

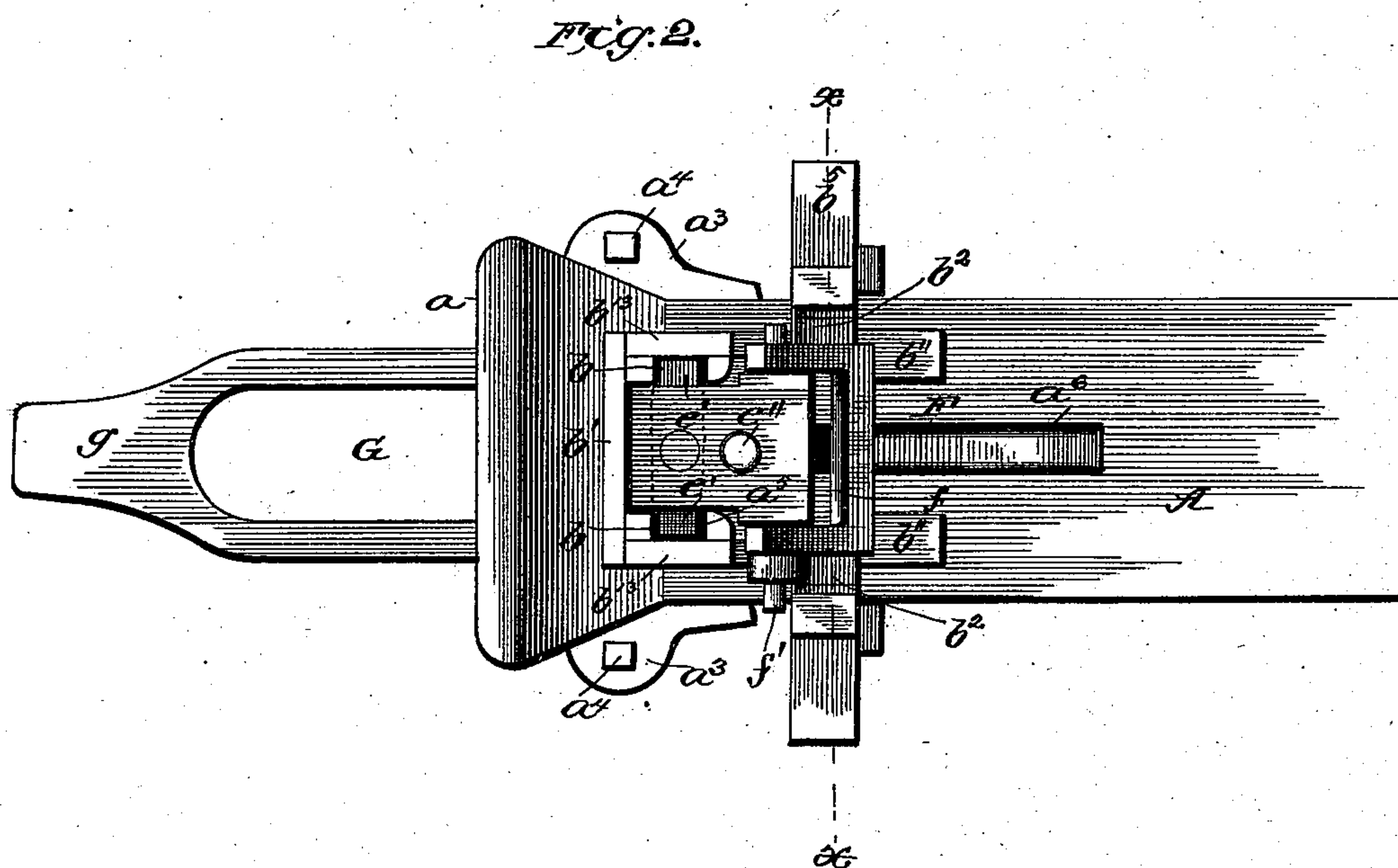
