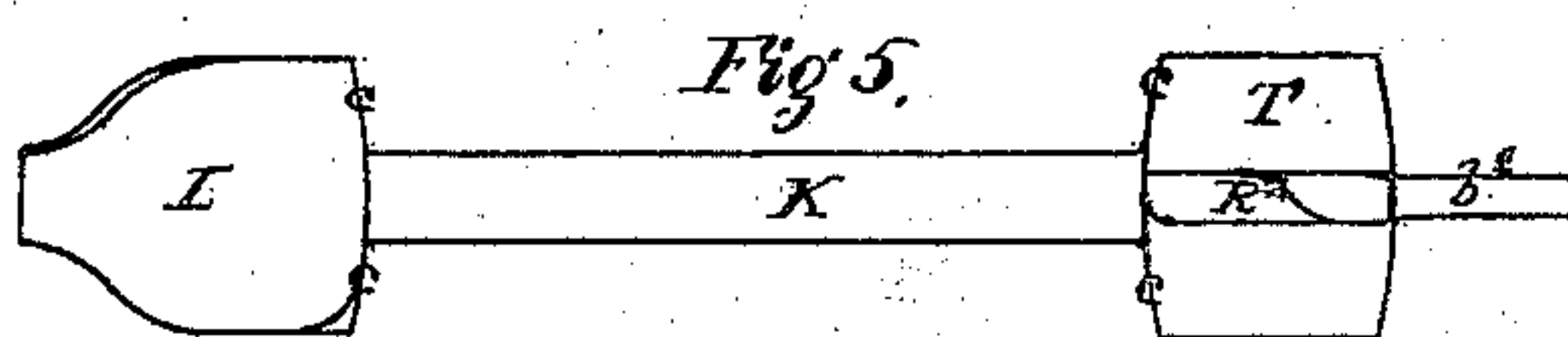
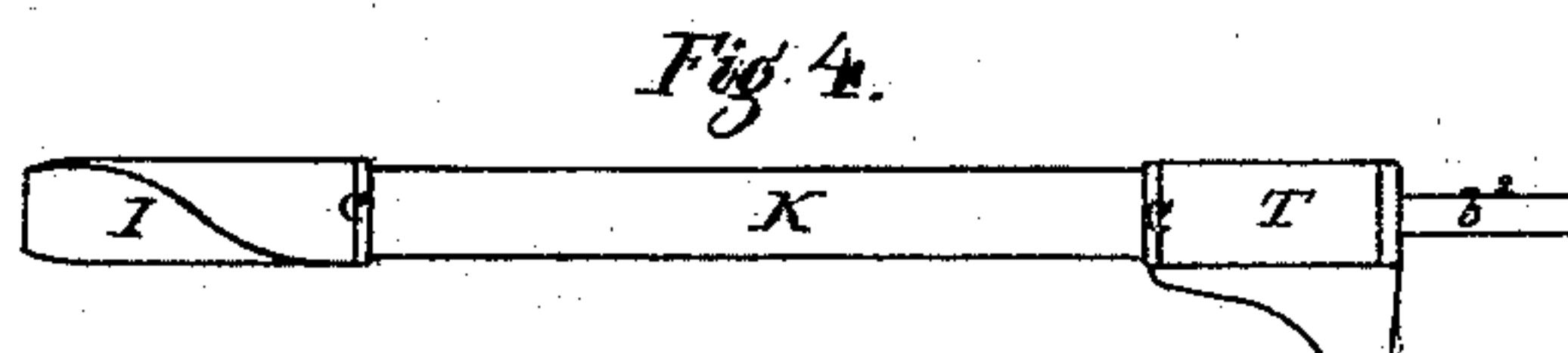
