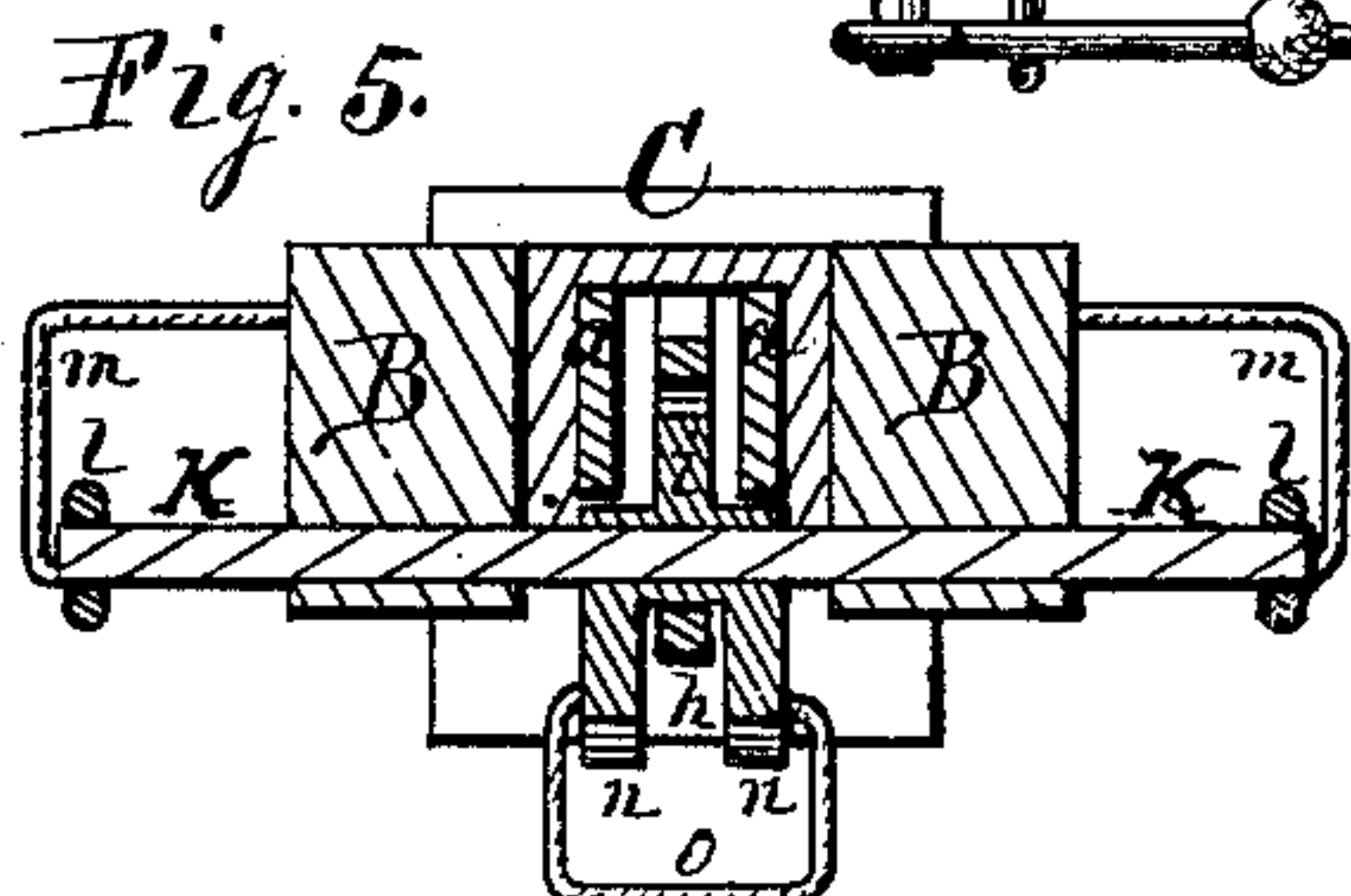
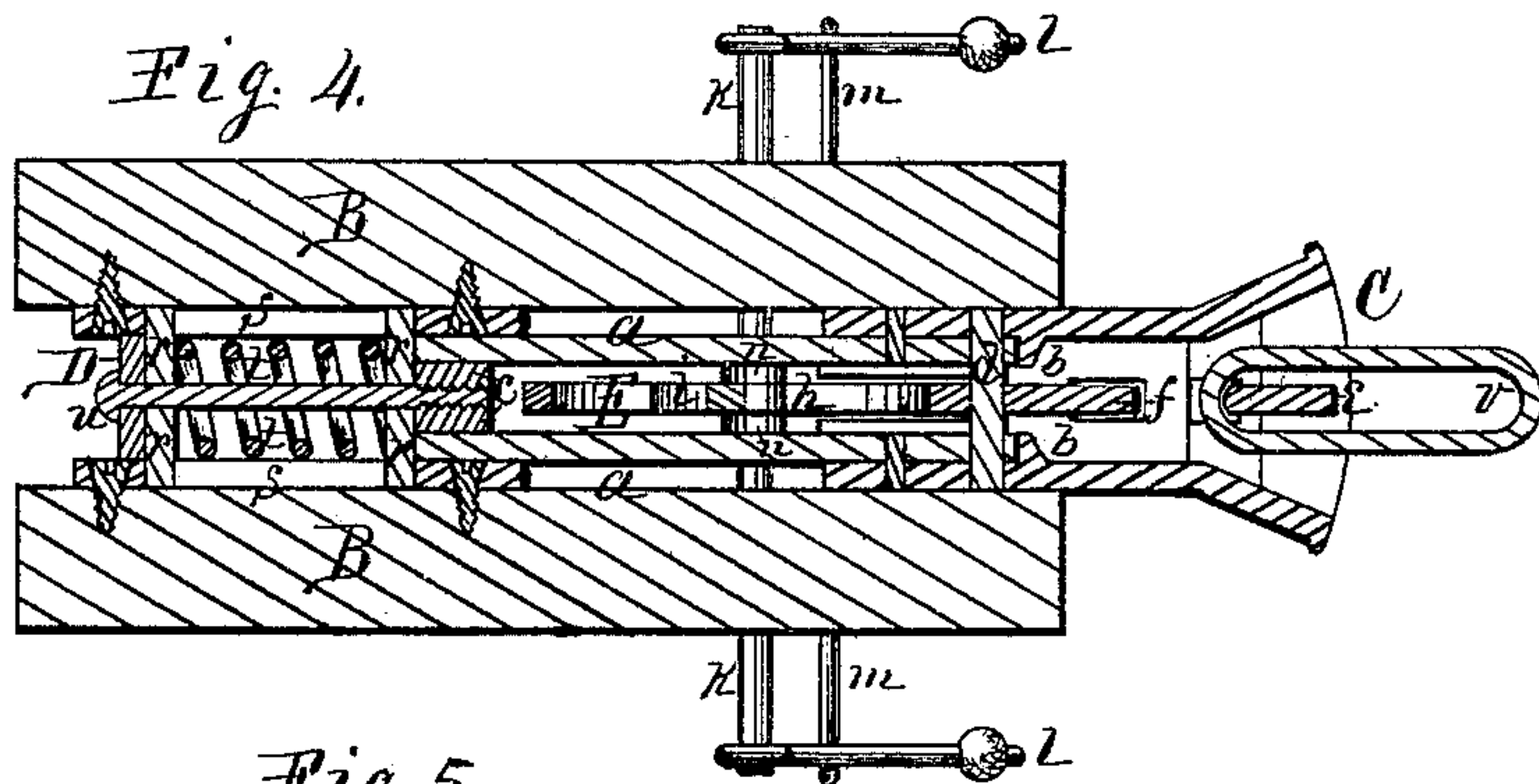
