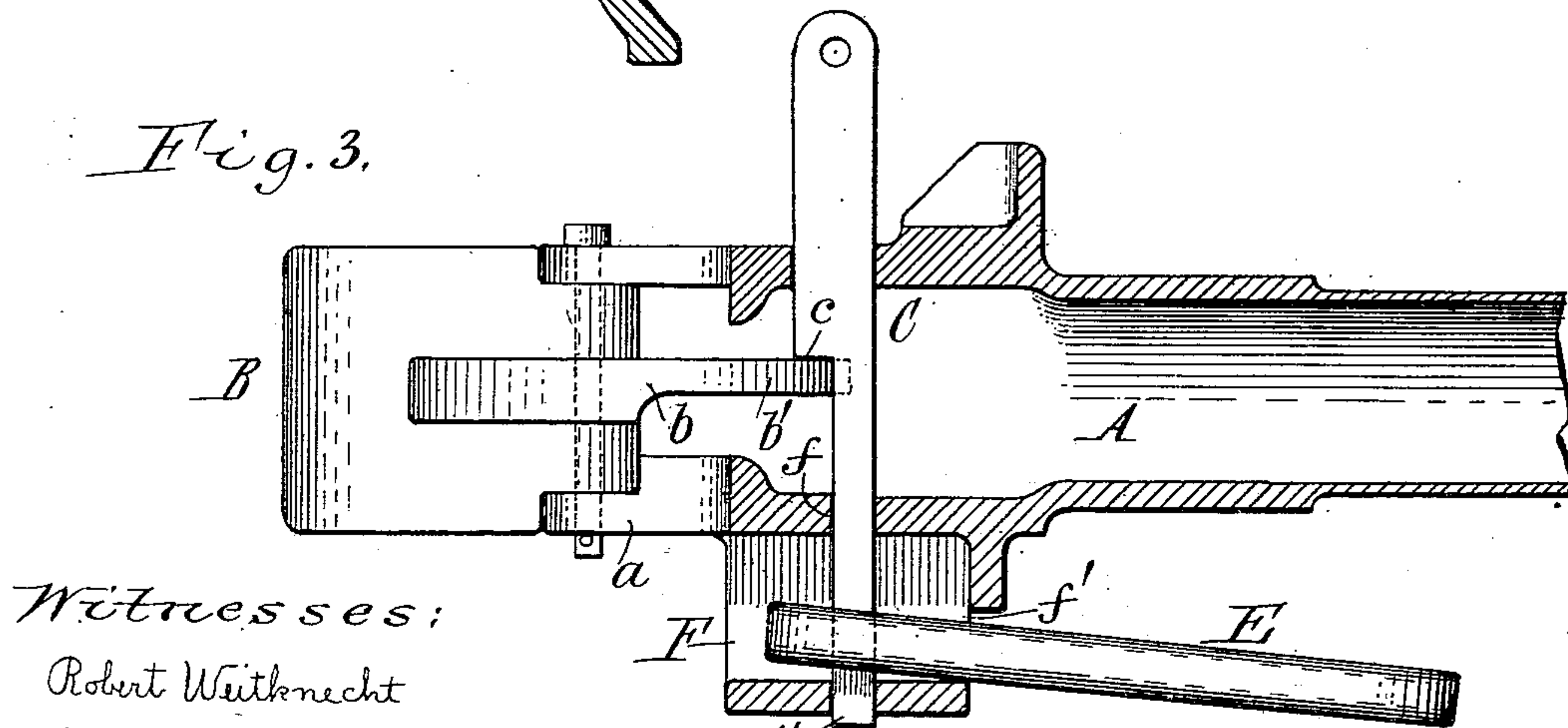
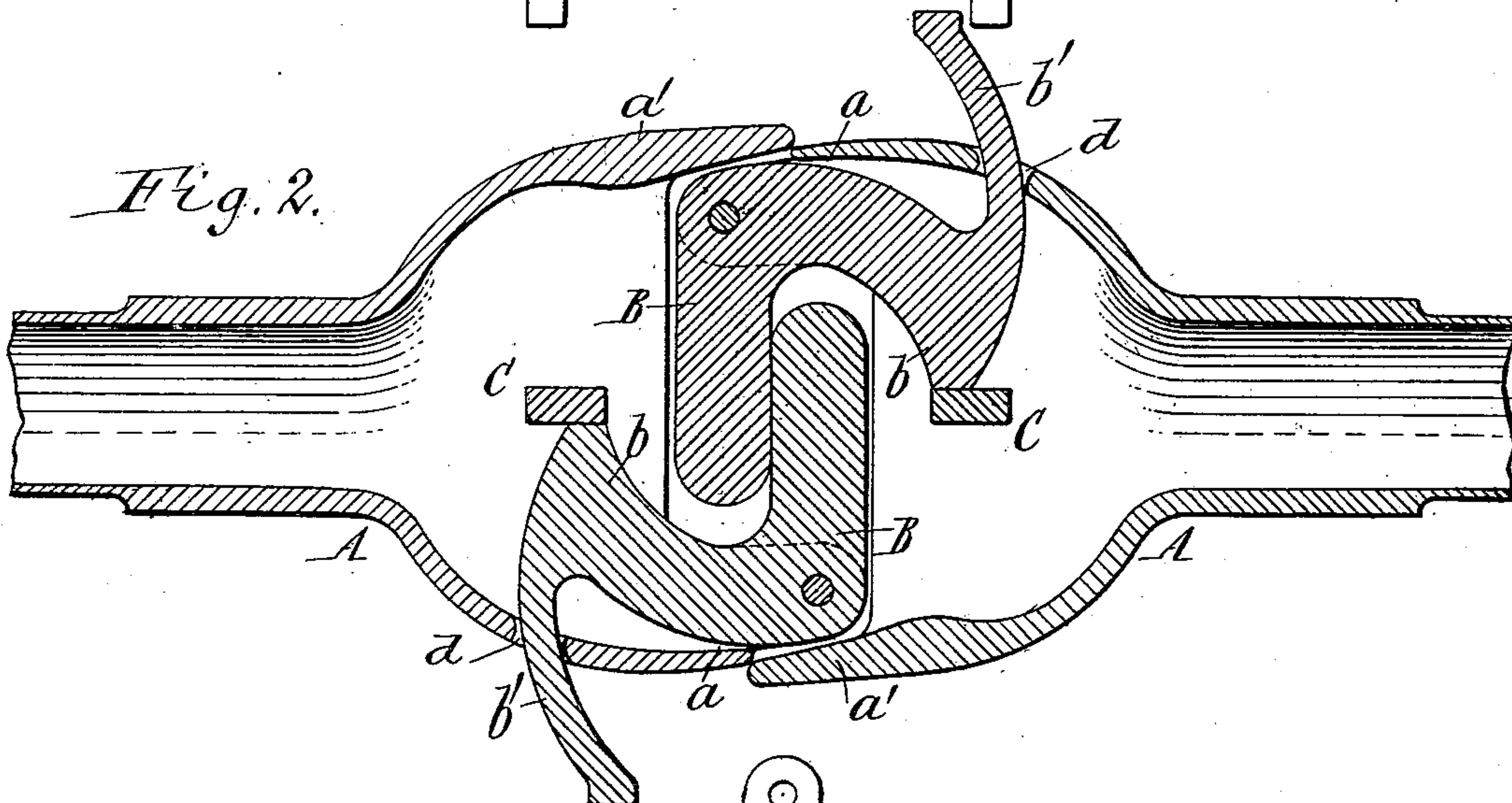
