

(No Model.)

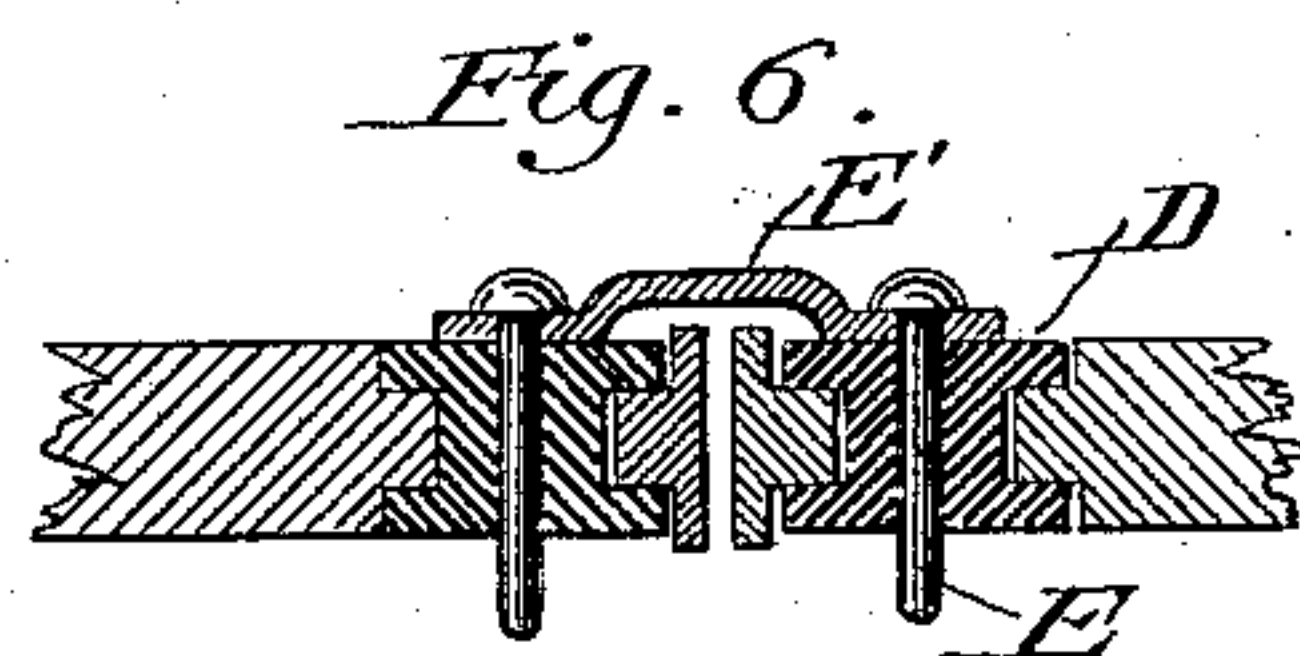
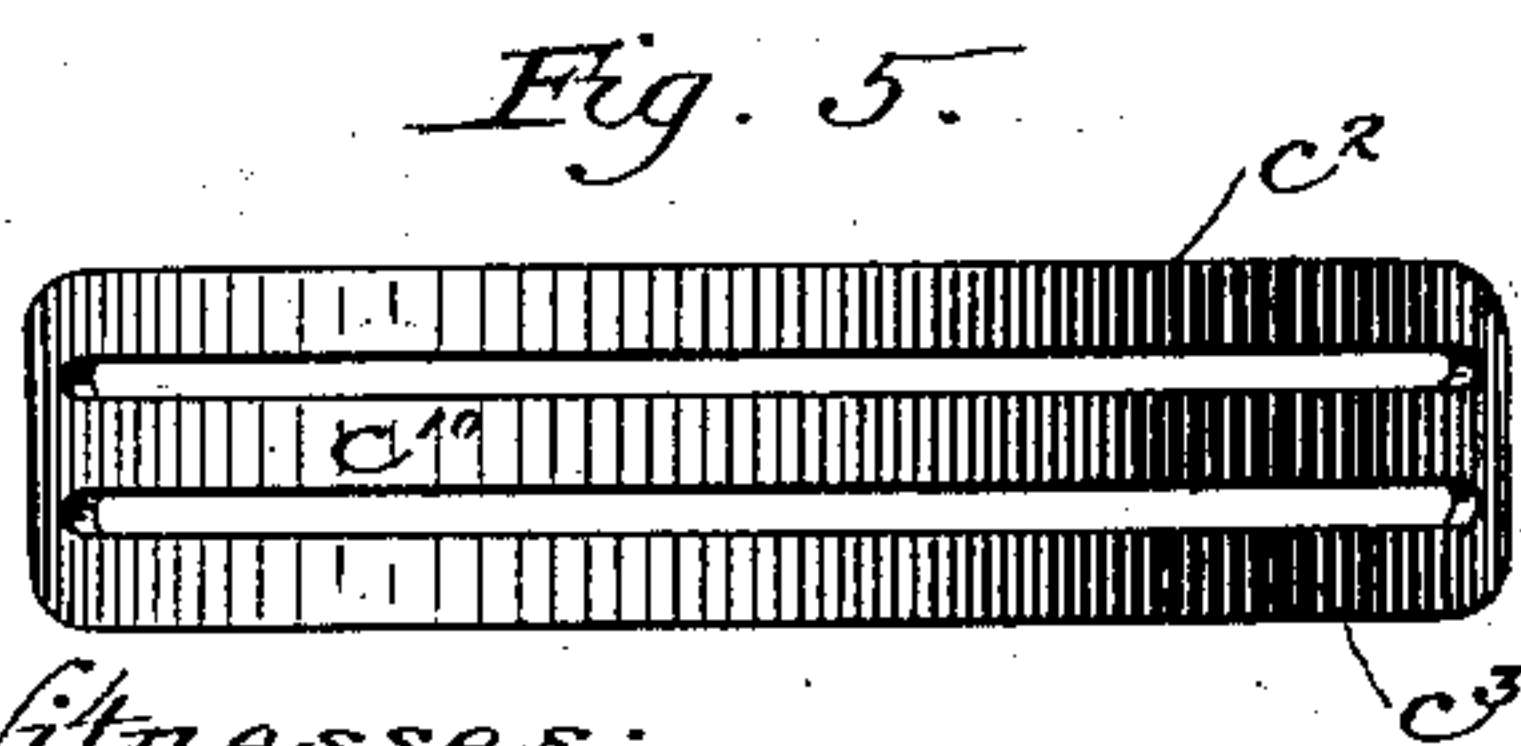
