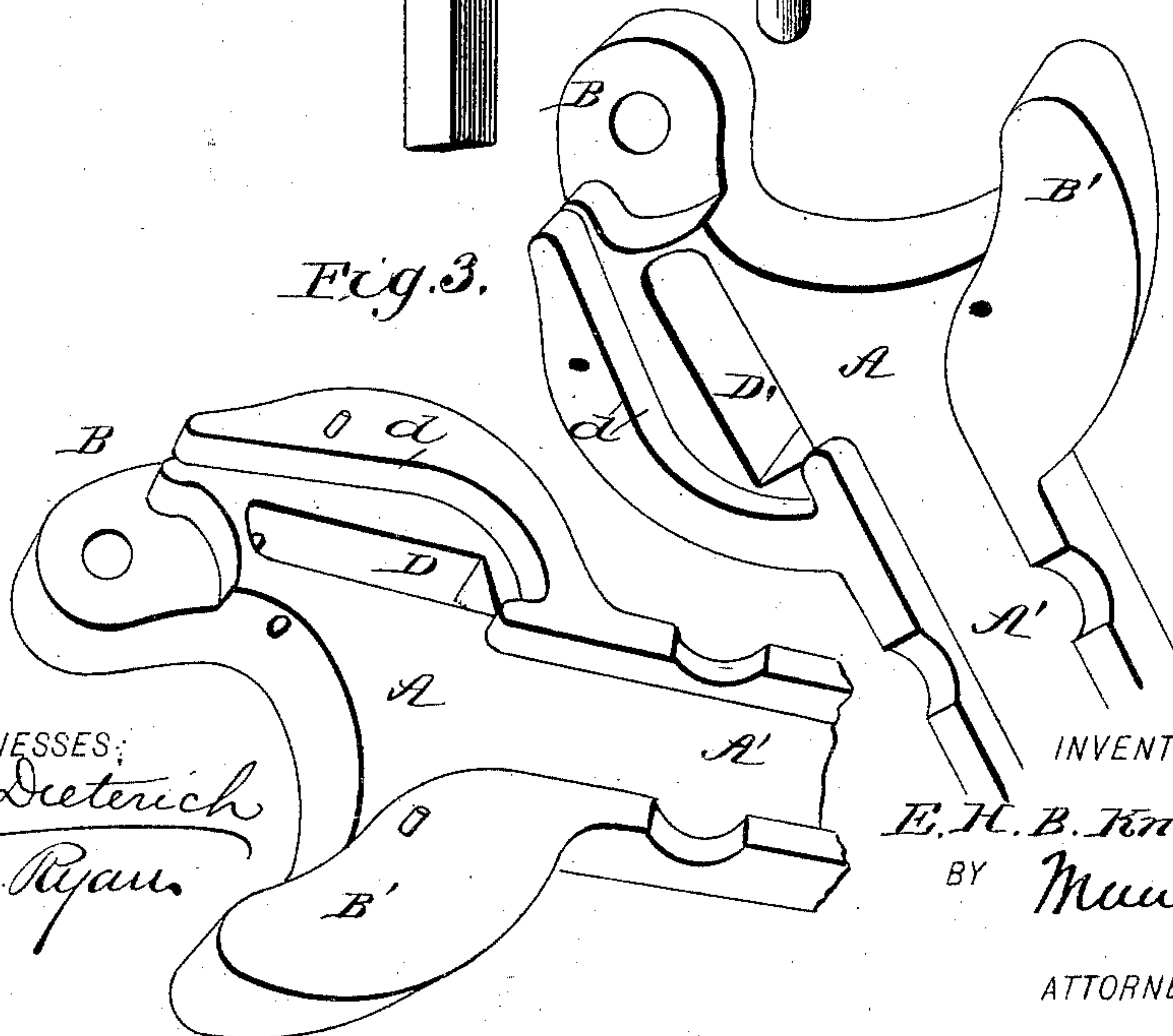