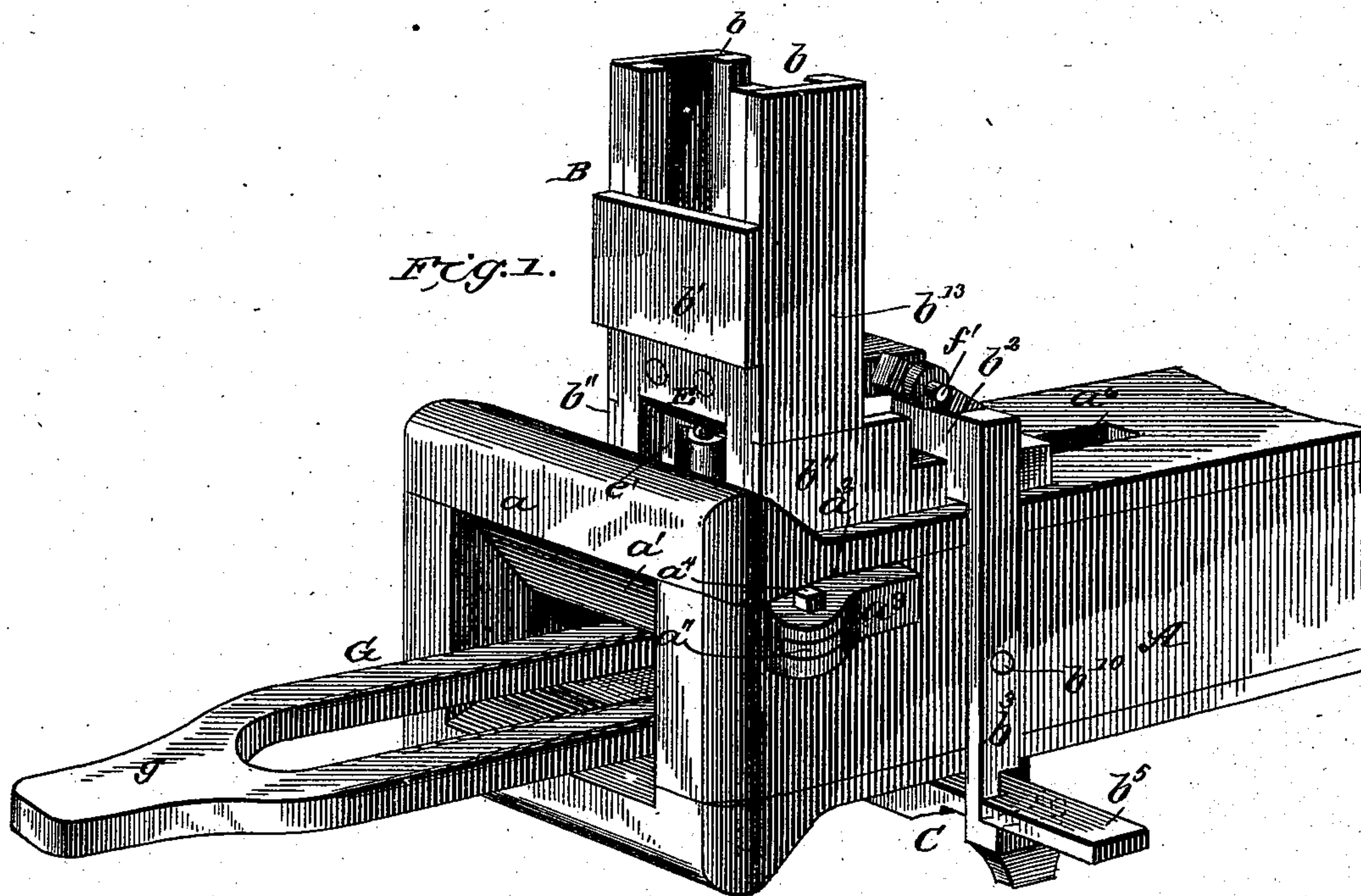
(No Model.)