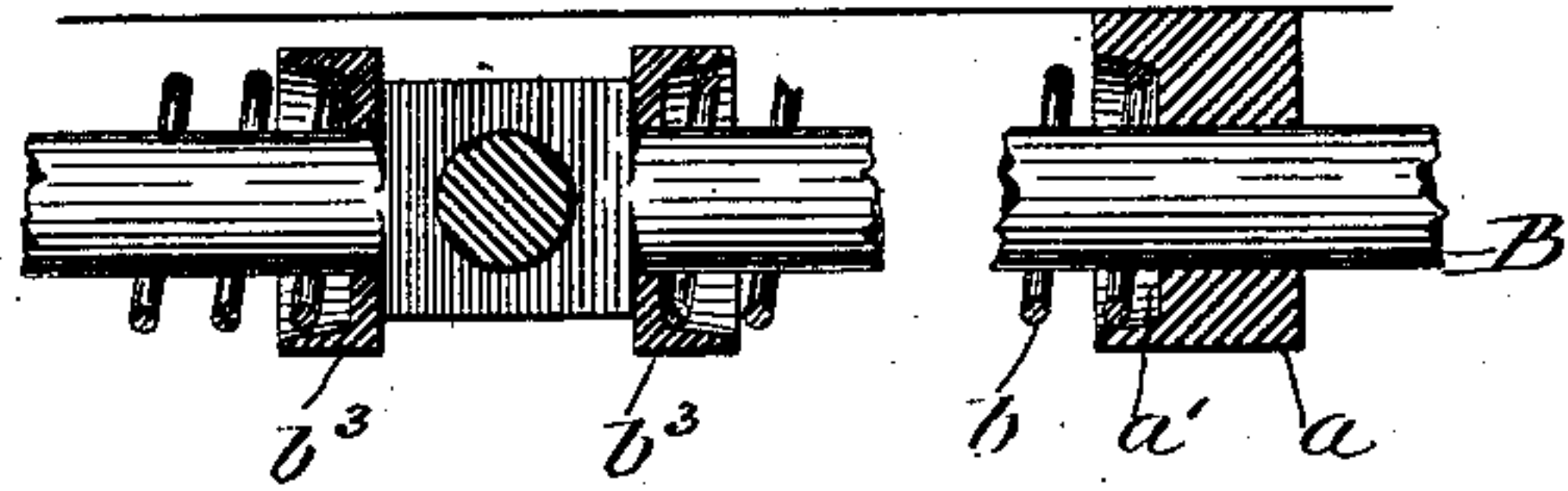
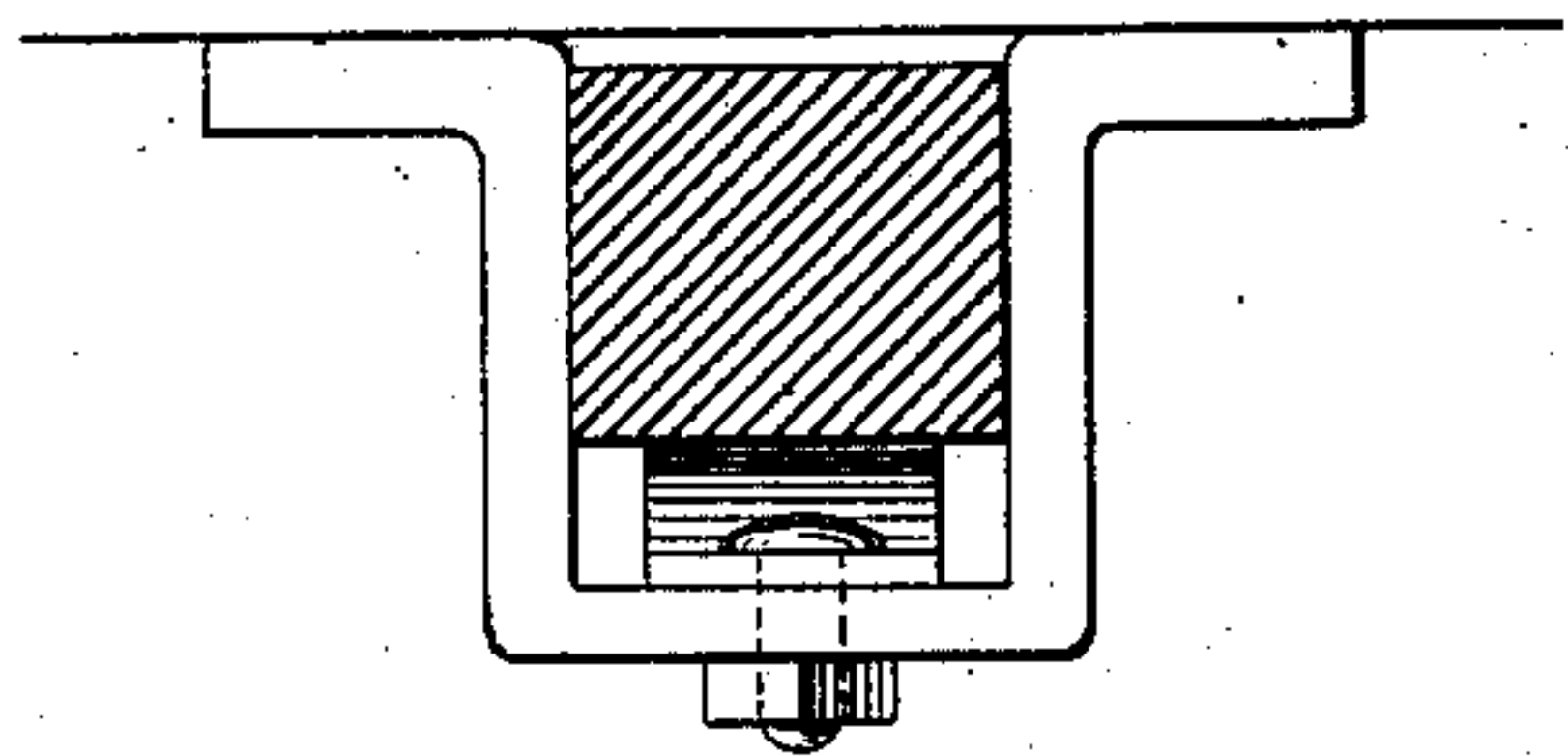