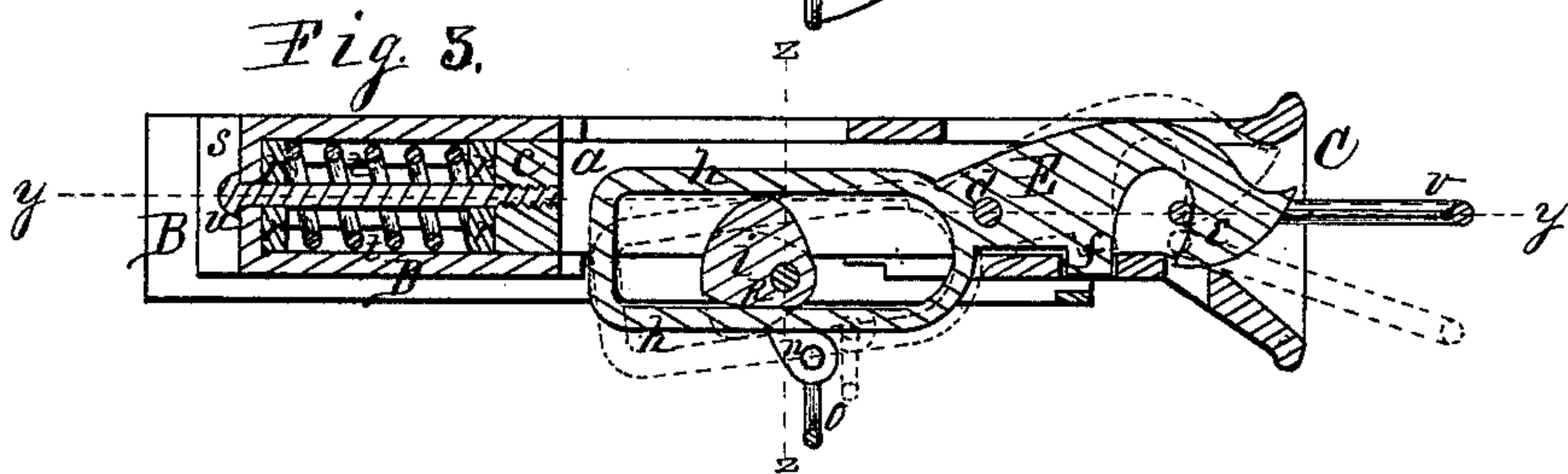