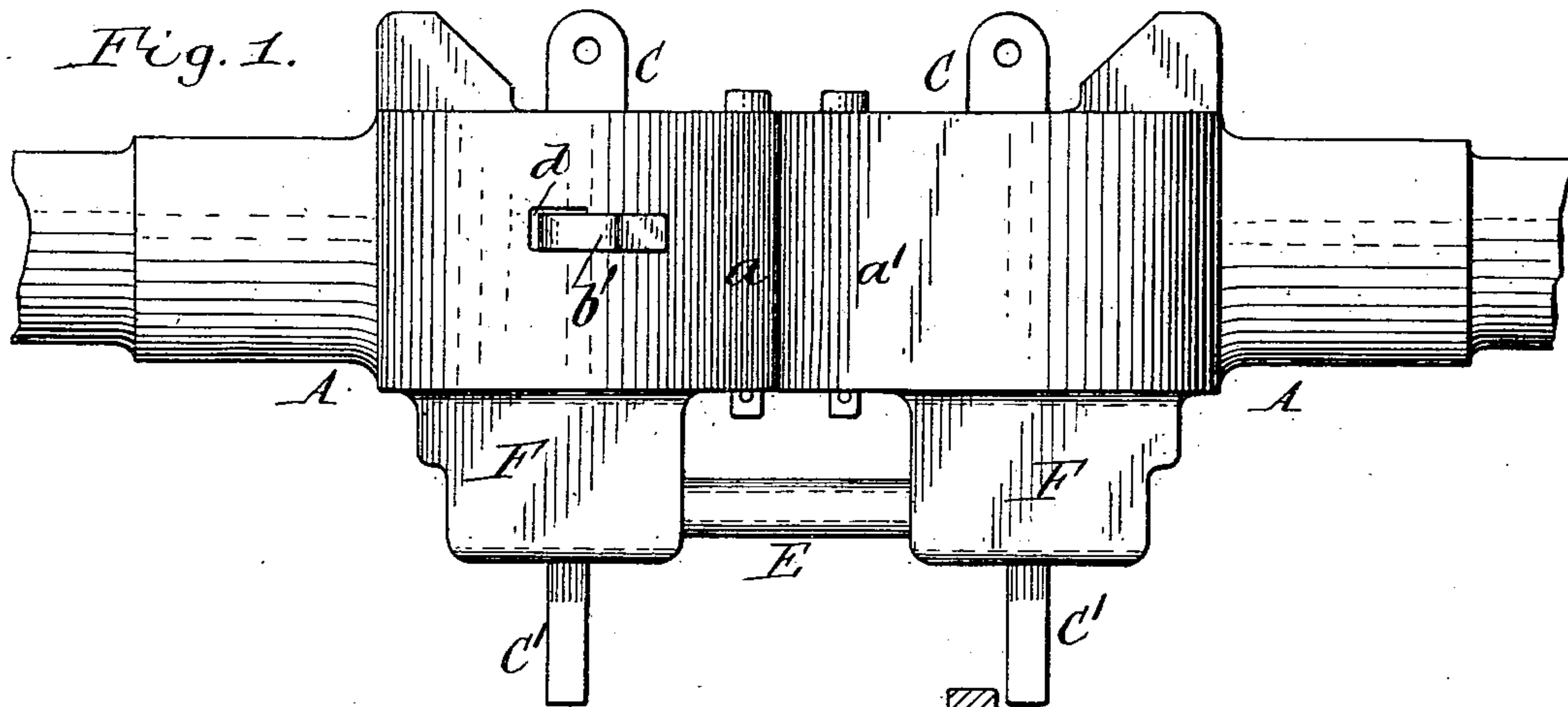