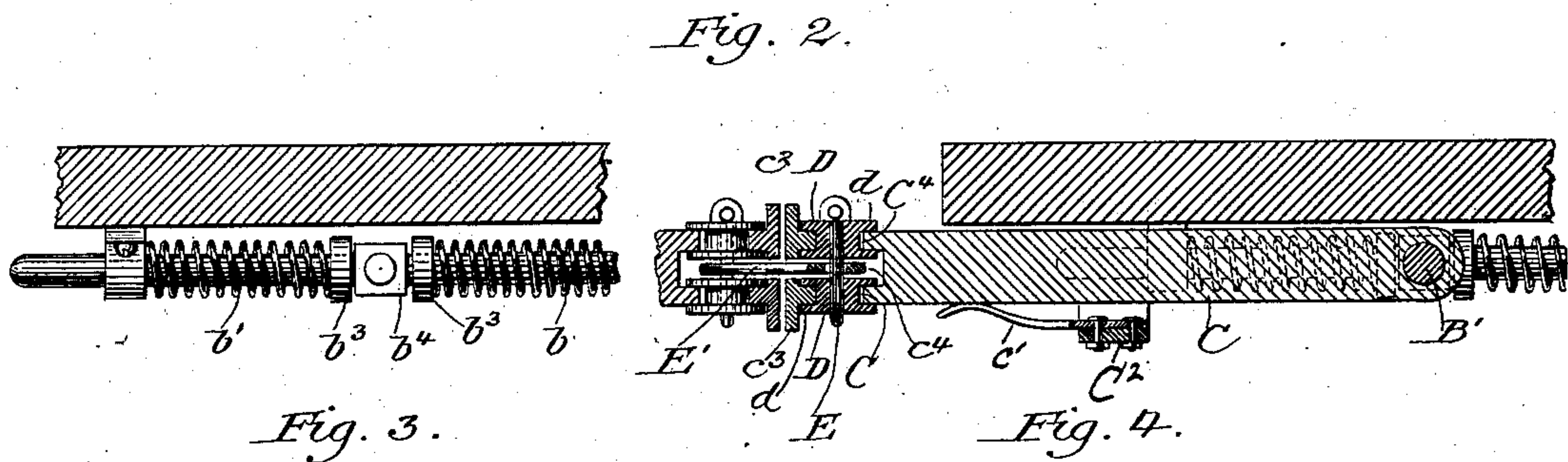
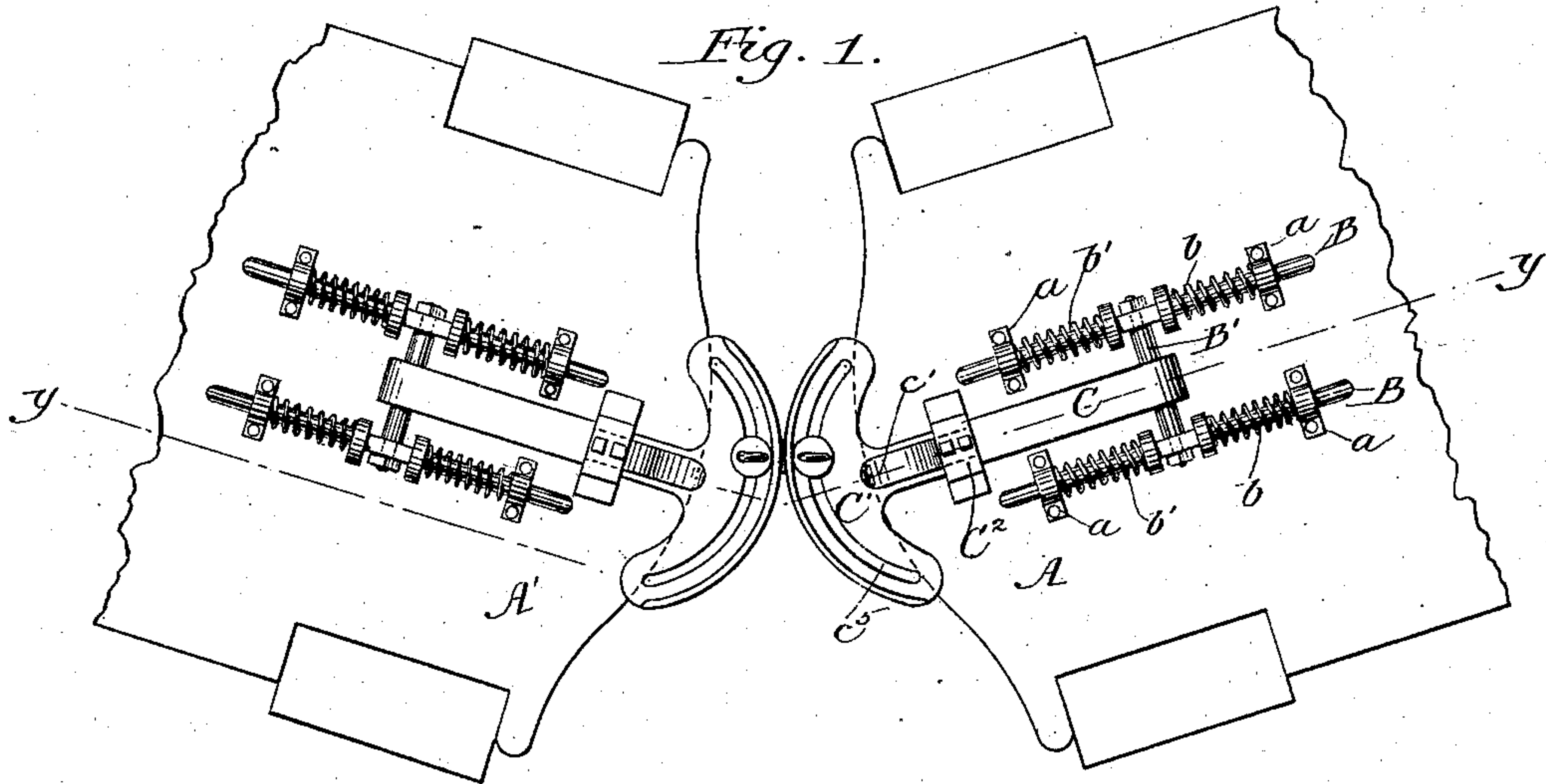
2 Sheets—Sheet 1.

