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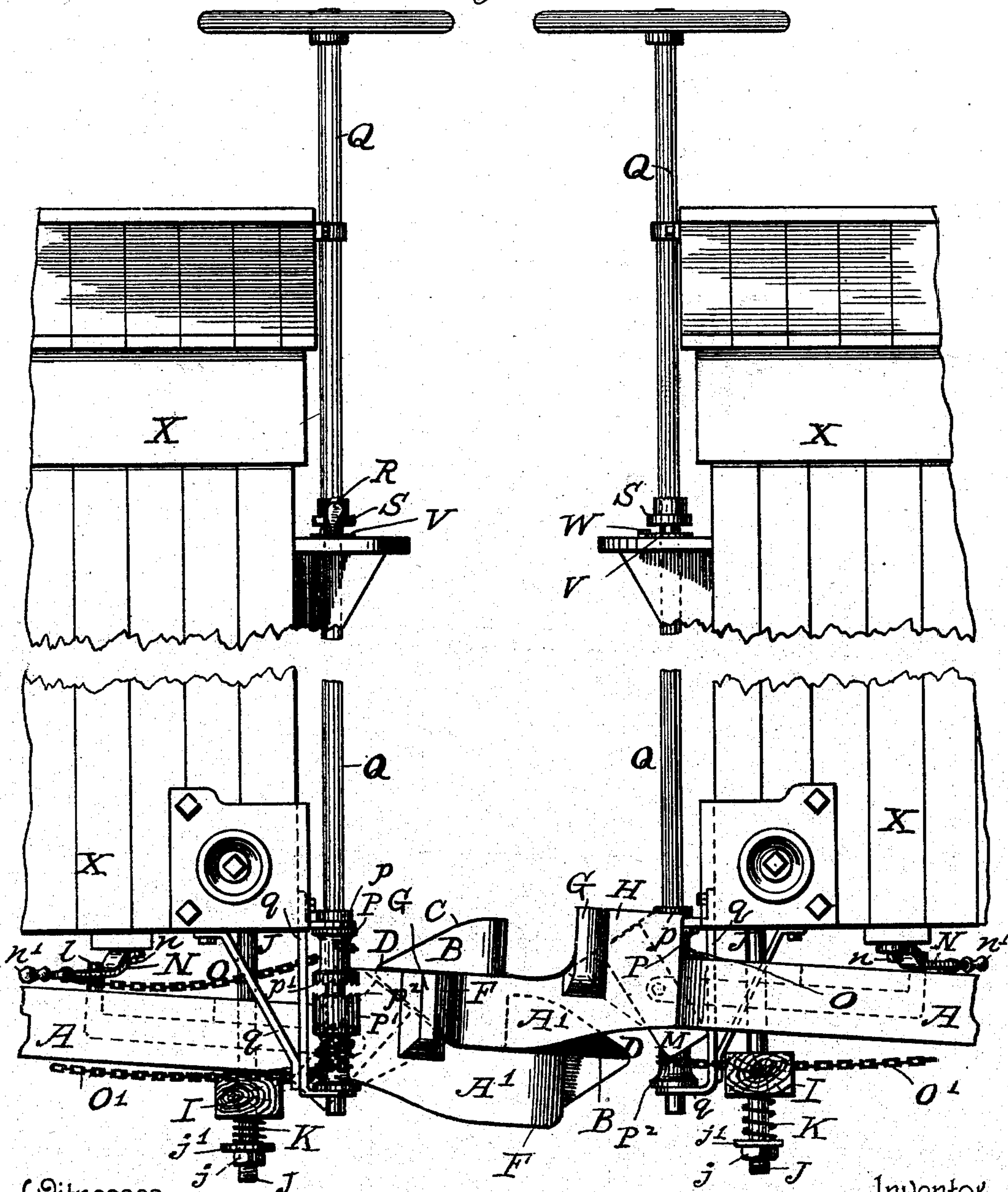
3 Sheets—Sheet 1.

A. L. BROWN.  
CAR COUPLING.

No. 504,862.

Patented Sept. 12, 1893.