P. BROWN.
CAR COUPLING.

APPLICATION FILED NOV. 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

Robert Weiknecht

Emma M. Graham.

Patrick Brown, Inventor
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CAR COUPLING.

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2 SHEETS—SHEET 2.

Fig. 4.

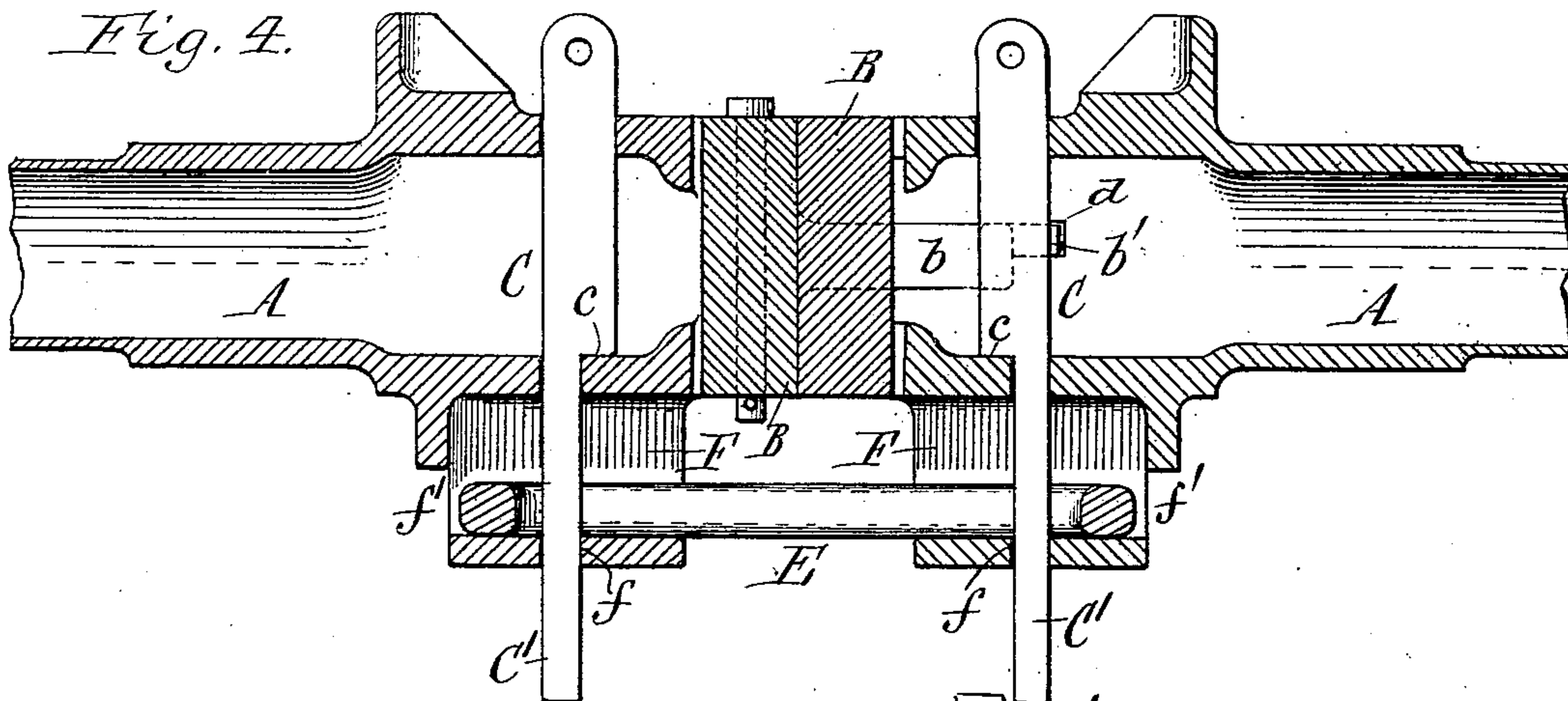


Fig. 5.