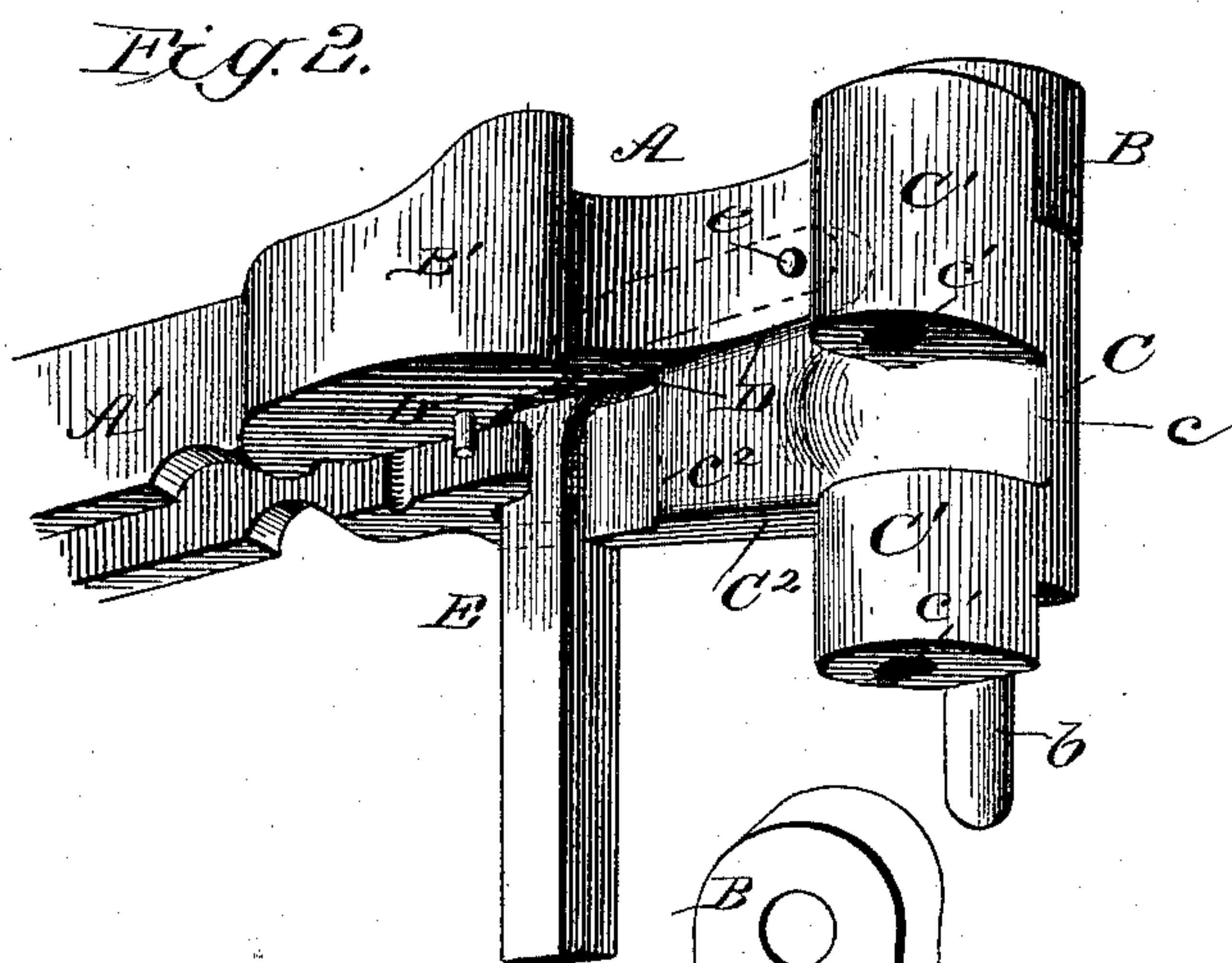