3 Sheets—Sheet 1.

W. C. CHAMBERLAIN.
CAR COUPLING.

No. 376,797.

Patented Jan. 24, 1888.



WITNESSES

Edwin L. Yewell

Jos. A. Ryan

INVENTOR

IN WITNESS WHEREOF
I have hereunto set my hand and the seal of said Court, at the City of New York, this 10th day of May, 1901.

William C. Chamberlain
by J. R. Littell,
Attorney

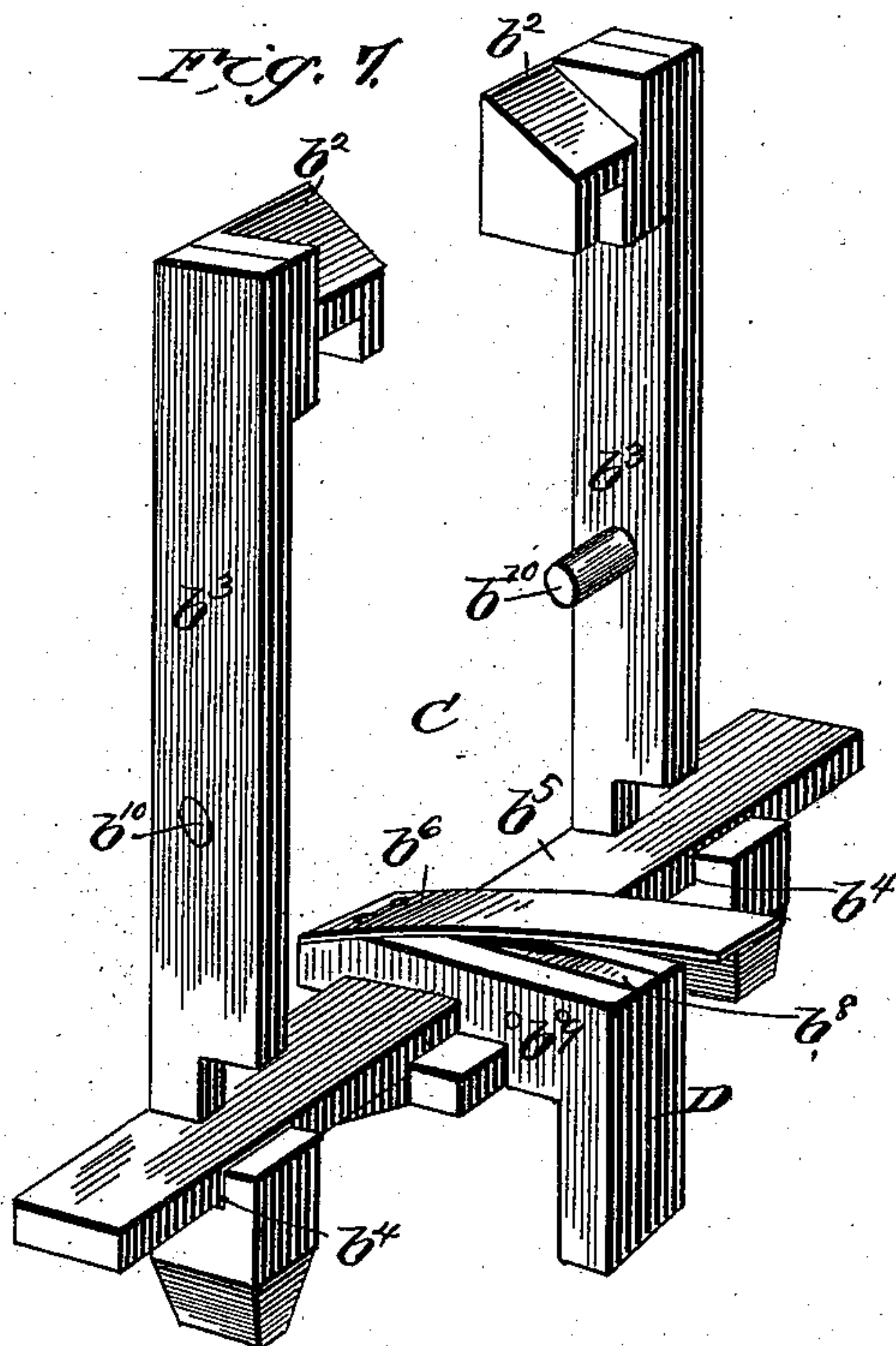
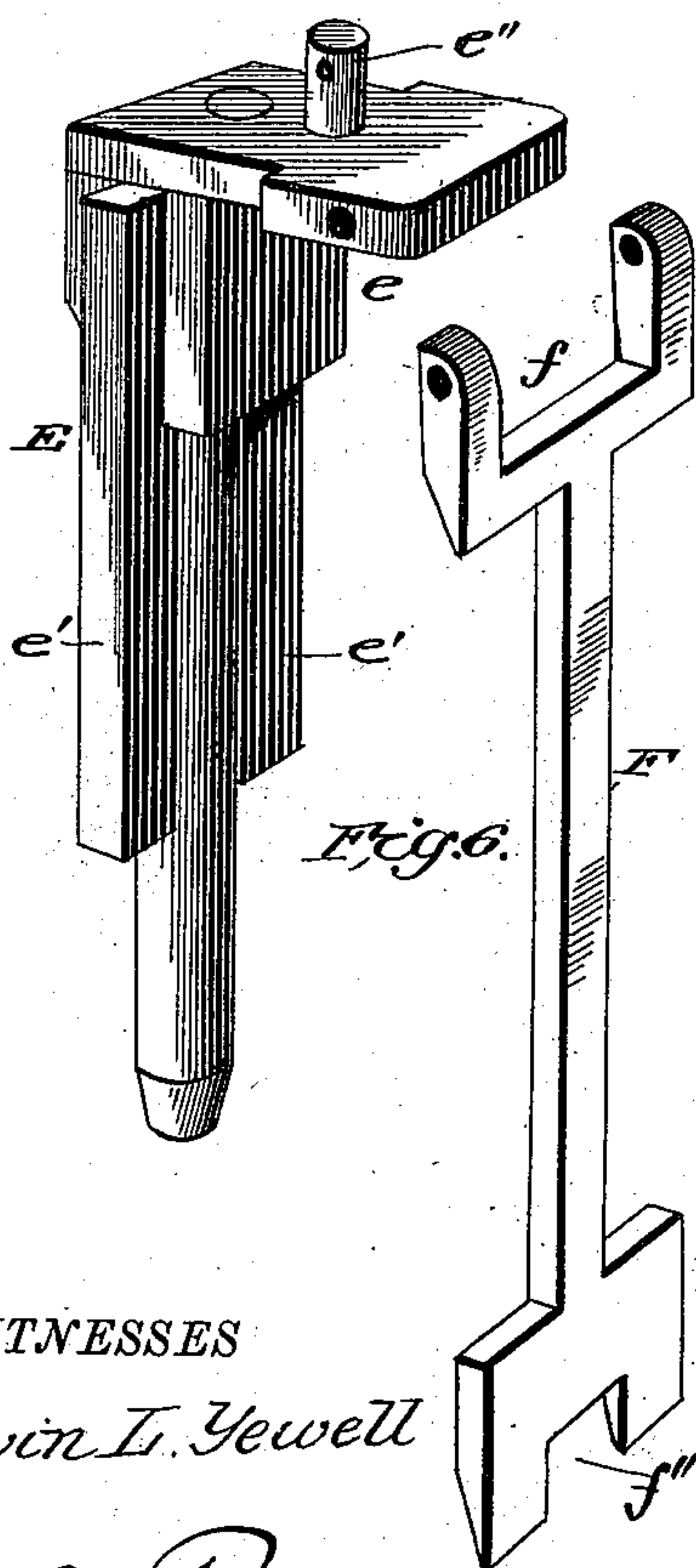
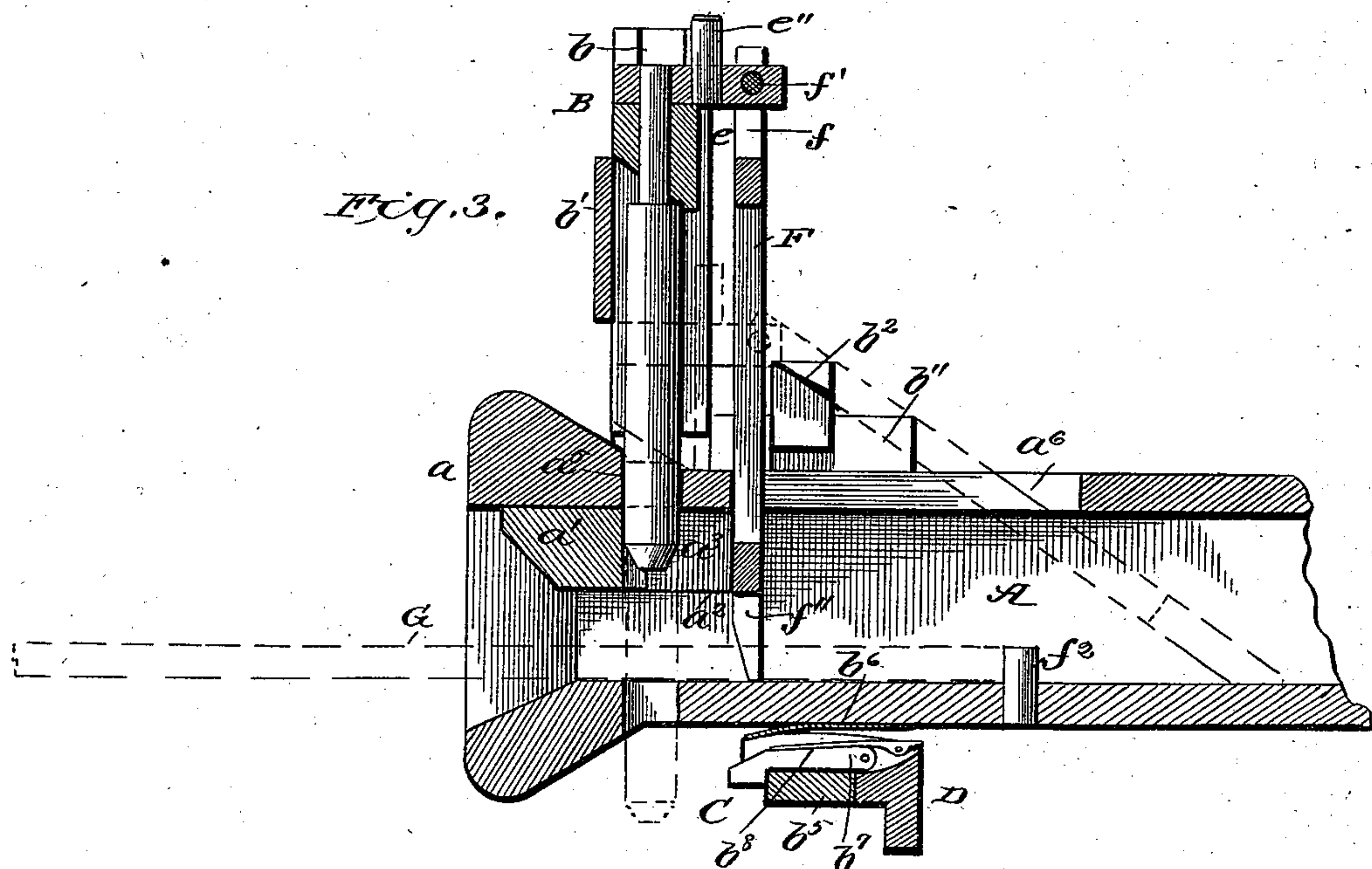
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3 Sheets—Sheet 2.