C. W. RASMUSEN.

CAR COUPLING.

No. 259,719.

Patented June 20, 1882.



Witnesses:

Jacob Lorum.
Frank S. Blanchard.

Inventor:

Charles W. Rasmusen

By Price & Fisher
Attorneys:

(No Model.)

2 Sheets—Sheet 2.

C. W. RASMUSEN.

CAR COUPLING.

No. 259,719.

Patented June 20, 1882.

Fig. 7.

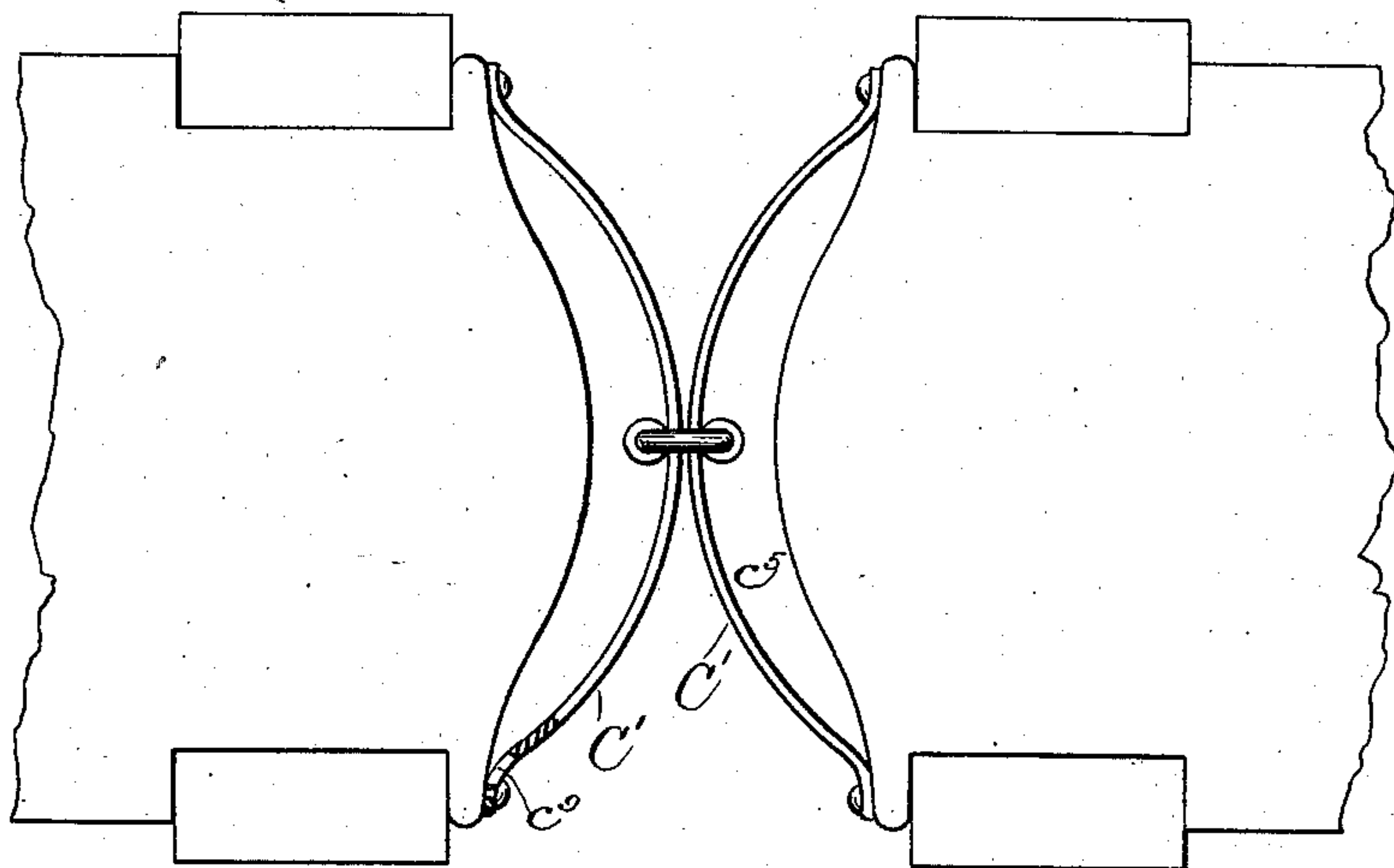


Fig. 9.

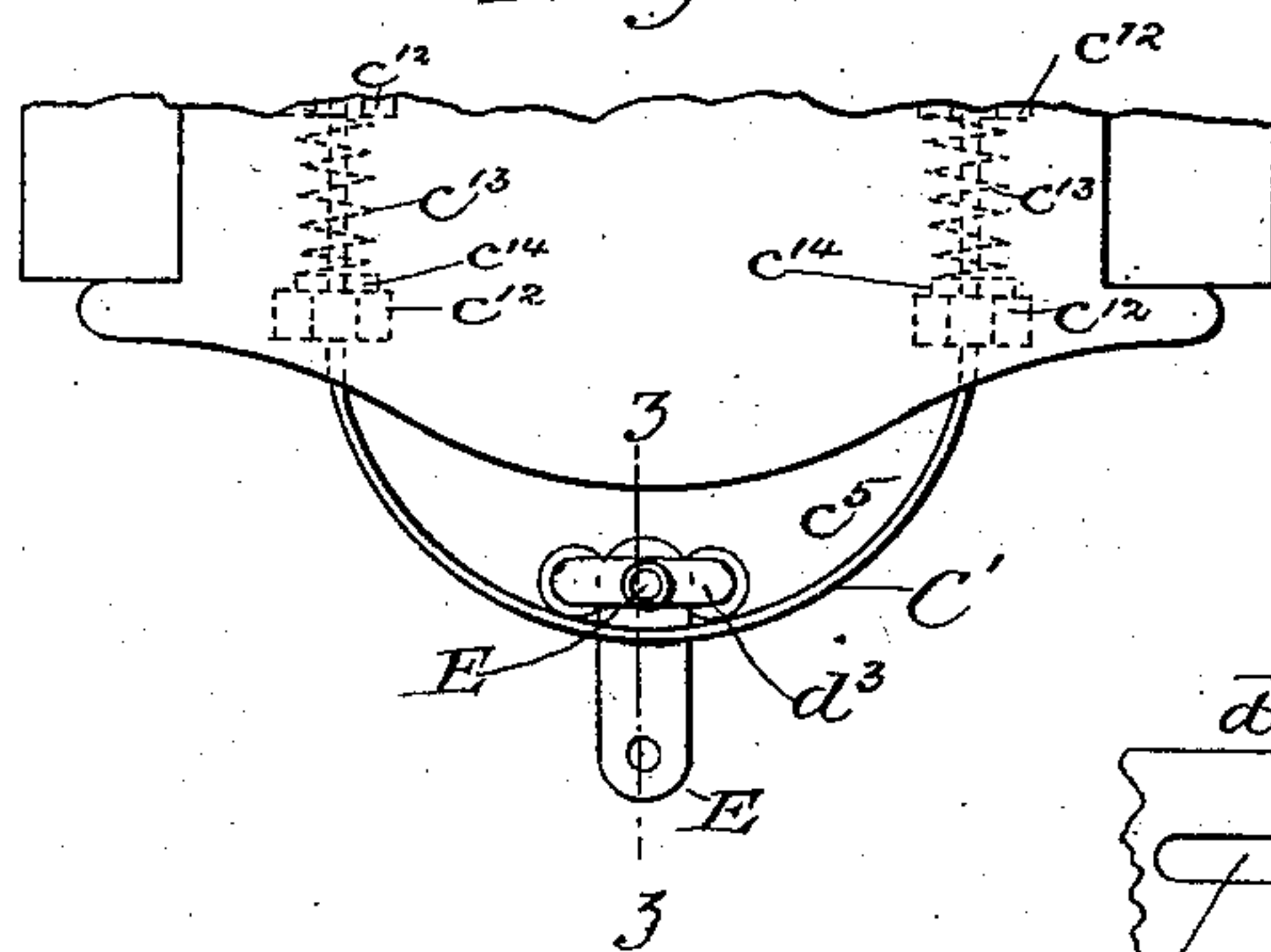


Fig. 8.