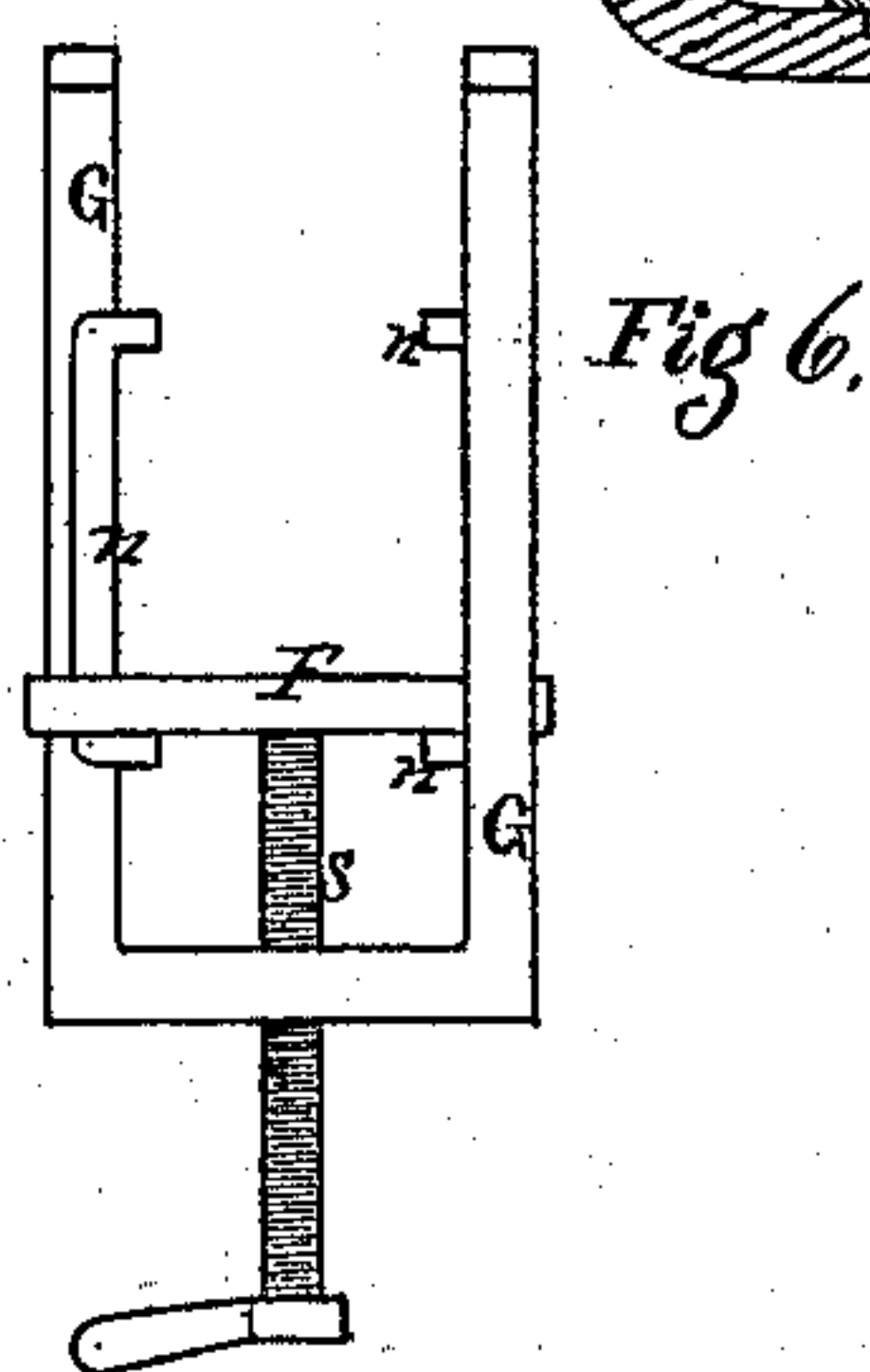
