

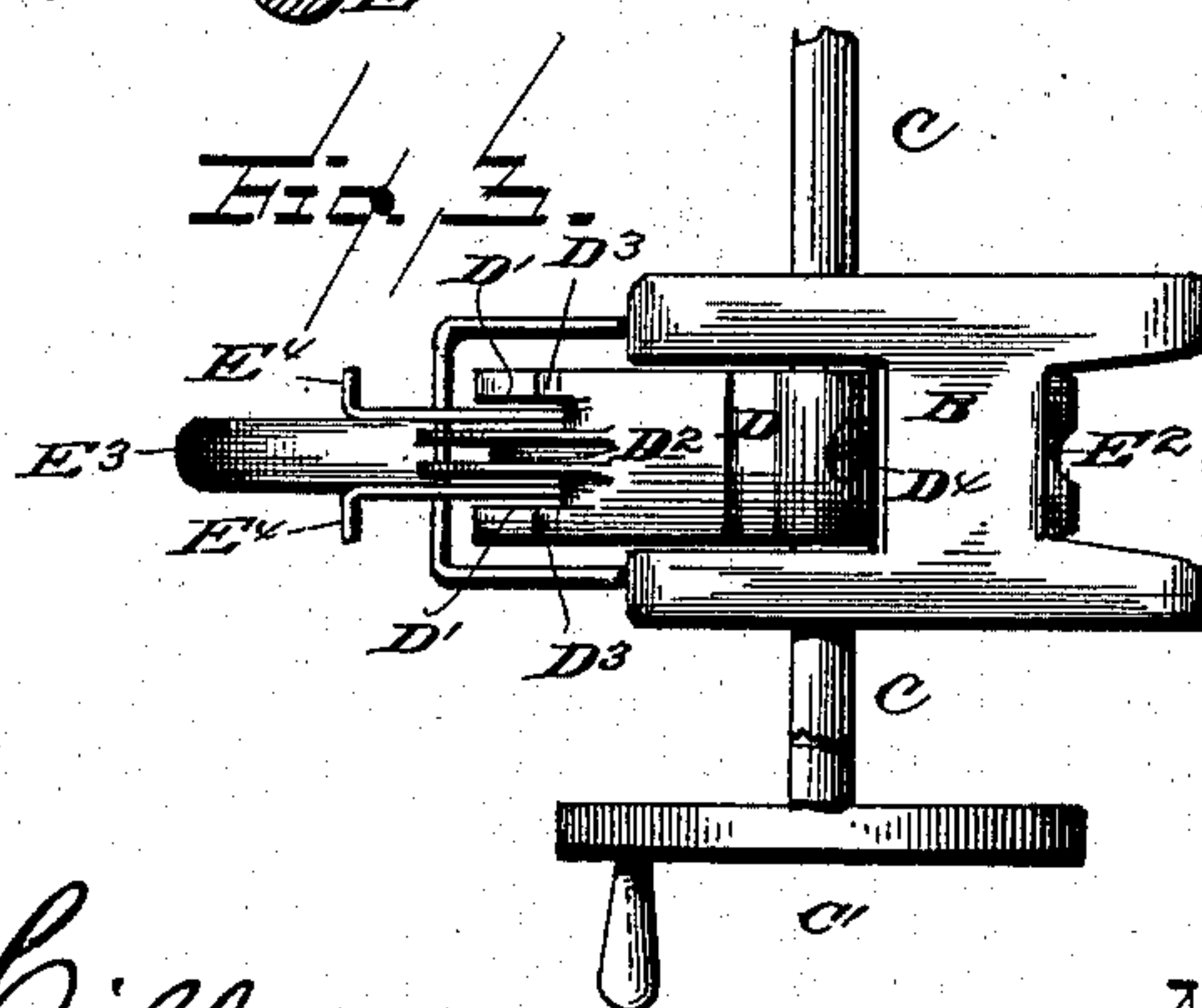
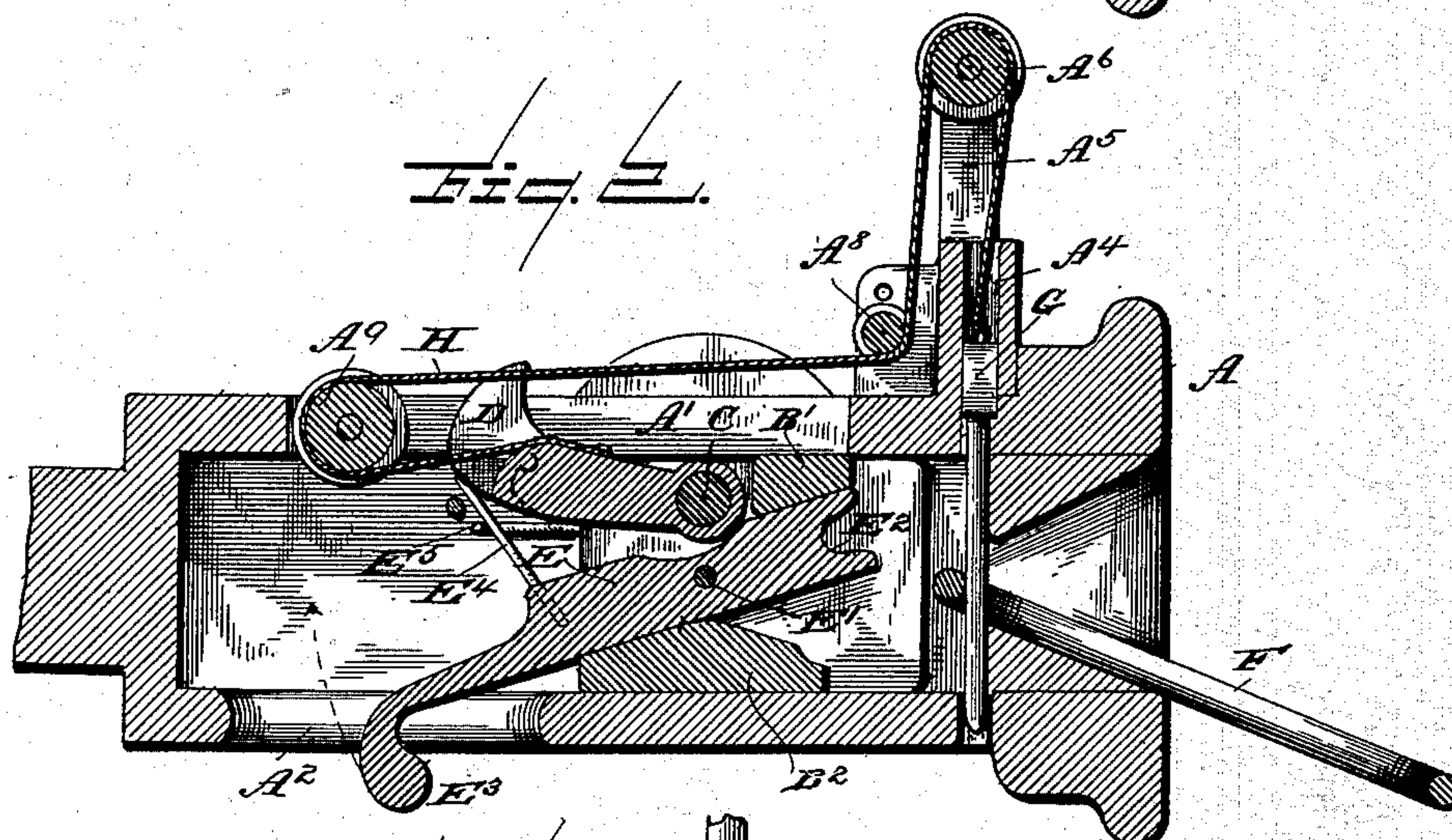