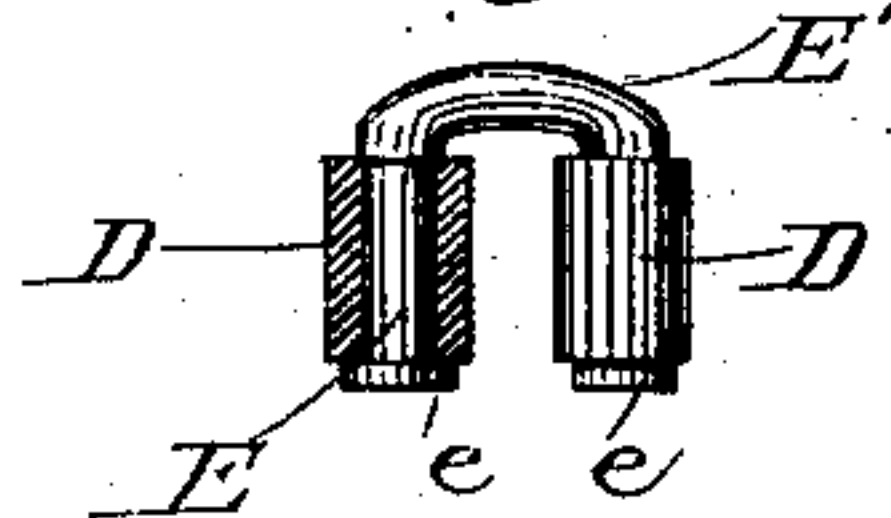


Fig. 10.

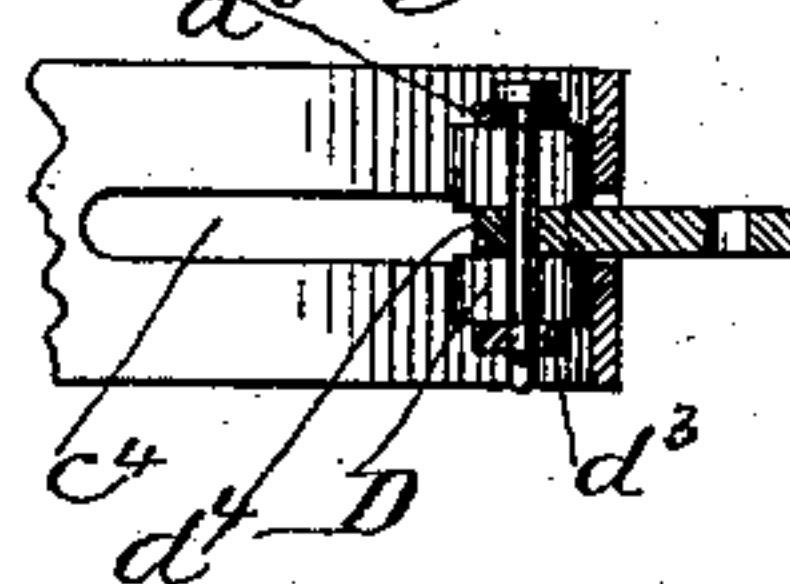


Fig. 11.