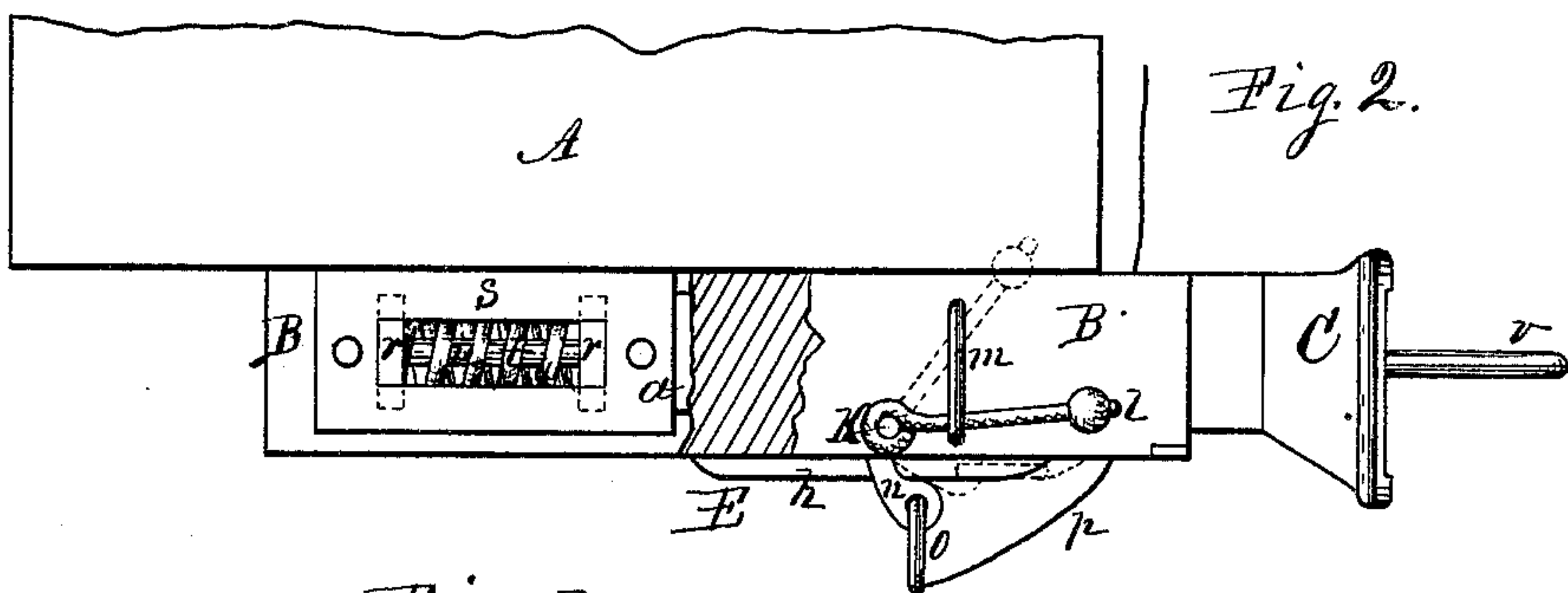
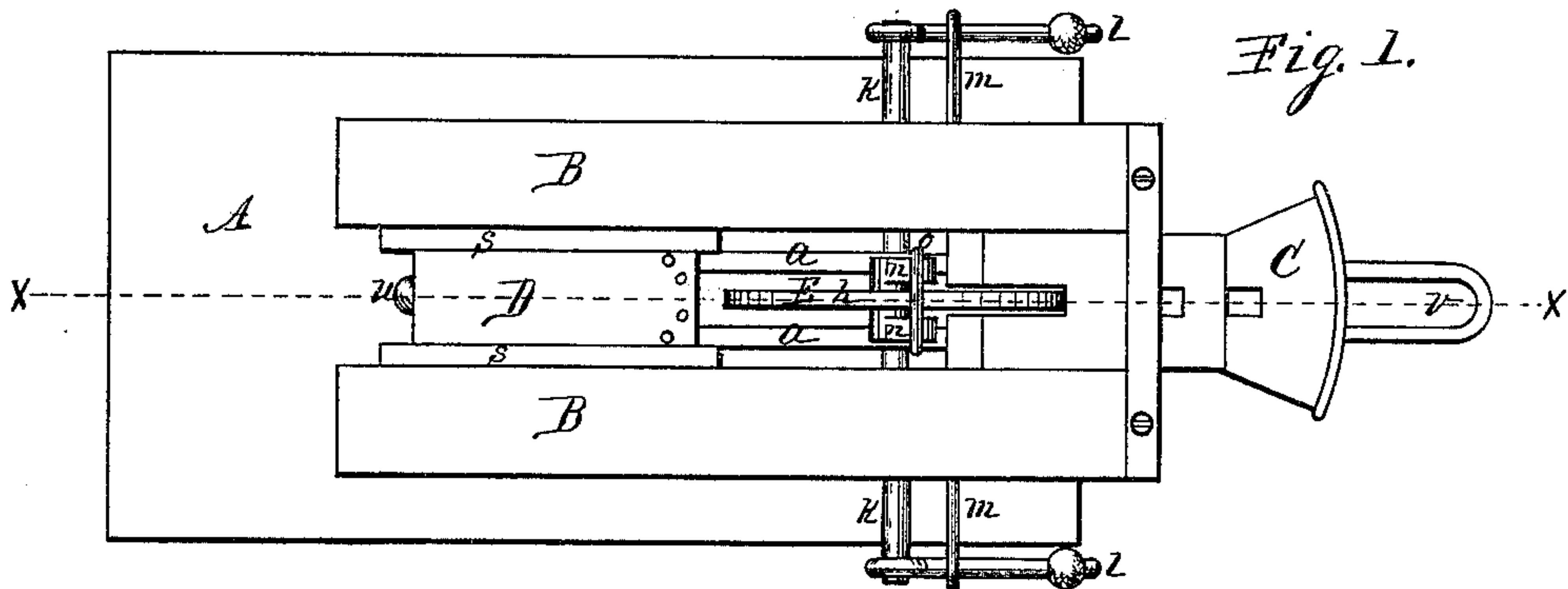