Fig. 1



Witnesses  
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Inventor  
Arthur L. Brown  
By his Attorney J. B. Thurston

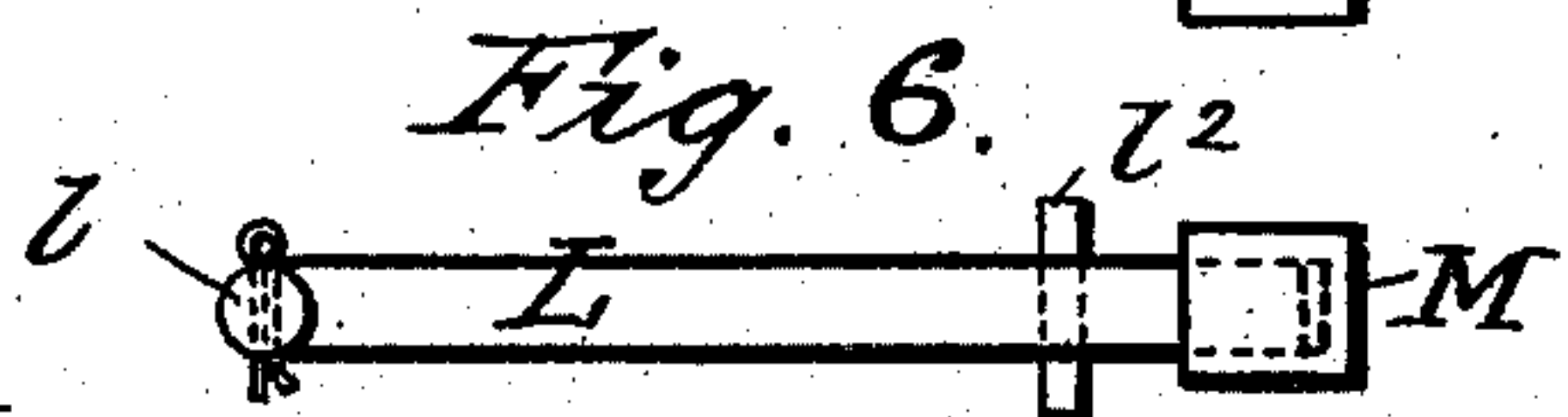
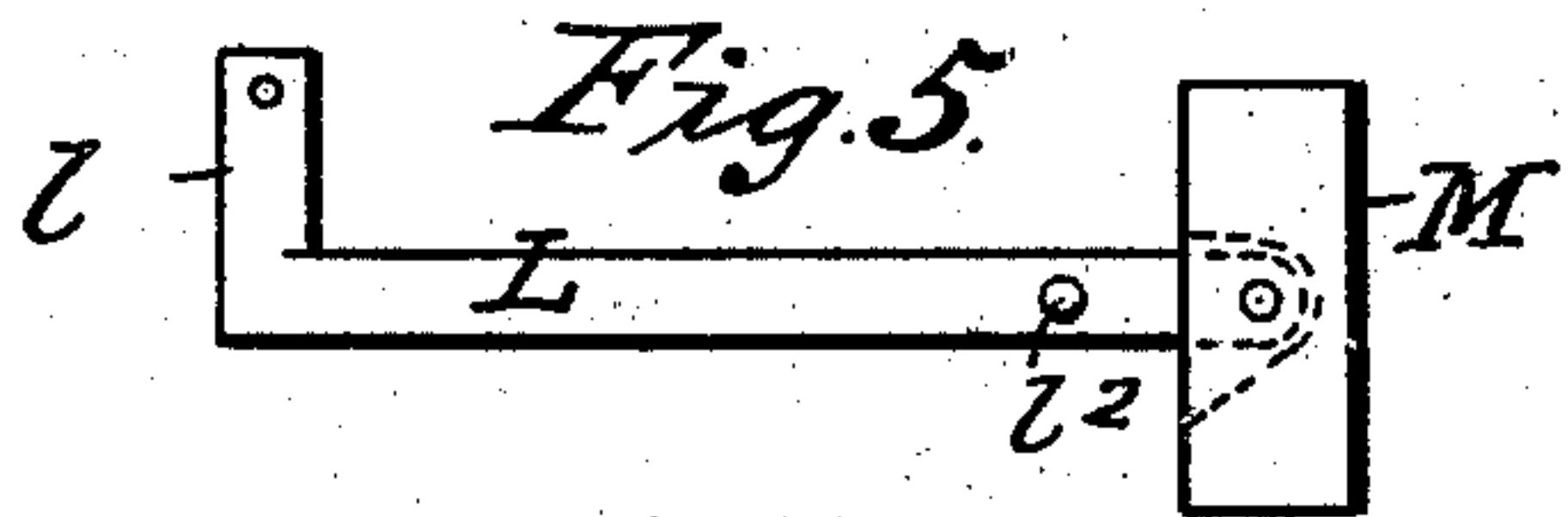
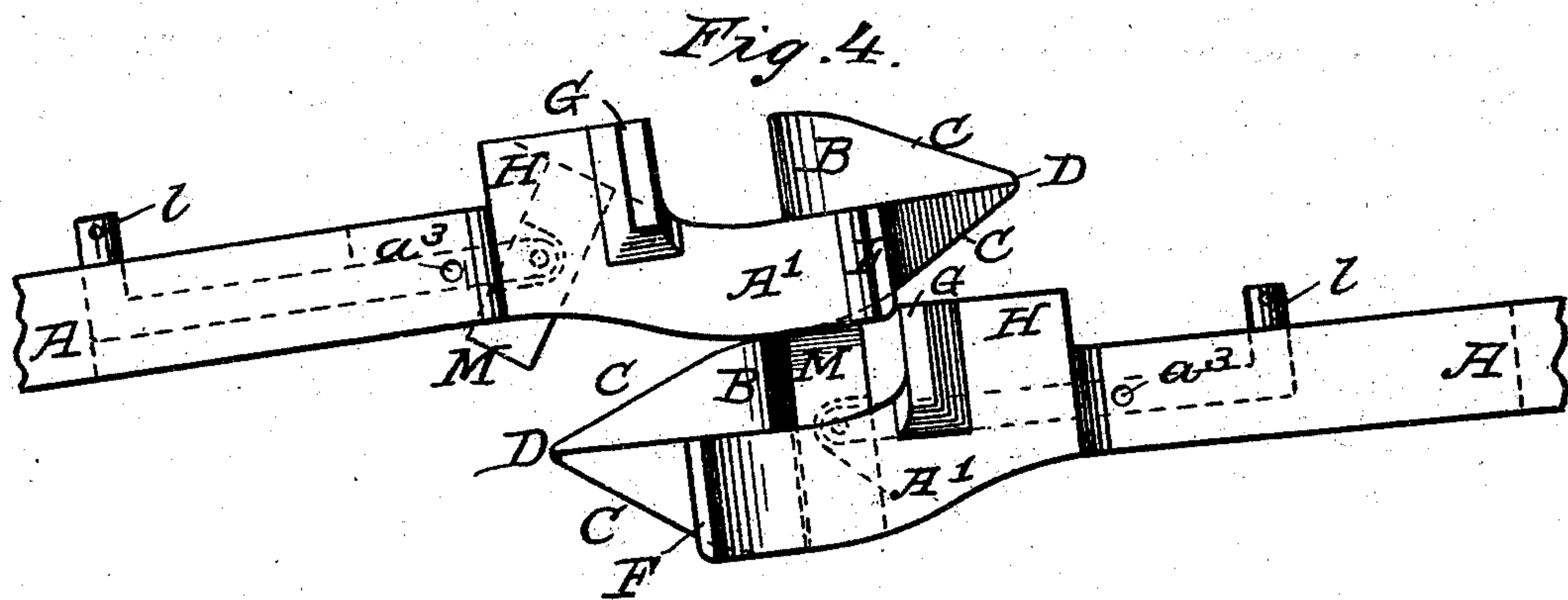