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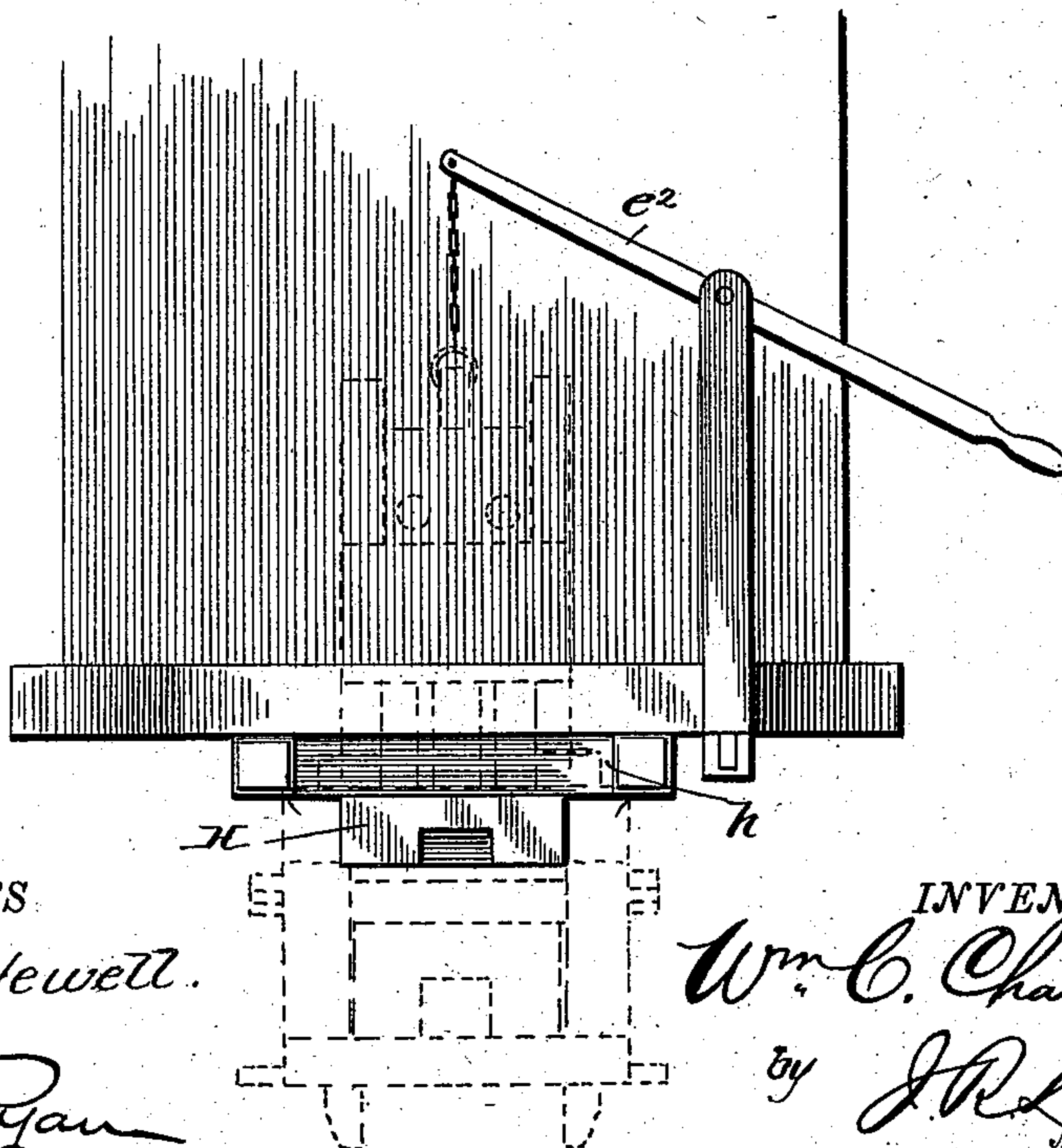