G. BRADLEY & A. H. SHERRATT.
Car-Coupling.

No. 220,797.

Patented Oct. 21, 1879.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE BRADLEY AND ANDREW H. SHERRATT, OF ROCKFORD, ILLINOIS,
ASSIGNORS TO THEMSELVES AND JOHN H. SHERRATT, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **220,797**, dated October 21, 1879; application filed July 31, 1879.

To all whom it may concern:

Be it known that we, GEORGE BRADLEY and ANDREW H. SHERRATT, all of the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful improvement in Railway-Car Couplings, of which the following is a specification.

This invention relates to that class of car-couplings known as "self-acting couplings."

The object of this invention is to provide a reliable self-acting railway-car coupling, constructed in such a manner as to be readily applied, and capable of use on cars of ordinary construction, and adapted to employ the usual coupling-link to couple the cars when run together, without the aid of an attendant.

To this end we have designed and constructed the coupling represented in the accompanying drawings, in which—

Figure 1 is a plan view as seen from the under side, of which Fig. 2 is a side elevation, having a portion of one of the lengthwise beams B broken away; Fig. 3, a central lengthwise vertical section on dotted line *x*. Fig. 4 is a horizontal section on dotted line *y*; and Fig. 5 is a vertical transverse section on dotted line *z*.

In the figures, the block A is employed to represent the outlines of a portion of a common box-car, such as are usually employed on railroads, to the under side of which is fixed, lengthwise thereof, the lengthwise beams B, which are rectangular in cross-section and are placed a proper distance apart to receive the draw-head between them, in which separated position they are firmly fixed to the under side of the car.

At C is represented that portion of the draw-head usually known as the "bumper-head," and is constructed in the usual manner, having the walls of its outer end flaring outward, producing a funnel-formed central opening, adapted to direct the coupling-link to its center.