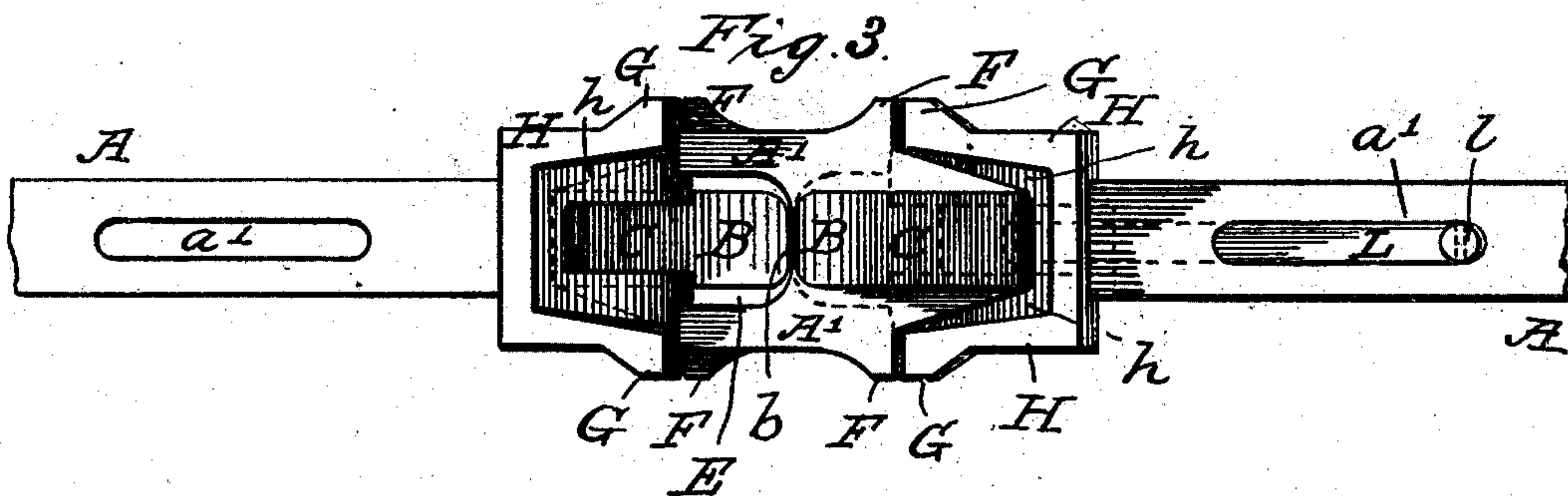
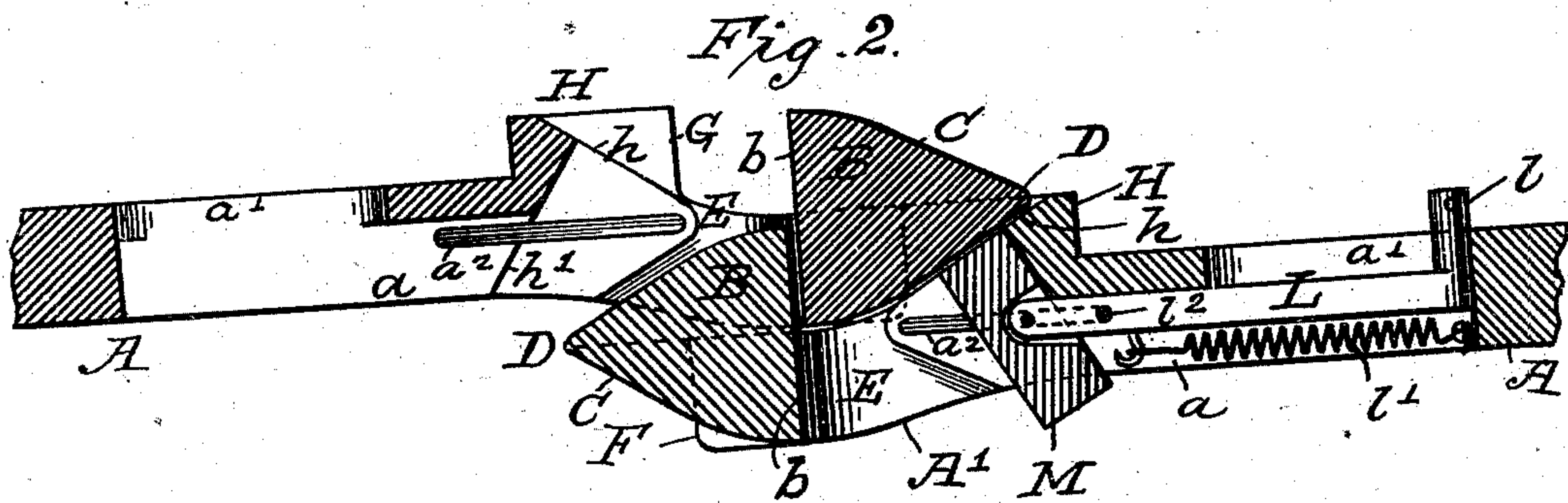
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