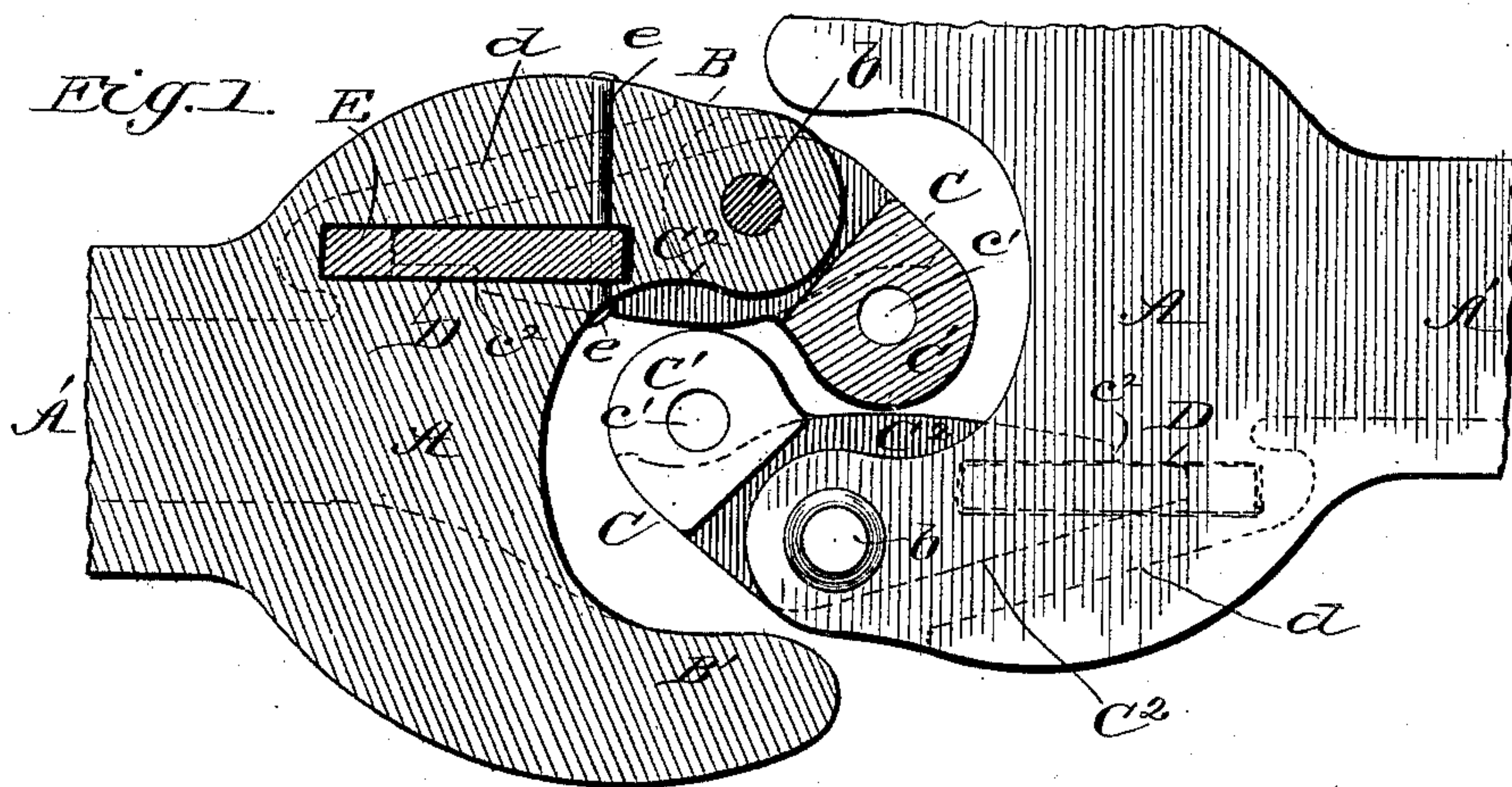