The rear portion of this bumper-head is fitted to receive the forward portion of the side draw-bars *a*, the ends of which abut against a shoulder, *b*, formed on the inner surface of its vertical sides. These parts are firmly connected by means of rivets, screws,

bolts, or other sufficient means. The rear ends of the draw-bars *a* are joined by means of a block, *c*, placed between them, to which they are firmly joined by welding the parts, or by other sufficient means. The rear portion of the draw-head is composed of a stirrup-like portion, D, the forward ends of which overlap the block *c*, which is placed between the rear ends of the draw-bars *a*, and are firmly joined to its upper and under sides by welding the parts, or by means of rivets, bolts, screws, or other equivalent means.

These parts, consisting of the bumper-head C, the edgewise vertical bars *a*, and the edgewise horizontal stirrup-like portion D, joined to each other in the manner substantially as described, constitute the draw-head.

E represents a lever draft-hook made in the form represented, and is pivoted in the draw-head on the horizontal pivot-bolt *d* in such a manner as to permit its free ends to move vertically. Its forward portion is of hook form, as at *e*, having its outer portion inclined in latch form to receive the coupling-link between it and the inner surface of the lower inclined portion of the bumper-head, which action in coupling cars will cause the hook to rise to permit the link to enter, and will drop to engage the link. At *f* is represented a portion of the lever draft-hook, which depends below the hook portion, and is employed as a check to receive the end of the link to arrest its inward movement. The rear portion, *h*, of the lever draft-hook is made in link or loop form to receive a cam, *i*, mounted on a rock-shaft, *k*, supported in bearings in the lengthwise beams B. The outer end of the rock-shaft *k* is fitted with crank-like weighted arms *l*, limited in their movements by staple-like loops *m*. These parts are adjusted in such a manner that, the weighted arms resting in their lowest position on the guide-staples, the cam *i* will be in the position represented in solid lines, with its upward portion resting against the under side of the upper portion of the loop end of the lever draft-hook rearward of the rock-shaft. This cam action serves to hold the hook end of the lever draft-bar in its lowest position to prevent the accidental unhooking of the coupling-link. The point of contact of the

cam *i* with the under face of the upper bar of the link or loop portion of the hook draft-bar being rearward of the rock-shaft, which is the pivotal center of the cam, permits the parts to move into the position represented in dotted lines, when the link is forced into position between the hook *e* and the upper inclined face of the lower portion of the bumper, and when the link has passed under the hook *e*, the weighted arms of the rock-shaft will return the parts to the position as in solid lines.

The cam *i* is of such form that if the weighted arms are raised to the position of the dotted lines its under side will press on the under bar of the link or looped portion of the lever-hook draft-bar, which will move the parts into the position of the dotted lines and permit the coupling-link to slip from the coupling-head to uncouple the cars or to remove the coupling-link.

The upper and lower sides of the bumper-head are slotted lengthwise to permit of the requisite vertical movement of the lever-hook coupling-bar.

n are depending arm portions of the cam, into which is fitted the swinging loop *o*, to which is fixed the cord *p* which passes upward in a convenient position to be operated to uncouple the cars by an attendant on the platform or on the deck of the cars.

r represents sliding heads fitted to enter the looped or stirrup rear portion of the draw-head crosswise, and their outer ends are reduced to enter and slide lengthwise in the slotted guide-plates *s* fixed to the inner sides of the beams *B*.

t represents a coiled spring placed in the looped portion of the draw-head, between the sliding heads, operating to relieve the shock in coupling cars and in starting and stopping the trains.

u represents a screw-bolt passed lengthwise,

centrally, through the spring and its casing, and is employed to give additional strength to the parts.

r represents a coupling-link which is of the usual form commonly employed in coupling cars.

The link or loop form of the rear portion of the lever-hook draw-bar permits of the back-and-forth movement of the draw-head without interfering with the free operation of the cam placed therein to hold the hook in position or to uncouple the cars.

From the foregoing description it will be seen that by our improvement we produce a self coupling device, and by means of the crank-like arms on the sides of the car they can be uncoupled by an attendant at the side of the car, and by means of the rope-connection with the cam they may be uncoupled by an attendant on the platform or on the deck of the car.

We claim as our invention—

1. The combination, with the draw-head, of a draft-hook pivoted between its ends to the draw-head, the rear end of said draft-hook being of link or loop form, and a cam located within the link-opening, and adapted to impart a positive movement to the draft-hook either upwardly or downwardly, as desired, substantially as set forth.

2. The combination, with a draw-head, and a draft-hook pivoted thereto, the rear end of said draft-hook being of link or loop form, of a cam secured to a rock-shaft furnished with weighted arms, said cam located within the link-opening and adapted to impart a positive movement to the draft-hook to raise or depress the same, substantially as set forth.

GEORGE BRADLEY.

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Witnesses:

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