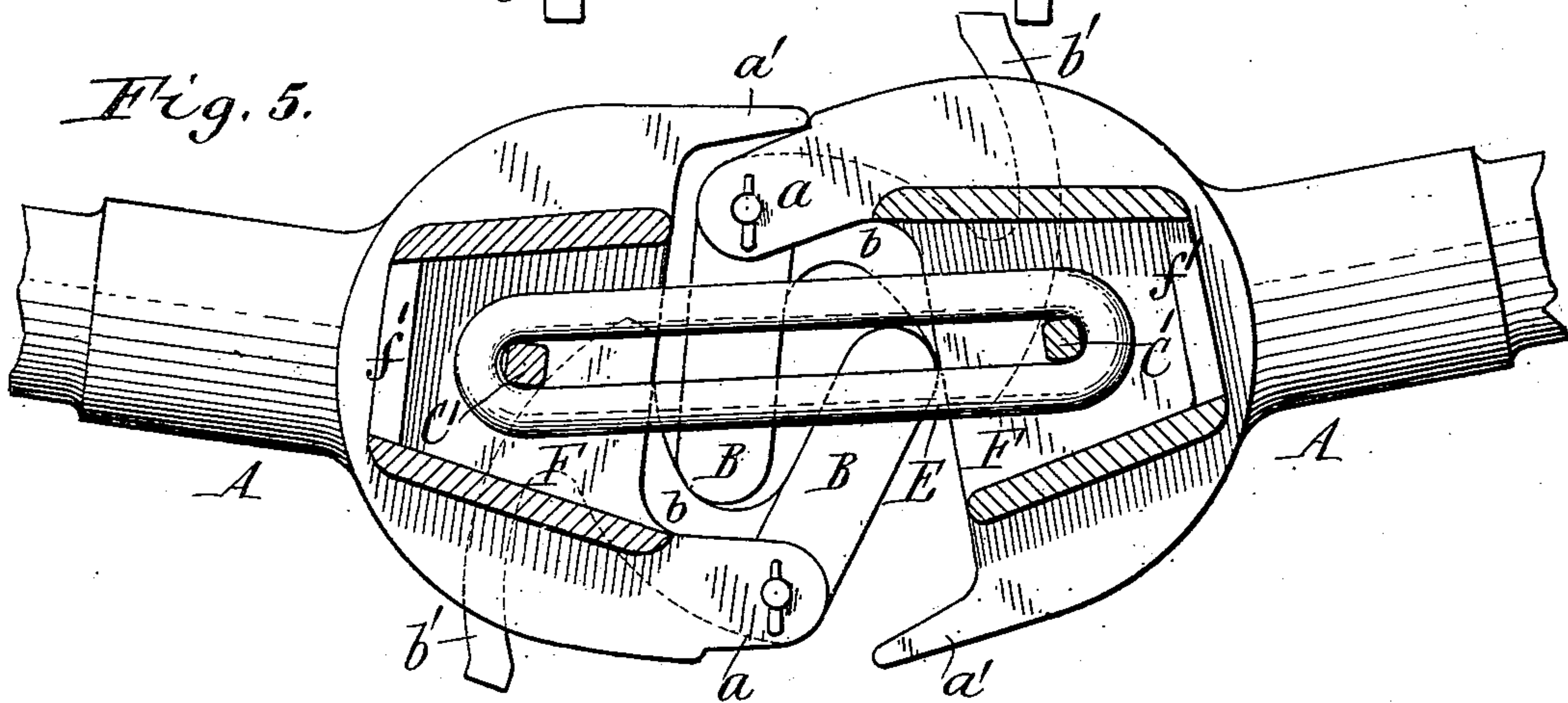