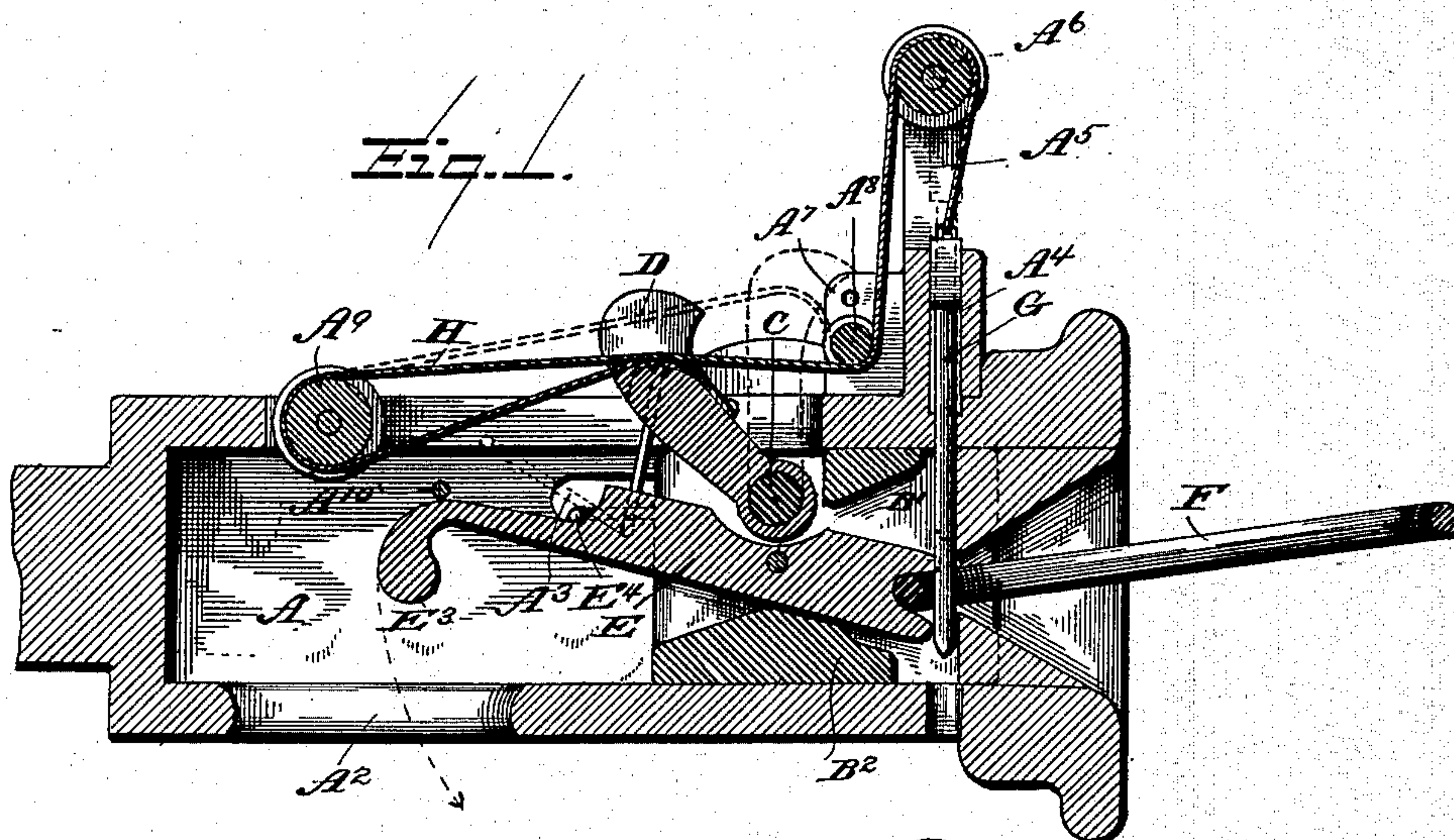
(No Model.)