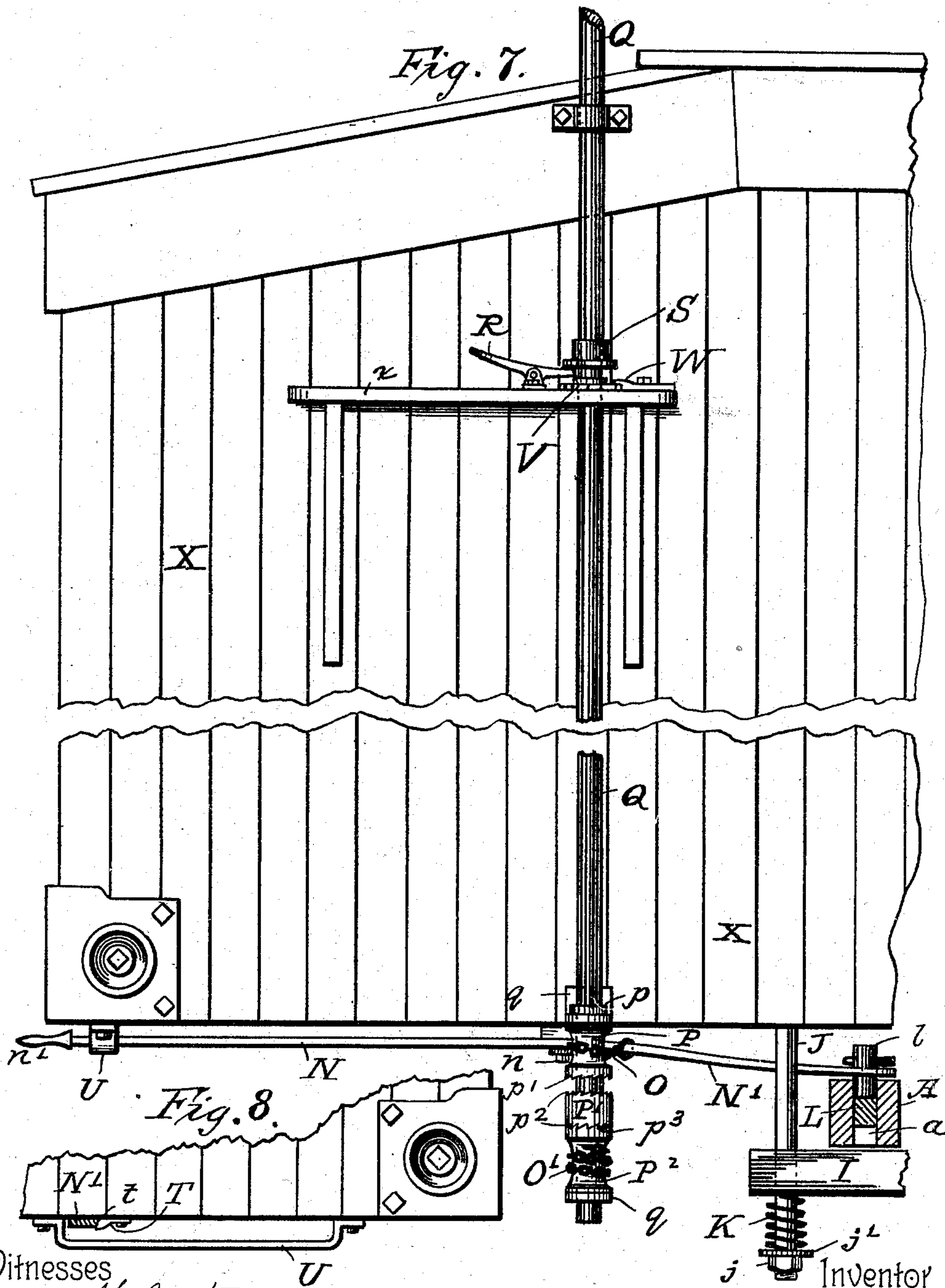
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# UNITED STATES PATENT OFFICE.