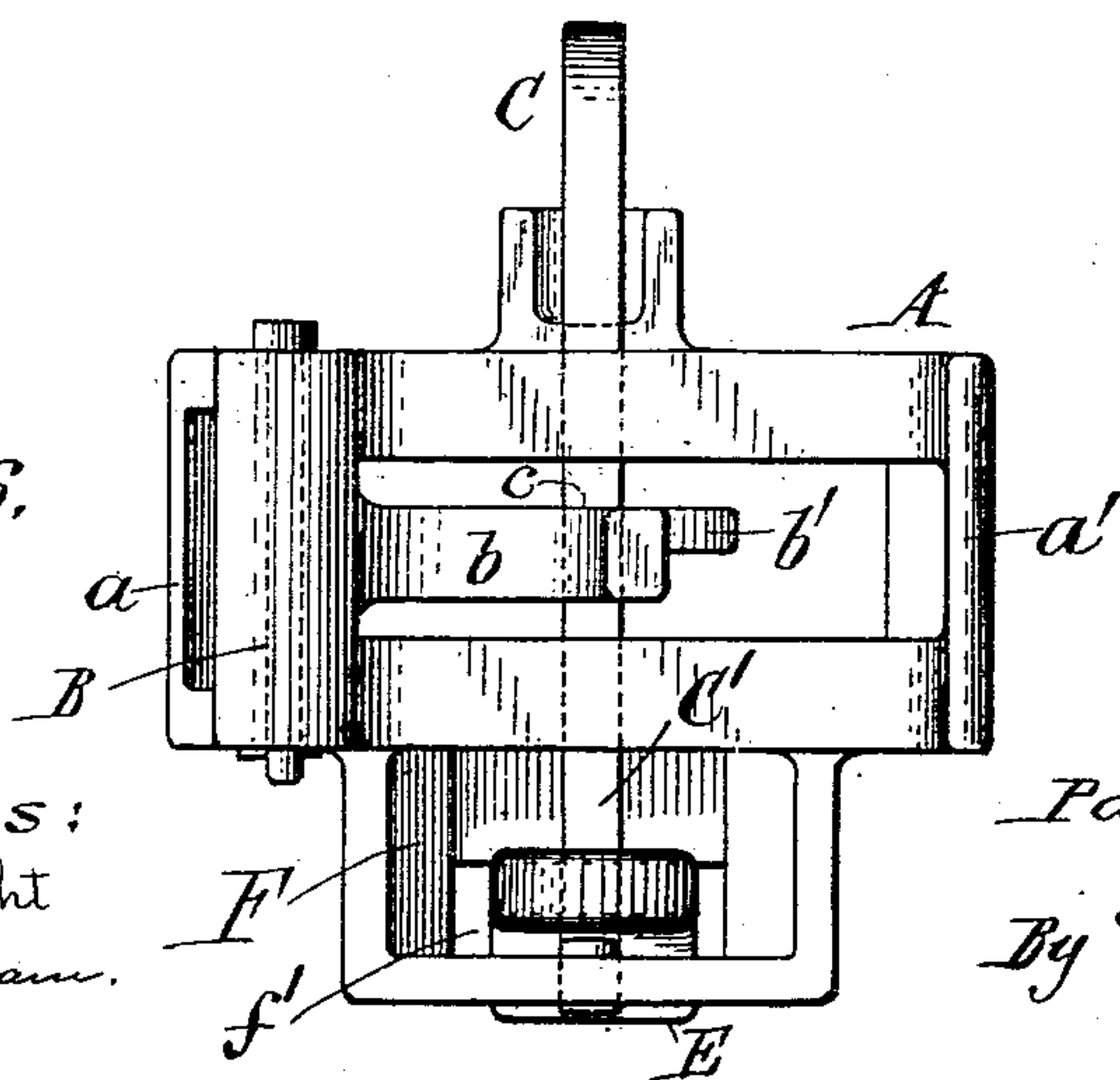