M. T. BROADY.

CAR COUPLING.

No. 384,675.

Patented June 19, 1888.



Witnesses:

Witnesses:
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UNITED STATES PATENT OFFICE.

MARION T. BROADY, OF BARTLE, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 384,675, dated June 19, 1888.

Application filed September 15, 1887. Serial No. 249,820. (No model.)

To all whom it may concern:

Be it known that I, MARION T. BROADY, a citizen of the United States, residing at Bartle, in the county of Washington, State of Indiana, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to car-couplers, and among the objects of the invention is to provide a coupler that may be operated to couple and uncouple without the necessity of stepping between the cars, that will raise and lower the coupling-link for connection with couplers at different heights, and which, when coupled, will permit of movement of the coupling-link and yet retain the same firmly within the head.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a substantially central longitudinal section of a car-coupler constructed in accordance with my invention, the parts being in the position assumed when in the act of manipulating the coupling-link for connection with a coupler of an approaching car. Fig. 2 is a similar view, the parts being in position to raise the coupling-pin for uncoupling. Fig. 3 is a detail in plan of the carriage, hereinafter more particularly referred to.

Like letters of reference indicate like parts in all the figures of the drawings.

A represents the draw-head, which is provided with the top and bottom openings, A' A², respectively. Mounted within the draw-head and adapted to slide therein is a carriage, B, through which passes a rod, C, projecting through longitudinal slots A³, formed in the side walls of the draw-head, and provided with operating wheels or cranks C', extending to the sides of the car.

Rigidly mounted upon the shaft C, and adapted to be swung thereby, is a lever, D, having its free end provided with longitudinal grooves D' and a central groove, D², and with transverse notches or shoulders D³. Pivoted, as at E', under the shaft C, within the carriage B, is a lever, E, having its front end bifurcated or notched, as at E², to embrace

the end of the coupling-link F, and weighted at its opposite or rear end, as at E³, which is adapted, when the lever is in a position to raise the link for coupling, to depend through the opening A² in the draw-head. Loosely pivoted in the lever E, in rear of its pivot E', are upwardly-projecting arms E⁴, which are bent in opposite direction at their upper or free ends, and passing between the grooves D', and adapted to fall into the notches or grooves D³ when said lever E and the lever D assume certain relative positions, as hereinafter explained. A bail, E⁵, projects from the rear end of the carriage B and embraces and limits the downward movement of the arms E⁴. Stops B' B² at the top and bottom of the carriage serve to limit the upward and downward swing of the pivoted weighted lever E.