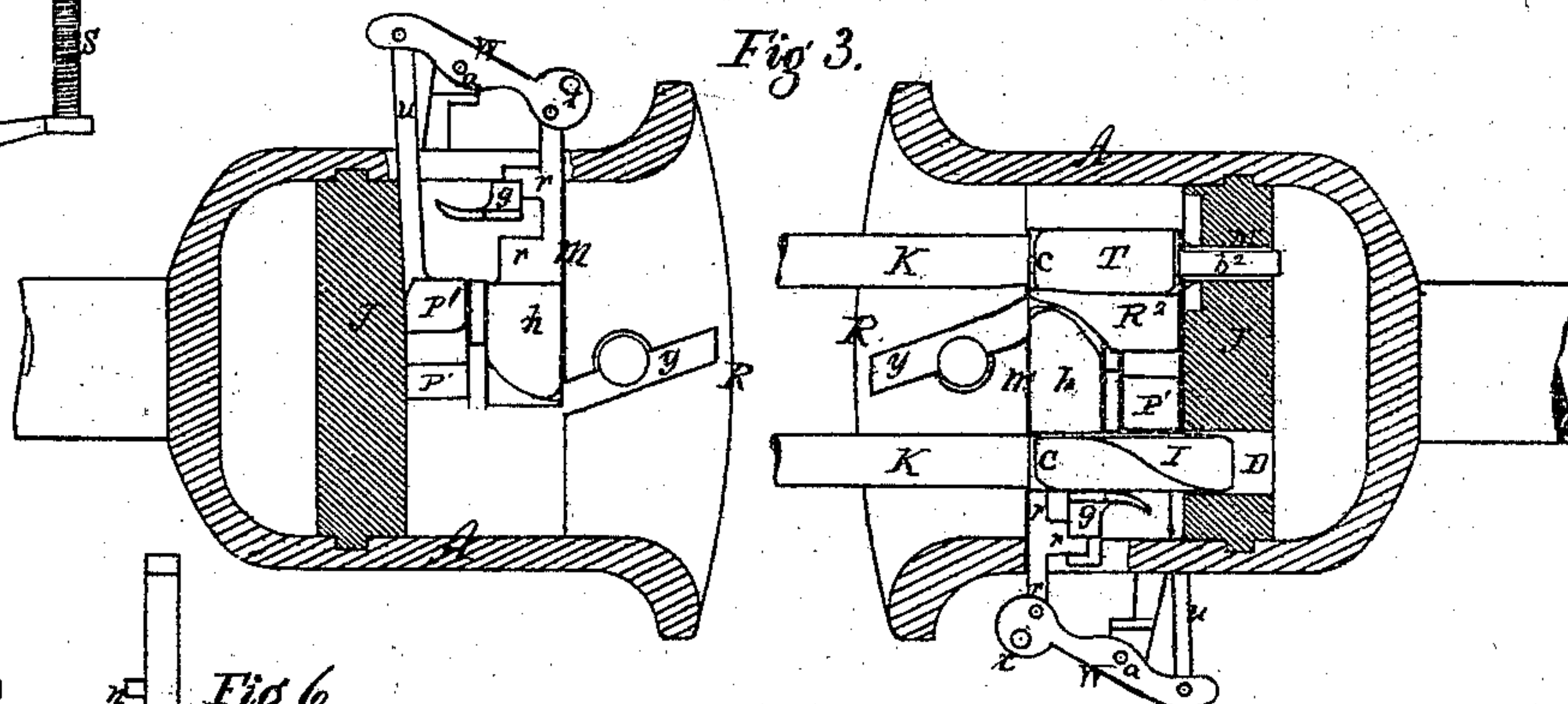
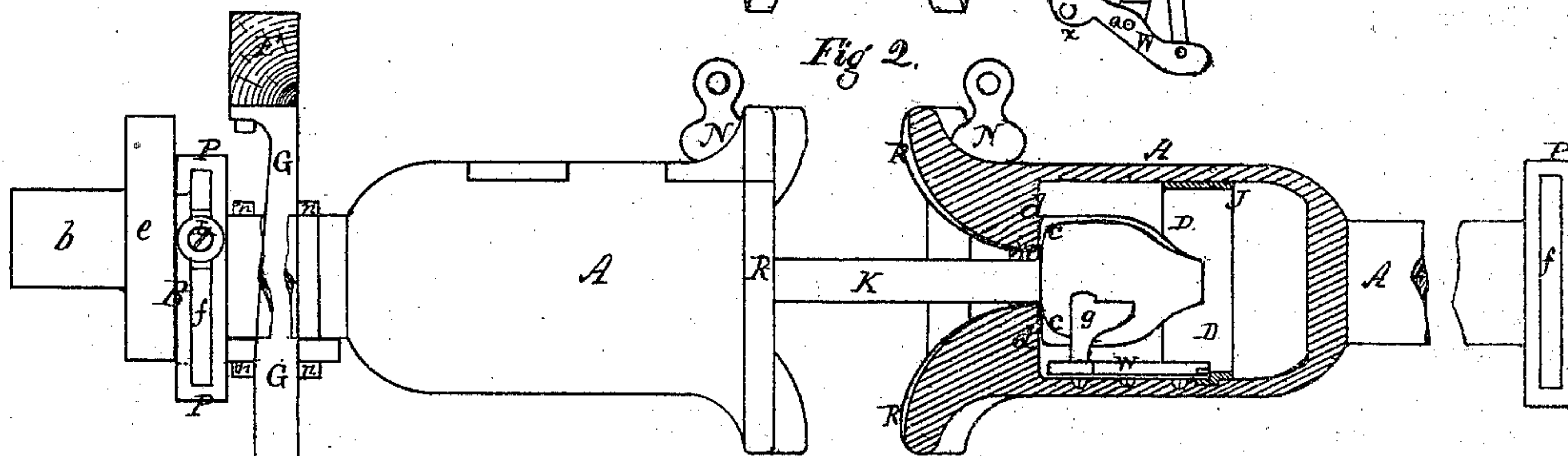