Fig. 6.



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UNITED STATES PATENT OFFICE.

PATRICK BROWN, OF BUFFALO, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 733,620, dated July 14, 1903.

Application filed November 8, 1902. Serial No. 130,555. (No model.)

To all whom it may concern:

Be it known that I, PATRICK BROWN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention has general reference to twin-jaw car-couplings, but relates more particularly to those of the Janney type.

A well-known objection to the ordinary Janney coupling is that it does not permit cars to turn a sharp curve, the knuckles or the draft-rigging being liable to break in sharp curving or the cars being liable to become derailed if the knuckles and the draft-rigging remain intact. In some cases where the curves are very short, as in railway-yards, it is customary to temporarily discard the ordinary Janney couplings and couple the cars by a chain of sufficient length to permit the necessary relative angular movement of the draw-heads. The object of my invention is to combine with the ordinary twin-jaw coupling a simple and convenient supplemental coupling which may be temporarily used in lieu of the ordinary coupling upon sharp curves and which at the same time coöperates with the ordinary coupling in such manner as to form therewith a duplex coupling, thereby increasing the safety of the coupler.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of a pair of coupled draw-heads embodying my invention. Fig. 2 is a horizontal section of the coupler, taken through the knuckles. Fig. 3 is a vertical longitudinal section of one of the draw-heads, showing the knuckle open and the supplemental coupling-link drawn back out of the way. Fig. 4 is a vertical longitudinal section of the coupled draw-heads. Fig. 5 is a sectional bottom plan view thereof, showing the knuckles uncoupled and the supplemental coupling-link in position to couple the draw-heads. Fig. 6 is a front elevation of one of the draw-heads, showing the parts in the position illustrated in Fig. 3.

Similar letters of reference indicate corresponding parts throughout the several views.

A indicates the draw-heads, which are chambered and preferably constructed upon the general lines adopted by the Master Car-

Builders' Association, each draw-head being provided at one side with the usual forwardly-projecting lug *a*, to which the horizontally-swinging knuckle B is pivoted, and at its opposite side with the customary guard *a'*. The knuckle of each draw-head has a rearwardly-extending tailpiece *b*, coöperating with a lock C, by which the knuckle is locked in its closed position in a manner common to car-couplings of the Janney type. The lock is preferably arranged to move vertically in the draw-head, and consists of a vertical bar or pin guided in openings in the top and bottom of the head, as shown.

This pin has the usual shoulder *c*, which normally rests on the bottom of the draw-head and prevents the pin from dropping out of the head, as shown in Fig. 4, and which rests upon the tailpiece *b* in the open position of the knuckle, as shown in Fig. 3, so as to support the pin in its elevated position preparatory to descending and automatically locking the knuckle when the same is struck by the coupling of an opposing car. The locking-pin C may be raised by any suitable or well-known appliance, the latter being omitted from the drawings, as it forms no part of my invention.