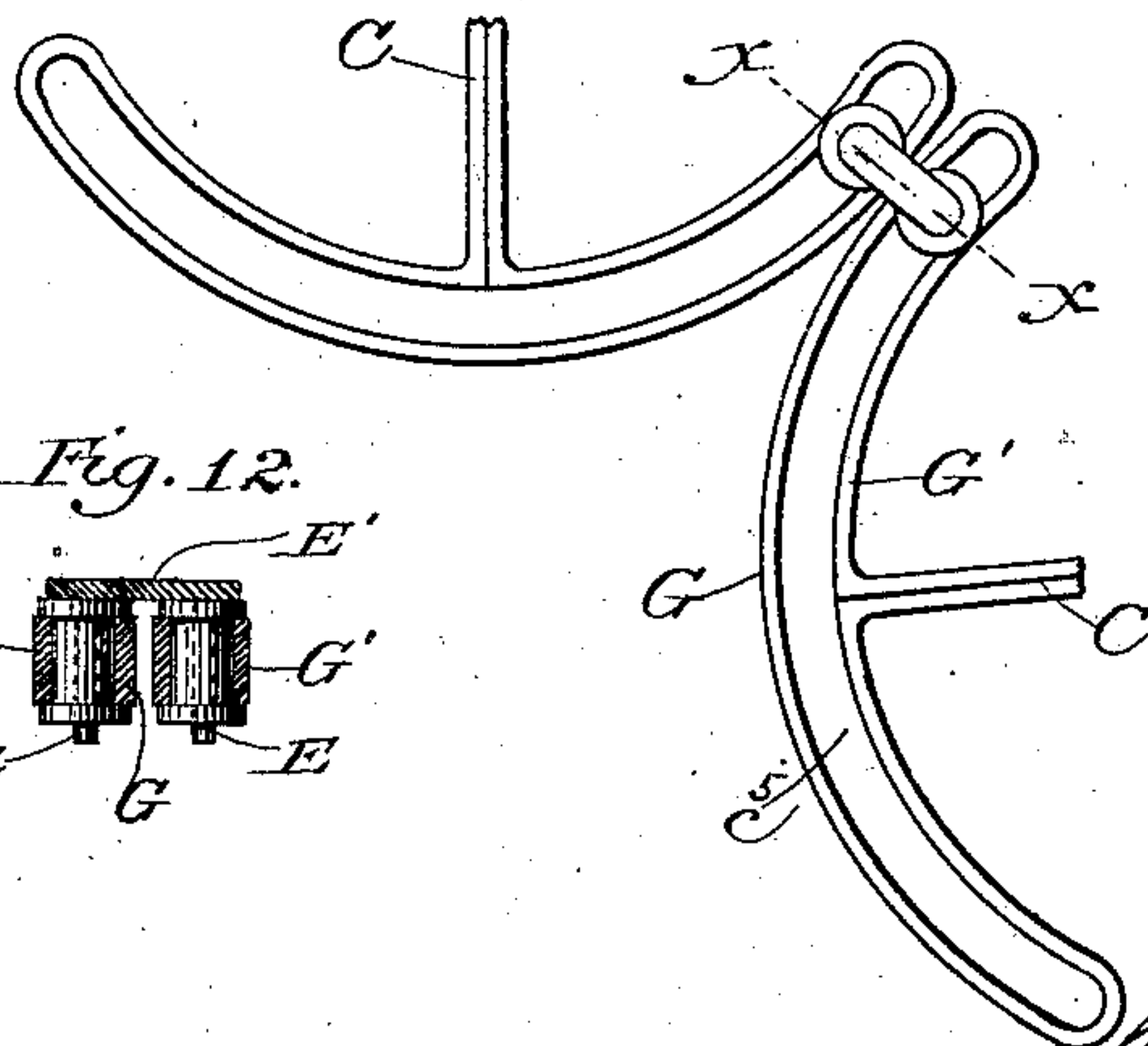
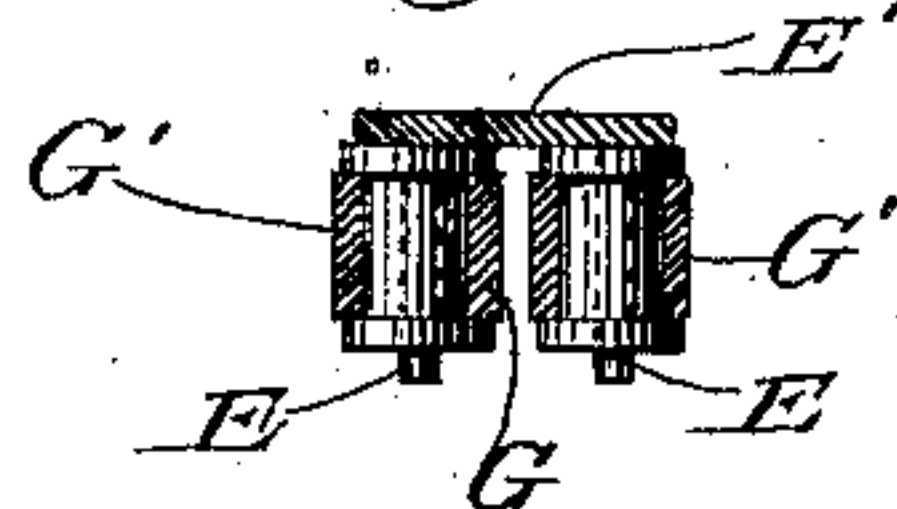


Fig. 12.



Witnesses:
Jacob Lorum.
Frank Blanchard.

Inventor:
Charles W. Rasmussen
By Pierce & Fisher
Attorneys:

UNITED STATES PATENT OFFICE.

CHARLES W. RASMUSEN, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 259,719, dated June 20, 1882.

Application filed April 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. RASMUSEN, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My present invention has for its object to provide a coupling of such construction as will avoid to a great extent the shocks occasioned by the passage of cars around curves; and it is especially applicable to cars of elevated or cable railways, where the curves to be traversed are usually very abrupt. This object of my invention I accomplish by the mechanism hereinafter fully described, particularly defined in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the bottom of sections of two coupled cars, showing their relative position in traversing a curve. Fig. 2 is a sectional view upon line *y y* of Fig. 1, a portion of one of the draw-heads being broken away. Fig. 3 is an enlarged detail back view of yoke for supporting the draw-head, the shank of the draw-head being shown in section. Fig. 4 is an enlarged detail view of the spring mechanism for supporting the draw-head shank, parts being shown in section and parts being broken away. Fig. 5 is a front view of a modified form of draw-head. Fig. 6 is a longitudinal sectional view, and Figs. 7, 9, and 11 plan views of modified forms of couplings embodying my invention. Figs. 8 and 12 are detail views, partly in section, of modifications of the mechanism for coupling the draw-heads. Fig. 10 is a sectional view on line *z z* of Fig. 9.

A A' designate the platforms of two connected cars to which my improved coupling is applied, said coupling consisting of two main duplicate parts, one of which is attached to the under side of each platform. Securely fastened to the platforms are the yokes *a*, in which are supported in a manner free to slide therein the rods *B*, which project some distance beyond the yokes and carry the spiral springs *b* *b'*. The outer ends of these springs rest within the cup-shaped sockets *a'* of the yokes *a*, and their inner ends rest within the cup-shaped washers *b³*, which bear against the square central portions of the rods *B*.

Upon the axle *B'* is pivotally hung the shank *C* of what I designate the "draw-head" or "buffer," *C'*, and the reduced ends of this axle pass through suitable perforations in the enlarged portions of the rods *B*, and are retained in place by means of the jam-nuts *b⁴*. The shank *C* is journaled to the axle *B'*, as shown, and against the under side of this shank bears the spring-plate *c'*, which is attached securely to the bottom of the yoke *C²* and serves to keep the shank pressed normally against the bottom of the platform. The height of this yoke *C²* is made considerably greater than the thickness of the shank, thereby permitting the free vertical vibration of the latter upon its axle.