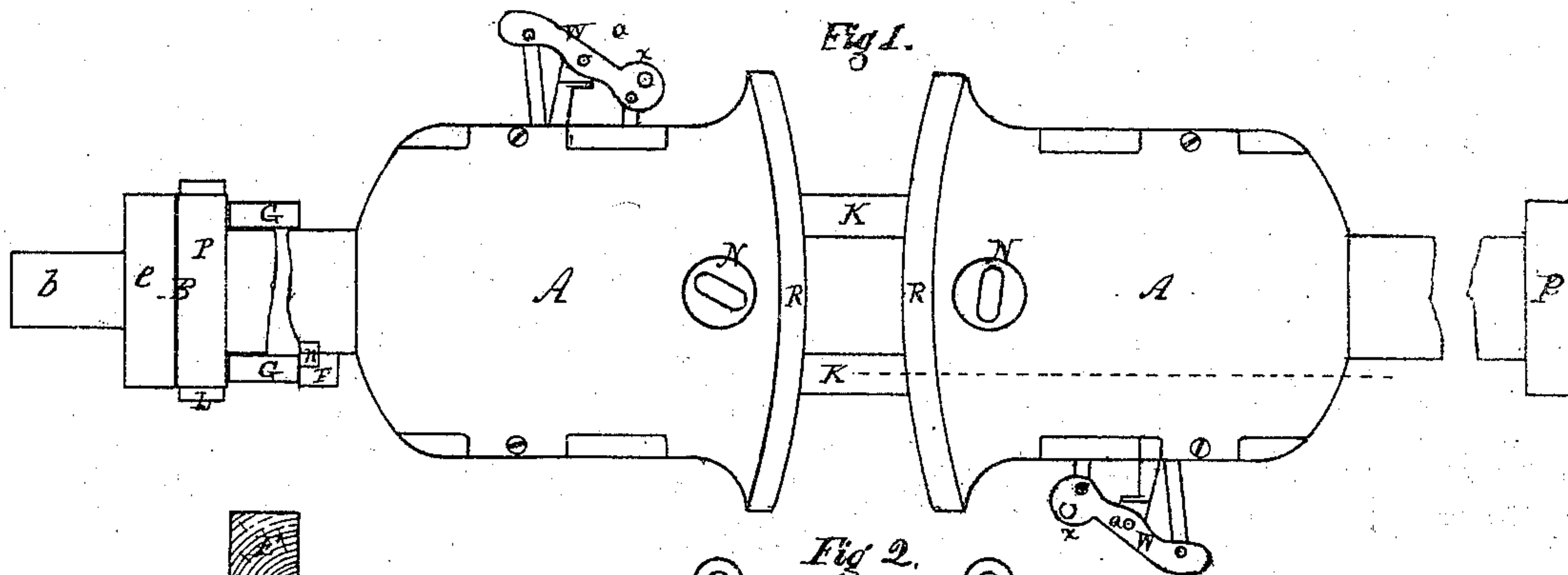