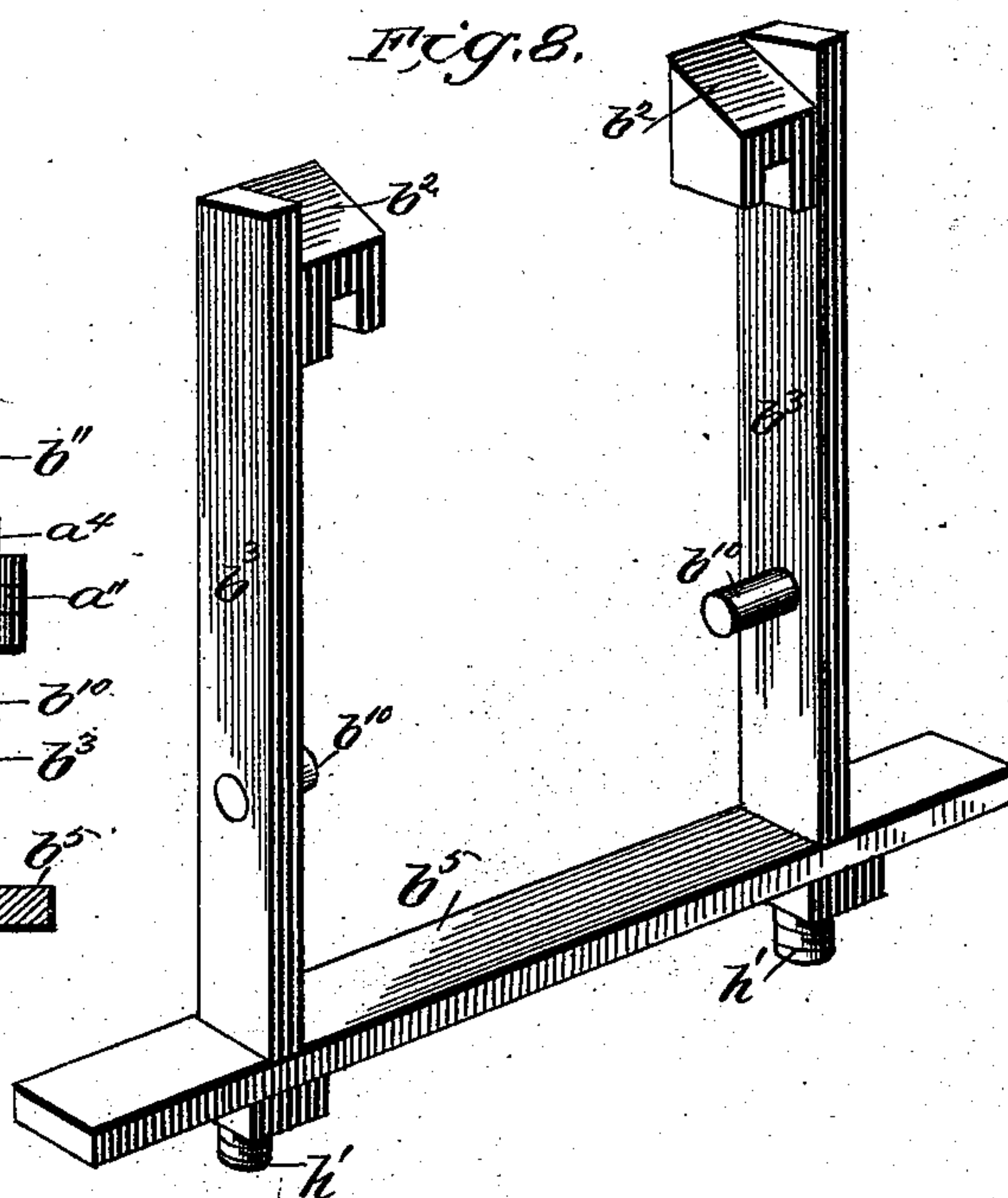
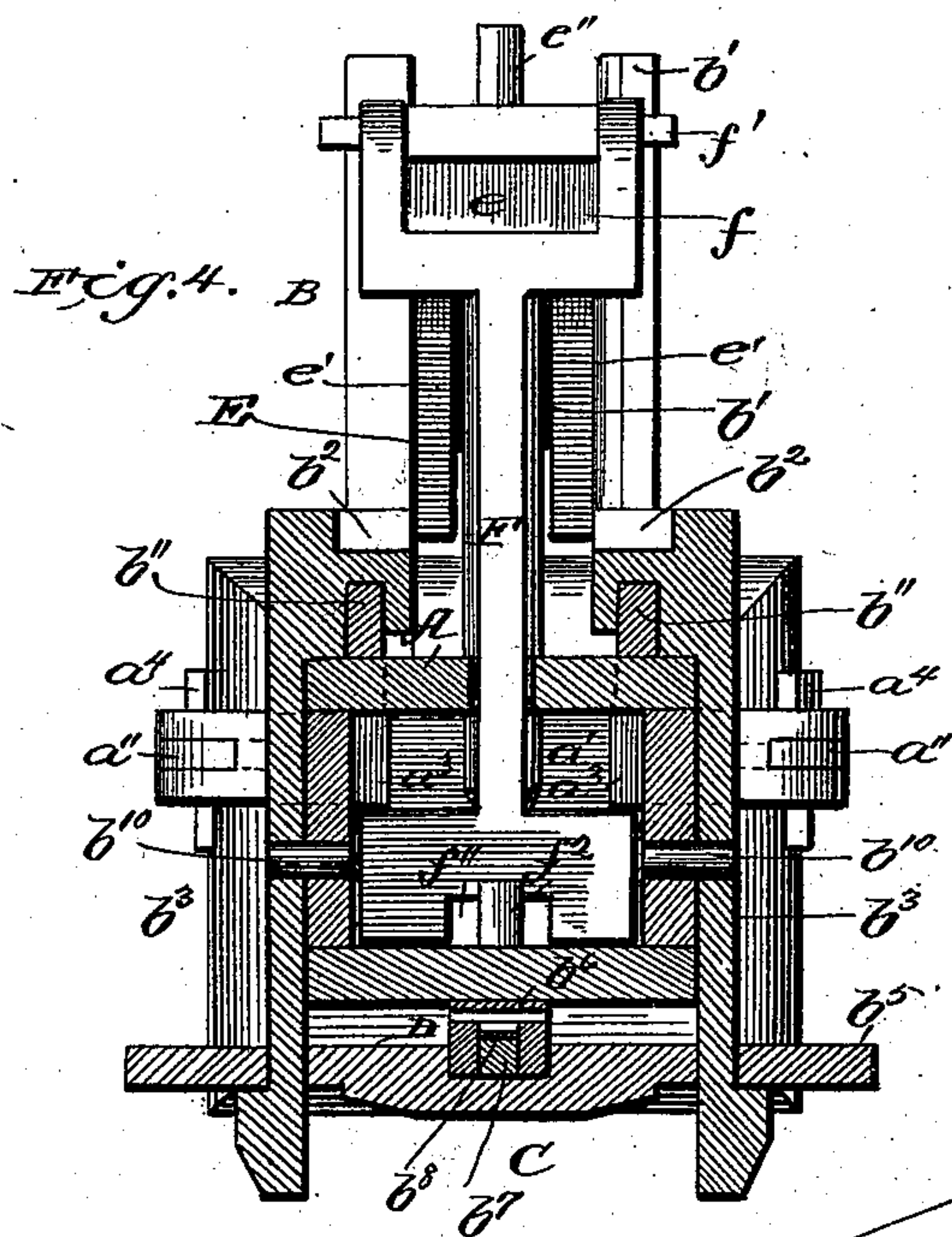
By