The draw-head or buffer *C'*, attached to the shank *C*, consists of the upper and lower parts, *C³* and *C⁴*, having the laterally-curved flanged buffer-plates *c²* and *c³* set such distance apart as to form the slot *c⁴* for the passage of the connecting link or bar.

Across each of the plates *C³* and *C⁴* is formed a slot, *c⁵*, of a curvature corresponding to that of the buffer-plates, and in each slot fits a roller, *D*, held in place by its flanges *d*. These rollers *D* are perforated, as shown, and through them pass the pins *E*, for attachment of the short connecting link or bar *E'*.

From the above-described construction it will be seen that after the connecting link or bar *E'* has been placed in the slot *c⁴* of each draw-head, and the link-pin *E* has been dropped through the link *E'* and the rollers *D*, the cars will be coupled very closely together; and it is also apparent that the usual slight vertical motion of the cars incident to the action of the car-springs will be readily permitted by the movement of the shanks of the draw-heads upon their journals, and as the ends of the cars are deflected in turning a curve the link *E'* and the rollers *D* will travel freely in their slots *c⁵*, their position being constantly and gradually shifted, and a uniform distance between the draw-heads being maintained. The spiral springs upon the rods *B* serve to avoid any sudden shocks when the draw-heads or buffers are bumped together, or when the cars are started suddenly.

If desired, the draw-heads may each be provided with two slots, or more, extending laterally across its face, as shown in Fig. 5. This form of draw-head is made by placing the

plates c^2 and c^3 a greater distance apart and by placing between them the plate c^{10} , the construction of the remaining parts of this modification being the same as that of the coupling heretofore described. Where cars with platforms of different heights are to be coupled, it will be found advantageous to employ this form of draw-head having a series of slots.

In Fig. 6 I have shown a modification of my invention wherein the draw-heads or buffers are each formed of a single plate and are each provided with a single slot and a roller, D, for attachment to the connecting-bar, which in this construction is placed above the draw-heads. The shanks and attachments of this modified form of coupling, being the same as already described, have not been further illustrated.

In Figs. 7, 9, and 11 are shown modified forms of couplings in which is retained, however, the principal feature of my invention—namely, the laterally-curved draw-heads, behind each of which is formed an open space or slot for the free travel of the rollers by which the connecting-bar is carried. In the modification shown in Fig. 7 the draw-heads or buffers C' consist each of a single curved plate, which extends across the front of the platform, and is provided with the slots c^9 in its ends, through which pass the retaining-bolts. The draw-heads C' in this instance are made somewhat flexible, and it will be seen that when pressure is exerted upon them—as when the cars are bumped together—they will be free to move to the extent of the slots c^9 , and thus avoid the shock. The connecting-bar E' in this construction, as shown in detail in Fig. 8, is formed integral with the pins E, which pass through the rollers D, which are retained upon the pins by the flanges e . The cars are readily coupled by dropping the connected pins, link, and rollers over the draw-heads or buffers, the rollers being thus free to travel in the space c^5 .

The draw-heads illustrated in Fig. 9 consist each of a single curved plate, C' , provided with a central slot, c^4 , extending nearly across the same. The ends of this curved plate are held by and slide freely in the yokes c^{12} , depending from the bottom of the platform, and upon these ends, and between the yokes, are placed the spiral springs c^{13} , against which the washers c^{14} , fixed rigidly to the ends of the draw-heads, act, thus giving a yielding action to the draw-head or buffer. In this modification two parallel vertical rollers, D, are employed, and these are held together by the cross-bars d^3 , which are united by suitable axle-rods passing through the rollers. The rollers are placed

at a distance apart somewhat less than the width of the connecting-link, and are each provided with a circumferential groove, d^4 , in which such link is held by the link-pin E, which passes through the perforations of the cross-bars d^3 .

The draw-heads of the modified form of coupling shown in Fig. 11 are each made from a single flat metal plate, bent in such manner as to form the plates G G', with the slot c^5 between them, and the shanks C, which are connected to the car in the same way as is the coupling shown in Fig. 1. Within the slots c^5 of the draw-heads are held the perforated flanged rollers D, through which the pins E, formed integral with the link E' , are dropped in coupling the cars.

It will be seen that in each of the several modifications of my invention above described the coupling of the cars is effected in such manner that the draw-heads are retained uniformly close together and a free lateral movement of the connecting-bar is permitted. By this means the sudden shocks incident to the passage of trains of cars around curves is in great measure avoided.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-coupling having laterally-curved buffers or draw-heads, each with a slot or open space behind the face of the same, in combination with a connecting-link, and with mechanism for attaching said link to the draw-heads, adapted to travel in each slot or open space and to permit the free lateral movement of the link from side to side of the draw-heads without displacement, substantially as described.
2. A car-coupling having a connecting-link, rollers for said link, and buffers or draw-heads having laterally-curved rails upon which said rollers travel, substantially as described.
3. A car-coupling the buffers or draw-heads of which are provided with laterally-curved faces, having slots extending across said faces to receive the connecting link or bar and permit the free lateral movement of the same from side to side of the draw-heads without displacement, substantially as described.
4. The combination, with the draw-heads or buffers C' and their shanks C, of the yoke C^2 and spring c' , the axle B' , rods B, springs $b b'$, and yokes a , substantially as described.

CHARLES W. RASMUSEN.

Witnesses:

GEORGE P. FISHER, Jr.,
WILLIAM C. WHITING.