(No Model.)

E. H. B. KNOWLTON.
CAR COUPLING.

No. 473,761.

Patented Apr. 26, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

EPHRIAM H. B. KNOWLTON, OF WEST SUPERIOR, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO JAMES GUNN AND PATRICK McGUIRE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 473,761, dated April 26, 1892.

Application filed November 14, 1891. Serial No. 411,949. (No model.)

To all whom it may concern:

Be it known that I, EPHRIAM H. B. KNOWLTON, of West Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates generally to car-couplers, and more particularly to an improvement in that class thereof known as "twin-jaw couplers."

The object of my invention is to provide means whereby the jaws can be automatically coupled and locked when brought together and also means for automatically locking the jaws in an uncoupled position when the jaws are separated.

A further object is to provide a coupler the top surface of which is devoid of crevices or openings, whereby the accumulation of ice, snow, and dirt is prevented, and a still further object is to provide means whereby the lock can be quickly and easily operated to uncouple the jaws.

With these various objects in view my invention consists in the peculiar construction of some of the elements and in the novel combination or arrangement of the various parts, all of which will be fully described hereinafter, and set forth in the claims.

In the drawings forming a part of this specification, Figure 1 is a plan view of the draw-head ready for coupling, partly in section. Fig. 2 is an inverted perspective, the lower half of the draw-head being removed. Fig. 3 is a detail perspective view of the upper and lower sections detached.

In carrying out my invention I employ a draw-head A, which is provided with any approved form of draw-bar A', said draw head and bar being formed in two horizontal sections, and upon the forward end of the draw-head, to one side of its longitudinal center, are produced wings or shoulders B, while upon the opposite side is produced a guiding-shoulder B', thus providing a central recess or opening in the front face of the draw-head, which is adapted to receive the coupling-jaw of the opposite coupler, while its own coupling-jaw is adapted to enter a similar recess of the opposite coupler. The coupling-jaw C is pivotally connected with the wings or shoulders B by means of a rod or bolt b passed through

said parts, the coupling-jaw being so constructed as to comprise the coupling-arm C' and the rearwardly-extending locking-arm C², arranged at right angles to said coupling-arm. This coupling-arm is also provided with the usual link-recess c and pin-holes c', whereby my improved coupler is adapted for use with any style of pin-and-link couplers. A vertical longitudinal recess D is produced in the lower face of the upper section of the draw-head adjacent to the wing or shoulder B, and the surface of the head surrounding said recess is cut away, as shown, to provide a flange d upon the outer and rear sides of the recess. The lower section is formed with an opening D' and a similar flange d'. A hook-shaped pendent detent E has its upper end pivoted in the recess D upon a pin or bolt e, passed transversely through the forward end of the recess and the end of the detent, the horizontal arm or portion of said detent resting in the recess, while the vertical arm or portion projects below the draw-head some distance after passing through the opening D' in lower section, and thus provides a convenient hand-grip for uncoupling. The detent E is adapted to automatically lock the coupling-jaw in either a coupled or uncoupled position, and this it does by engaging the locking-arm C² of said jaw, the natural tendency of the detent being to swing forward on account of its being pivoted near the forward end of the draw-head.

In order to arrange the parts for coupling, the lower end of the detent E is pressed rearward and the locking-arm C² moved inward until its rear end rests forward of the detent. Said detent is then released and drops by gravity into contact with the said rear end, thus locking the parts in an uncoupled position.

In making the coupling the jaw of each coupler enters the forward recess of the opposite coupler, and in so doing presses the locking-arm inward, releasing the detent, which drops still farther forward, thus securely locking the arm C² and completing the coupling, the said detent being limited in its forward locking movement by means of a shoulder c² produced upon the inner face of the arm C², as clearly shown. When it is desired to uncouple the parts, the detent is simply pressed

back, and as the couplers are drawn apart the locking-arm will be thrown into the proper position, so that when the detent is released it will engage the rear end of said arm in the proper manner. The flanges d and d' at the outer sides act as a stop for the locking-arm, while at the rear they act as a stop and guide for the detent.

From the above it will be seen that I provide a novel automatic coupler which can be quickly and easily uncoupled and one which, on account of the peculiar construction of the draw-head, provides no space for the reception and retention of ice, snow, and dirt.

Having thus described my invention, what I claim as new is—

1. The combination, with a draw-head having a vertical longitudinal recess, of the coupling-jaw pivoted to the draw-head and composed of the coupling and locking arm, the

locking-arm having a shoulder upon its forward face near the rear end, and the detent composed of the horizontal and vertical arms, the horizontal arm being pivoted at its forward end within the recess near the forward end, the vertical arm projecting below the draw-head, substantially as and for the purposes described.

2. The combination, with the upper section having a longitudinal recess and surrounding flange and the lower section having a longitudinal opening and surrounding flange, of the coupling-jaw pivoted between sections and the gravity-detent pivoted within the recess and working in the opening, substantially as and for the purpose described.

EPHRIAM H. B. KNOWLTON.

Witnesses:

JOHN BRENNAN,
D. WM. E. GROUND.