J. R. Little,
Attorney

3 Sheets—Sheet 3.

No. 376,797.

Patented Jan. 24, 1888.



WITNESSES

Edwin L. Yewell.

Jos. A. Ryan

INVENTOR

Wm C. Chamberlain,
by J. R. Littell,
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM CARROLL CHAMBERLAIN, OF CEDAR BLUFF, VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 376,797, dated January 24, 1888.

Application filed October 15, 1887. Serial No. 252,460. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CARROLL CHAMBERLAIN, a citizen of the United States of America, residing at Cedar Bluff, in the State of Virginia, 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 pertains to certain new and useful improvements in car-couplings, having for its object the provision of simple and efficient means for coupling cars.

The invention consists in a sliding supporting arm for holding the coupling-pin elevated, and for automatically lowering or dropping said pin through the aperture in the link when the latter is forced into the draw-head, and means for rigidly securing the sliding-pin frame in position; and the invention also comprises simple and efficient means for securing in the desired plane the draw-head of a car of greater height than the one to which it is to be coupled.

In the accompanying drawings, Figure 1 is a view in perspective of my invention. Fig. 2 is a plan view of a draw-head with my invention applied thereto. Fig. 3 is a central longitudinal sectional view thereof, showing the coupling-pin supporting-arm in its various positions. Fig. 4 is a cross-sectional view on the line *x x*, Fig. 2. Figs. 5 and 6 are detail perspective views of the coupling-pin and its supporting-arm. Fig. 7 is a detail view of the clamp. Fig. 8 is a view of a modification thereof; and Fig. 9 is an end view of a car, showing the means for securing the draw-head in a lower plane.

Corresponding parts in the several figures are denoted by the same letters of reference.

Referring to the drawings, A represents the draw-head, provided, as usual, with the widened bumper end *a*, against the upper wall of which is secured a beveled block, *a'*. This block is provided with two outwardly-projecting arms, *a'' a''*, extending through slots or openings *a² a²* in the sides of the draw-head, the same being rigidly held in position by means of two similarly-shaped blocks, *a³ a³*, through central

apertures, in which extend the arms *a''*, the same being secured therein by suitable pins, *a⁴ a⁴*, passed therethrough. The rearmost ends of these securing-blocks *a³* extend into the unoccupied space of the slots or openings *a²*, bearing against the rear ends of said blocks and the end walls of said slots or openings, as shown.

In the upper wall of the draw-head A is formed a transverse slot or opening, *a⁵*, and a short distance therefrom, at right angles thereto, is a longitudinal slot or opening, *a⁶*, as shown.

B is the vertically-disposed sliding-pin frame, composed of two corresponding upright bars having guideways or grooves *b b* on their inner opposite faces, as shown, said bars being connected together by a cross-piece, *b'*, secured to the outer front edges thereof. To these upright bars are secured lower right-angular arms, *b'' b''*, provided at their centers with corresponding grooves. The lower ends of the bars *b³* bear against the end walls of the slot or opening *a⁵*, as shown.

C is a clamp for securing the frame B to the upper outer surface of the draw-head, the upper hooked ends, *b² b²*, of the vertical side bars, *b³ b³*, of said clamp being designed to fit in the corresponding grooves of the arms *b''*. The upper outer surfaces of these hooked ends *b²* are beveled rearwardly, as shown. The lower ends of these side bars, *b³ b³*, are provided with L-shaped grooves or openings *b⁴ b⁴*, wherein fit the grooved ends of a horizontally-disposed connecting-bar, *b⁵*, designed to pass under the draw-head, as shown, said connecting-bar being provided with a central thickened portion grooved on its upper surface. This clamp is rigidly held in position by means of a spring-key, D, which is slid between the upper surface of the connecting-bar *b⁵* and the under surface of the draw-head. This key is provided at its upper forward end with a beveled surface, to which is secured one end of a spring-plate, *b⁶*, and in the center of the under side of this key is formed a slot, wherein is pivotally secured a tongue, *b⁷*, provided with a forward shouldered end, as shown. Within this slot is placed an ordinary spring-plate, *b⁸*, which has the tendency of forcing outwardly the tongue *b⁷*. The rear portion of this block