ARTHUR L. BROWN, OF LYNDONVILLE, VERMONT.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 504,862, dated September 12, 1893.

Application filed May 12, 1893. Serial No. 473,995. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR L. BROWN, a citizen of the United States, residing at Lyndonville, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of couplings which interlock one with the other, and in this case, one above the other.

The object of the invention is to couple the cars automatically, and the invention consists in the peculiar form of coupling, and the novel mechanism for disconnecting one from the other, as fully set forth in the following specification and claims, and clearly illustrated in the accompanying drawings forming a part thereof, of which—

Figure 1. is a broken elevation showing the adjacent end of two cars having my improvements attached. Fig. 2. is a detached longitudinal sectional view of parts of a pair of my improved couplings, Fig. 3. being a plan of parts shown in Fig. 2. Fig. 4. is a broken elevation of a pair of my improved couplings as when disconnected and in a position to be separated. Fig. 5. is a detached elevation of one of the uncoupling blocks, and its actuating bar with which each of my improved draw bars is provided. Fig. 6. is a plan view of same. Fig. 7. is a broken elevation of a portion of the end of a freight car showing a cross-section of the draw bar, and the uncoupling mechanism. Fig. 8. is a broken elevation showing a portion of the side of a freight car having my uncoupling mechanism attached.

Similar reference letters designate corresponding parts throughout the various views.

The couplers or draw-bars A, are exact duplicates one of the other, that portion A' upon which the hook B, is formed comprising an offset from the draw-bar proper, A. The upper and lower inclines C, forming the hook, meet at the apex D, which is about midway between the top and bottom parallel of the draw bar. An opening E, receives either hook B, the working face b, of which extends from one to the other of its inclines C. Suitable buffer heads are formed in pairs,—one pair

F, being located upon the hook B, and the other pair G, being formed upon the projection H, within which and upon the incline h, the hook of an adjacent coupler may rest when connected as seen in Figs. 2 and 3.

By reason of their adaptability for effecting a union one above the other, my improved couplings readily overcome the ordinary difficulties arising from the varying heights of cars, for when one of two cars about to be coupled is higher than the other, its hook B, rides up over the hook of the lower car automatically.

The draw bars A may be connected in the ordinary manner to the central longitudinal sills of a car X, and provided with the usual spring, their outer ends being supported by a yielding bar I, which is perforated vertically near each end for the reception of the rods J, secured one at each side of the draw bar A, to the car; said rods J, being threaded at their lower ends and fitted with nuts j, supporting a washer j', carrying the spring K, upon which the bar I rests. These helical springs K, being placed one under each end of the bar I, will hold my improved draw bars in their proper normal position, allowing said bar I, to yield downwardly by the pressure of that drawbar which in coupling must pass under the draw bar of an adjacent car, as illustrated in Fig. 1.

I will now describe my devices for disconnecting my improved couplings: The draw-bars are provided in their bottoms with a longitudinal groove a, the forward end of which opens into the opening E, as seen best in Fig. 2, and into the groove a, is fitted the reciprocal bar L, the rear end l extending at a right angle upward through a slot a', formed for this purpose in the crown of the draw bar A; the opposite end of said bar L, being pivoted to an uncoupling block M, which is oblong and rectangular in form and rests normally at an angle against the vertical inclined shoulder h', by reason of the spring l', one end of which is attached to said bar L, and the other to the rear part of the draw bar A. The uncoupling block M, is held up to its work by means of a suitable guide pin l<sup>2</sup>, passing through the bar L, and projecting at each side thereof into a groove or slot a<sup>2</sup>, in the draw bar A. In Fig. 4, a perforation a<sup>3</sup>, is shown



in each draw-bar for inserting the pins  $l^2$ , which require to be driven into the bar L, after the latter is placed in position. The movement of either of the bars L, and their uncoupling block M outward when two couplings are connected as seen in Fig. 2, will disconnect the same, placing them in the position seen in Fig. 4. These bars and their pivoted blocks may be moved or operated in any convenient manner or by any desirable mechanism, and such mechanism may be operated at the side of a car from the ground, or at the top of a car, or both, a simple construction for which I show in Figs. 1 to 7 and 8.

