a bumping action occurs without breaking the link or other parts; and it also illustrates the manner in which the side projections of the hooks are moved forward and caused to stand under solid parts of the draw-head for the purpose of holding the hooks down upon the link; and it also shows how the locking-wedge locks the hook and its projections when the cars are coupled. Fig. 3 is a longitudinal section of one draw-head or bumper, showing the locking-wedge raised out of locking position, and the hook and its projections moved backward in line with the wider part of the peculiar slot of the draw-

head or bumper. Fig. 4 is a similar section to Fig. 3, but the hook being shown lifted up off the link, so as to free it and allow the cars to uncouple, and the hook and its projections also being shown moved forward, so as to be held up in a self-coupling position by a solid portion of the draw-head or bumper. The dotted lines show the position of the locking-wedge when it is released by the conductor and allowed to slide down upon the supporting-shoulder of the hook from the position shown in full black lines; and Fig. 5 is a front or end view of one of the draw-heads or bumpers, the parts being in the position shown in Fig. 2.

A A' in the views of the drawings designate the draw-heads or bumpers, both being of ordinary construction, except that an open T-shaped slot, *a a'*, is formed in the front central part of the top portion of each, a groove or channel, *b*, with beveled surface between its sides, formed in the under surface of said top portion, and a shouldered depression, *c*, formed in the bottom portion, as shown.

B B' are the draw-head coupling-hooks; C, the locking-wedge; D, an ordinary coupling-link, and E ordinary coupling-pin holes, which, in an emergency, or on breakage of the hooks, may be used with pins in lieu of the improved self-coupler. The coupling-hooks and locking-wedges of the two draw-heads are alike, and a description of one will answer for both. The hook B or B' is formed with suitable curvatures, *d d'*, so as to operate properly (during the coupling and uncoupling of cars) in the draw-head and slot *a* thereof. Vertically through the hook an oblong slot, *e*, is formed, and through this slot a retaining-pin, *f*, is passed. The slot *e* is of sufficient length to allow the hook to move forward a required distance, and also to swing upward and forward from the position shown in Fig. 2 to the position shown in Fig. 4. On the under side of the hook an oblong notch, *g*, is formed, and the front wall of this notch preferably should have a downwardly-forward inclination in order that it may release the coupling more readily when the hook is raised to uncouple the cars. The length of the notch is made a little greater than one-half the play room allowed between the two draw-heads when the cars are in motion, in order to allow

the draw-heads to bump together without breaking the link or other parts. On the upwardly-extending curved part of the hook lateral projections *h* are provided, they being 5 above the shoulders *i*, which are formed by reducing the thickness of the hook, and are made to serve for limiting the upward movement of the hook, as illustrated. The projections pass up and down through the wider 10 portion of the T-slot *a*, while the thinner part of the hook passes through both the wider and narrower portions thereof. Above the projections *h* the hook is reduced in width, and provided with a shoulder, *j*, at its bottom and 15 stops *k* at its upper end; and upon this narrower portion a loop, *l*, carrying the locking-wedge C is applied, so as to slide up and down between the shoulder *j* and the stops *k*. The sliding wedge C is provided with a hole in its 20 upper end, and in this hole a rod is to be fastened and extended up to the top of the car, so as to be operated by the conductor in any suitable or well-known way.

The operation of the coupler is as follows: 25 To uncouple the cars, the conductor draws up the locking-wedge C to the position shown in Figs. 3 and 4, in full black lines. This action causes the hooks to first move from the position shown in Fig. 2 to the position shown in 30 Fig. 3, and this brings the projections *h* in range with the wider part of the T-slot *a*, when they rise to a position above the top of the draw-head, whereupon the impinging-draft of the coupling-link D in its passage off 35 the hook to uncouple the cars, causes the hook B and its projections *h* to move forward and rest and hold upon a solid portion of the draw-head. The conductor now relaxing his pull, the locking-wedge descends upon the shoulder 40 *j* of the hook and rests there, as illustrated by dotted lines in Fig. 4. The coupler is now set ready for a self-coupling operation, which takes place as follows: Two draw-heads being moved toward each other, the link D strikes 45 the front curved portion, *d'*, of a hook, B, and enters under the notch *g* therein. The con-

tact of the link with the hook forces the hook backward far enough to bring its projections *h* in range with the wider part of the T-slot *a*, whereupon the hook B descends, its projections *h* passing down through said wider portion of the slot *a*. The descent of the hook B upon the link D insures its confinement between the end walls of the notch *g* therein, and as soon as the draft of the link D comes 55 upon the hook B it is drawn forward sufficiently to bring the projections *h* under a solid portion of the top of the draw-head, and by this means the hook B is prevented from casually rising up from the link and allowing the 60 cars to uncouple.

The parts are so constructed that the cars may bump together without danger of breaking the coupler.

Although my coupler is specially useful for 65 freight-cars, I contemplate using it in all places where it is practicable. Therefore I do not confine it to freight-cars.

What I claim as my invention, and desire to secure by Letters Patent, is— 70

1. The locking-wedge C, applied to slide upon the sliding and swinging hook B, which has side projections, *h*, a shoulder, *j*, and stops *k*, substantially as and for the purpose described. 75

2. The draw-head hook B, provided with an oblong slot, *e*, for the confining-pin *f* to pass through, and with an oblong notch, *g*, for receiving the coupling-link D, and with side projections, *h*, substantially as and for the purpose described. 80

3. A draw-head hook, B, constructed and applied within a draw-head, and having side projections, *h*, which are made to stand under or over a solid portion of the draw-head, 85 and to pass up or down through a slot, *a*, in the draw-head, substantially as and for the purpose described.

ALEXANDER B. MAHON.

Witnesses:

J. H. DUNKLIN,
J. M. STEINER.