is provided with a step-like end, b^9 , as shown. By forcing this key D through the groove in the upper surface of the connecting-bar b , the spring b^6 will press against the draw-head, and upon the shouldered end of the tongue b^7 clearing said groove the spring b^8 will force the same downward, causing said shouldered portion to bear against the front edge of the connecting-bar b^5 , while the rear step-like end of said key bears against the rear edge of said bar, thus firmly securing the clamp in position. The side bars, b^3 , are prevented from moving by means of short lugs b^{10} b^{10} , projecting therefrom into corresponding apertures in the sides of the draw-head.

E is the sliding coupling-pin, secured at its upper end to its carrying-frame e , which is provided with two downwardly-projecting parallel arms, e' e' , between which is the coupling-pin. These arms e' are designed to fit and slide in the grooves or guideways b b of the frame B. To the upper outer surface of this carrying-frame e is secured a short post, e'' , for attaching thereto one end of an ordinary lever, e^2 , fulcrumed, as shown, to the front of the end wall of the car.

F is the coupling-pin supporting-arm provided with a forward approximately U-shaped frame, f , the outer arms of which are pivotally secured to the sides of a rearwardly-projecting portion of the frame e by means of a common bolt, f' , as shown. The lower rear end of this arm is provided with a central groove, f'' , so as to permit the same to pass free of a lug or projection, f^2 , secured to the upper surface of the bottom of the draw-head.

G is the coupling-link, provided, as usual, with a longitudinal slot or opening, and each end of this link is extended, forming projections g g , the purpose of which will soon appear.

In practice, assuming the coupling-pin E to be elevated and so held by its supporting-arm F, which projects through the slot a^6 and occupies a plane parallel with the pin E, upon the projecting end g of the coupling-link of the approaching car coming in contact with the lower wide end of the supporting-arm F the same will be forced rearward, causing the lowering of the coupling-pin and the arms e' through the slot or opening a^5 , said pin passing through the opening in the link and an aperture in the bottom of the draw-head. The rearward movement of the coupling-link is limited by reason of its contact with the lug or projection f^2 , at which time the pin has reached the full extent of its movement, and the arms of the U-shaped frame f rest upon the beveled portion of the hooked ends b^2 b^2 of the clamp C. When it is desired to uncouple the cars, the same is readily effected by manipulating the operating-lever e^2 , causing the elevation of the coupling-pin, together with its supporting-arm, which will hold it in position ready for the reception of another link.

In Fig. 9 I have shown means for securing the draw-head to a car of greater height than

the one to which it is to be coupled, the object of which is to make the two draw-heads occupy the same plane. It consists of a flat block, H, secured in a frame, h , attached to the under side of the car, and to this block the draw-head is attached by ordinary means, instead of directly to the under side of the car.

I do not restrict myself to the employment of the clamp C, constructed strictly after the form described, for, without departing from the spirit of my invention, I can employ the modification shown in Fig. 8, which consists in providing the side bars, b^3 , with lower bolt-like ends, h' , designed to project through corresponding apertures in the connecting-bar b^5 , and secured by ordinary nuts screwed thereon.

I claim as my invention—

1. As an improvement in car-couplings of the class herein described, the frame rigidly secured by means of a clamp to the upper side of the draw-head and the sliding coupling-pin secured therein, substantially as shown and described.

2. The frame rigidly secured to the draw-head, the sliding coupling-pin working in said frame, and the supporting-arm for retaining said pin in an elevated position.

3. The combination, with the draw-head having a transverse slot or opening therein, of the vertical frame having grooves or guideways, the sliding coupling-pin, and the clamp securing said frame, substantially as shown and described.

4. The combination, with the draw-head, the vertical frame having right-angular arms, and the coupling-pin, of the clamp having its upper hooked ends securing said arms, and the spring-key having a step-like end, and a spring-pressed tongue provided with a shouldered end, substantially as shown and described.

5. The combination, with the draw-head having a slotted upper wall, of the vertical frame, the sliding coupling-pin, and the supporting-arm pivotally secured to the pin-carrying frame, substantially as shown and described.

6. The combination, with the draw-head, of the vertical frame having grooves or guideways, the coupling-pin, the frame having downwardly-projecting parallel arms, the supporting-arm having a U-shaped frame-like end pivoted to said pin-carrying frame, and the clamp securing said vertical frame, all constructed and arranged substantially as shown and described.

7. The combination, with the draw-head having slotted sides, of the beveled block provided with projecting arms and the securing-blocks, arranged as shown and described.

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

WILLIAM CARROLL CHAMBERLAIN.

Witnesses:

RICHARD A. LIPFORD,
HAMLET REPASS.