The top wall of the draw-head in rear of its mouth is provided with the pin-hole A⁴, adapted to receive the pin G. Above the pin-hole A⁴ are oppositely-arranged standards A⁵, journaled in the top of which is a grooved pulley, A⁶. A sheave, A⁷, carrying a similarly-grooved pulley, A⁸, is arranged in rear of the pin-hole A⁴, and a third pulley, A⁹, is journaled at the rear end of the longitudinal slot A' of the draw-head. A rope or chain, H, secured at one end to a pin or bolt, D⁴, upon the lever D, passes through the groove D² under the pulley A⁹, thence forward through said groove and under the pulley A⁸, over the pulley A⁶, and connected with the coupling-pin G.

Taking the coupler in the position shown in Fig. 1, to assume this position, which is in the act of raising the link for connection with an approaching car, the carriage B is reciprocated to its rear position within the head. The arms E⁴ coming in contact with a rod or bar, A¹⁰, extending across the interior of the draw-head, said arms ride upwardly upon the same until they pass over the shoulder and into the notches D³, formed in the rear end of the lever D. By this means the two levers D and E are made rigid with each other, so that they move together and in unison. The carriage is now slid to its forward position, and the groove E² receives and embraces the rear end of the link F. Now, by turning the shaft C by means of the hand-wheel C', the lever D is raised and lowered, and being connected with the lever E a like motion is produced in said latter lever,

thus raising and lowering its front end, and consequently the link, in conformity with the direction of rotation of the wheel C'. By this arrangement the car may be coupled with cars provided with couplers in a different plane with the head A.

To uncouple the car and disconnect the link F from the head A, the lever D is swung down to release the arms E¹ from connection therewith. By simply turning the hand-wheel toward the front the lever D is raised, which draws upon the rope or chain H and raises the pin A⁴, when the link may be withdrawn from the head. In a like manner is the pin raised preparatory to receiving the link for coupling.

The lever D and arms E normally remain disconnected, and can only be connected by sliding the carriage to the extreme rear end when the arms are connected as before described, and in order to maintain this connection the lever D is immediately raised and the carriage slid to the front, in order that the rear end of the link may be embraced and raised and lowered as desired.

Having described my invention and its operation, what I claim is--

1. In a car-coupler, the combination, with the draw-head thereof, of a movable carriage mounted therein and provided with a link-operating lever and a pin-operating lever, a shaft for operating the pin-lever, and arms for connecting the pin and link operating levers, substantially as specified.

2. In a car-coupler, the combination, with the draw-head thereof, of a longitudinally-movable carriage carrying pin and link operating levers, a hand-wheel for operating the pin-operating lever, arms pivoted in the link-operating lever and adapted to connect the same with the pin-operating lever, and a rope or chain connecting the pin-operating lever with the pin, substantially as specified.

3. In a car-coupler, the combination, with the draw-head thereof, of a longitudinally-

movable carriage mounted therein and provided with a notched and grooved pin-operating lever rigidly mounted on an operating-shaft, a link-operating lever pivoted below the first-mentioned lever, arms for connecting the two levers, a bail for limiting the movement of said arms, and a transverse bar for raising the arms for connection with the pin-operating lever, substantially as described.

4. In a car-coupler, the combination, with the draw-head thereof, of a longitudinally-movable carriage mounted therein and provided with pin and link operating levers, the latter being bifurcated to receive the link at its front end and weighted and provided with arms at its rear end adapted to take into shoulders formed in the pin-lever and normally held from connection therewith, substantially as specified.

5. The combination of the head A with the carriage B, mounted for movement therein and provided with the shaft C, having the lever D mounted rigidly thereon, and with the lever E, pivoted, as at E', bifurcated, as at E², weighted, as at E³, and carrying the arms E⁴, for connection with the lever D, substantially as specified.

6. The draw-head A, having the openings A' A² A³ A⁴, with the carriage B, mounted for movement within the same and having the shaft C, carrying the hand-wheel C', and lever D, grooved and notched at its rear end, as at D' D² D³, and with the lever E, weighted, as at E³, and bifurcated, as at E², the arms E⁴, for connecting the levers, the pulleys A⁶, A⁸, and A⁹, the rope or chain H, and the link G, substantially as specified.

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

MARION T. BROADY.

Witnesses:

WILLIAM R. GRAY,
CHRISTIAN SIELES.