In Fig. 1, a lever N, is pivoted at one end as at  $n$ , to a block secured underneath a car, extending thence over the draw bar A, where it is perforated to receive the upturned end  $l$  of the bar L, and thence to the opposite side of a car X, where its handle  $n'$ , may be grasped and pushed forward or toward the adjacent end of the car by any one standing upon the ground. In Figs. 7 and 8, the lever N', performs the same service, but is shorter than the lever N, having one end perforated for the reception of the upward projection  $l$  of the bar L, and being pivoted a short distance from that end, at  $n$ , to the car and extending thence to the side of the car, its free end being provided with a handle  $n'$ . Either of these levers N—N', may be operated from the roof of a car in the following manner:—A chain O, connects said lever N or N', with a drum P, which is loosely mounted upon the brake rod Q. This drum P, is movably connected at its top to a brake rod bracket  $q$ , by means of a collar  $p$ , which is mounted upon the journal of said drum above said bracket which forms a bearing for said journal. The lower face of said drum P, is provided with serrations  $p'$ , as shown. Upon the brake rod Q, below said drum P, is rigidly mounted a collar P', the upper and lower faces of which are serrated as at  $p^2$ , and below said collar P', is loosely mounted a drum P<sup>2</sup>, which rests upon the bracket  $q$ , and is provided on its upper face with serrations  $p^3$ , and to this drum P<sup>2</sup>, is attached one end of the brake chain O. By this construction, the ordinary brake rod Q, is made to do double duty, operating both brake and couplings. The collar P', being normally in engagement with the brake chain drum P<sup>2</sup>, the brake is always ready to be set in the ordinary manner; while, by means of the lift lever R, and the flanged collar S,—the former being most conveniently mounted upon the pony platform  $x$ , secured below the roof and upon the end of a car X, and through which said brake passes, and the latter upon said rod Q just above said platform,—said brake rod may be raised, thereby disengaging the collar P', from the brake chain drum P<sup>2</sup>, and placing it in engagement with the

drum P, upon which the chain O, may be wound, thereby moving the rod L, and uncoupling block forward and disengaging the hooks B, of the draw bars A.

In order that the levers N, or N', may be secured in a position to hold the uncoupling block N, in the position shown in Fig. 4, so that the hooks B, may be left in a position permitting the separation of two adjacent cars when desired, a lug T, presenting an inclined face  $t$ , to either lever N, or N', may be secured to the car within a guide runner U, as seen in Fig. 8. any jar, such as the sudden contact of or with a moving car, being sufficient to release said levers from the lug T, and thus return the uncoupling block to its normal position.

The usual ratchet wheel V, is secured to the brake rod Q, just above the pony platform  $x$  with a pawl W, upon said platform, for holding the brakes set.

Having described my invention, what I claim is—

1. In a car coupling device, the combination of the drawbars and hooks projecting upward therefrom, each having a vertical opening back of and adjacent to the hook, and adapted for connection either above the other, and an uncoupling block and its operating mechanism whereby the hooks are disengaged.

2. In a car coupling device a pair of duplicate drawbars provided at their outer ends with upward projecting hooks attachable one above the other, and separating mechanism consisting of a horizontally movable bar and uncoupling block pivoted thereto arranged within either draw bar, and an operating lever extending to one side of a car.

3. In a car coupling device a pair of duplicate drawbars having at their outer ends upward projecting hooks attachable one above the other, and separating mechanism consisting of a horizontal movable bar and uncoupling block pivoted thereto arranged within each draw bar, and means substantially as described for operating said uncoupling mechanism either at the side or upon the roof of a car.

4. The combination with automatic couplings and their separating mechanism, of actuating mechanism consisting of a chain, and winding drum having ratchet teeth or serrations upon its lower face, said drum being mounted loosely upon the brake rod of a car, and a collar secured to said brake rod having serrations for engaging with said drum.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR L. BROWN.

Witnesses:

J. B. THURSTON,  
CHAS. G. REMICK.