F. FOX & F. A. HOWARTH.
Car-Couplings.

No. 135,537.

Patented Feb. 4, 1873.



Witnesses.

Geo. W. Harrop
Isaac A. Russell

Inventors.

Frank Fox
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UNITED STATES PATENT OFFICE.

FRANZ FOX AND FRANCIS A. HOWARTH, OF PROVIDENCE, R. I.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 135,537, dated February 4, 1873.

To all whom it may concern:

Be it known that we, FRANZ FOX and FRANCIS A. HOWARTH, both of the city and county of Providence and State of Rhode Island, have jointly invented a new and useful Improvement in Railroad-Car Coupling, of which the following is a specification, referring to the accompanying drawing making part of the same, in which—

Figure 1 is a plan of our improved coupling. Fig. 2 is a side elevation and section of the same. Fig. 3 is a horizontal section and plan of the same. Fig. 4 is an edge view, and Fig. 5 is a flat view, of the improved coupling-bar herein mentioned. Fig. 6 is a front view of the "adjusting-hanger" herein mentioned.

Similar letters indicate like parts in all the figures.

Our invention relates to the combination and arrangement of a suitably-constructed draw-head with a pair of coupling-bars and mechanism for coupling and uncoupling the same, the object being to provide effective means for coupling by simply bringing the two draw-heads together, and for uncoupling the same without the necessity of going between the cars to do so.

In the drawing, A is the draw-head, of cast-iron generally, and secured in the usual manner to the frame-work of the car, and provided with a suitable connection at B and an adjustable hanger, G, for elevating or depressing the bunter R in line with another bunter of different altitude, with which it is to be coupled. The said connection consists of a hub, b, a plate, e, and a neck extending therefrom into a hollow plate, P, on the draw-head, in which it is arranged to slide vertically, and to which it is secured by means of a cross-head, L, that slides with it in the slot f, whereby a considerable variation of the altitude of the draw-head may be made by means of the adjustable hanger G, which is secured to the forward main beam E of the car-frame and has an adjusting-screw, S, attached to a follower, F, which is confined by the keys n n to the square shank of the draw-head, so that, by turning the said adjusting-screw, the draw-head, which slides freely at its rear end on the cross-head L in the slot f, may be elevated or depressed into line with the contiguous draw-head with which it is to be coupled, and thereby adapted for

coupling with draw-heads of other cars of different altitude. The interior of the draw heads, as shown, is constructed with a narrow horizontal mouth, m, forming at the rear thereof two opposite shoulders, d d, against which the shoulders c c of the coupling-bars bear when the cars are properly coupled, as shown in Figs. 2 and 3, and which, it will be understood, sustain the strain for drawing the load. The said coupling-bars are two in number, as shown in Figs. 1 and 3, and are constructed as shown in Figs. 4 and 5, and consist of a straight shank, K, with a flat head, T, and a spiral flange, R², at one end and a spiral or helically-flat head, I, at the other end, both of which heads are introduced flatwise within the narrow horizontal mouth of the draw-head, and are afterward given a quarter turn behind the shoulders d d of the draw-heads, for coupling the same together. This turning of the said coupling-bars is effected by the helical head I of the said bars, which on being thrust within the mouth of the draw-head, its extreme end meets a vertical slot, D, in a partition, J, which has the effect to turn the coupling-bar from its horizontal inserting position to a vertical position behind the shoulders d d, and thus place the shoulders c c of the coupling-bars in position to bear against the shoulders d d of the draw-head and resist all efforts or force to pull the two draw-heads apart without breaking the parts. The said coupling-bars are released from the draw-heads, so as to withdraw and uncouple from the same, by means of a mechanism that is conveniently arranged beneath the two coupling-bar heads in the draw-head, and which turns the two bar-heads simultaneously by means of a lever, W, on the outside of the draw-head, as shown. This lever is connected by a sliding rod and plate, r, to the turn-block h and presser g, which turn the helical head I and hold it in position, and at its opposite end by the sliding rod u and the sliding block P', which turns the flat head T of the other coupling-bar and holds the same in position, so that, by means of a line or rod attached at the end x of the lever W, it is made to swing on its fulcrum-pin a and shift the said turning mechanism and turn the heads of the two coupling-bars into the requisite horizontal position to be readily withdrawn from the mouth of the draw-head for uncoupling the cars, and the said mechan-

ism is again restored to its requisite position for performing this function by the introduction and turning of the two coupling-bar heads within the draw-head in the act of coupling, as before described. The flat head of the coupling-bar remains in the draw-head with its opposite helical head protruding ready for entering and coupling with another similar draw-head.

For introducing the flat-head end to the draw-head the groove y is formed in the lower lip or surface of the draw-head mouth, which groove permits the flange R^2 to pass with the flat head through the mouth, and it is assisted in so doing, and also held in position afterward, by the center stem b^2 , which slides and is held in the vertical slot M in the partition J .

Besides the special construction and mechanism for the reception and operation of the coupling-bars as described, the draw-head is so constructed and provided with a draw-pin, N , that it may be coupled with the ordinary draw-head by means of the common link-coupling.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the draw-head and the coupling-bars, constructed and operating substantially as described, for the purpose specified.

2. The coupling-bar, substantially as described, in combination with the mechanism for turning and uncoupling the same, substantially in the manner specified.

3. The combination of the sliding connection B at the rear of the draw-head and the adjustable hanger H , substantially as described, for the purpose specified.

FRANZ FOX.

FRANCIS A. HOWARTH.

Witnesses:

THEO. W. KNOOP,

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