In order to permit the knuckle B to be thrown to its open position without seizing the knuckle itself, its tailpiece is provided with an outwardly-projecting arm or handle *b'*, which extends through an opening *d*, formed in the adjacent side of the draw-head. This provision enables the knuckle to be kicked open from the side of the draw-head, where the attendant incurs no risk of having his hand crushed, which is liable to occur when the hand is placed between the draw-heads for seizing the knuckles.

E indicates the supplemental coupling, preferably arranged on the under side of the draw-heads and consisting in its preferred form of a link, which receives downward extensions *C'* of the locking-pins C and forms with the latter a link-and-pin coupling. In the construction shown in the drawings this link is supported in horizontal pockets F, arranged on the under side of the opposing draw-heads and preferably cast integral with the latter. The extensions *C'* of the pins pass through openings *f* in the bottom of the pock-

ets and are of sufficient length to prevent their withdrawal therefrom when raised to unlock the knuckles. Each of the link-pockets is provided at its rear end with an opening 5 f' , through which the link may be drawn backward out of the way, as shown in Fig. 3. This also permits the link to be pushed forward for engaging it with the pin of the opposing draw-head by seizing the rear end of 10 the link, thereby averting the danger of coupling the cars by grasping the front end of the link, which practice requires the hand to be placed between the draw-heads.

In the use of my improvement when cars 15 are coupled by the knuckles B in the ordinary manner the link E is loosely coupled with the extensions C' of the locking-pins and serves as a safety or emergency coupling in case the knuckles should become disconnected by breakage or other causes. When 20 it is desired to turn unusually-sharp curves, the knuckles B are simply unlocked by lifting their locking-pins C in the usual manner, when the cars will remain coupled by the link 25 E, as shown in Fig. 5, the latter being made of the proper length to permit the necessary angular movement of the draw-heads. After passing around such a sharp curve the cars are again brought closer together for auto- 30 matically recoupling the knuckles B, as shown in Fig. 2.

The coupling-link E, while supplementing the coupling-knuckles B, is adapted for connection with an ordinary link-and-pin draw- 35 head, and as it is located below the draw-heads and arranged to cooperate with the locking-pins C of the knuckles it does not require the latter to be weakened by slotting and perforating them to receive an ordinary pin and link, 40 as in the Janney couplers in common use. Like the ordinary knuckle-coupler, my improved coupler may be connected with any of the Janney couplings in general use, as well as 45 pin-and-link couplings, and at the same time it overcomes the objection to the ordinary Janney coupling in passing around sharp curves. The bars C perform a double function in that they serve as locks for the 50 knuckles of the main coupling and as the pins of the supplemental coupling and by thus cooperating with members of both couplings simplify the construction of the coupler as a whole.

The supplemental coupling also forms a 55 permanent safety connection between the draw-heads, which prevents one or the other of the latter from dropping upon the track and causing a wreck in case its draw-bar should be pulled out.

60 In the use of the ordinary Janney coupler when a portion of the track has become con-

siderably sunken or depressed from any cause the knuckles are liable to become separated by the excessive vertical movement of one knuckle on the other. If this should occur 65 in the use of my improved coupling, the link E will still maintain a reliable connection between the draw-heads, causing the trailing car to be pulled out of a depression by the car in advance of it. 70

I claim as my invention—

1. The combination of a pair of draw-heads having cooperating coupling-jaws, locking devices having portions arranged outside of the draw-heads and portions inside of the 75 same which latter engage with said jaws, and a supplemental coupling device constructed to engage with the external portions of said locking devices, substantially as set forth.

2. The combination of a pair of draw-heads 80 having cooperating coupling-jaws, locking-pins for said jaws extending through openings in the top and bottom of the draw-heads, and a coupling-link adapted to engage with the portions of said locking-pins below the 85 draw-heads, substantially as set forth.

3. The combination of a pair of draw-heads having cooperating coupling-knuckles, an upright locking-pin for each knuckle arranged partly within and partly below the draw-head, 90 and a coupling-link adapted to engage with the portions of said locking-pins below the draw-head, substantially as set forth.

4. The combination of a pair of draw-heads provided on their under side with link-sup- 95 ports, coupling-jaws carried by the draw-heads, locking-pins for said jaws extending below the draw-heads, and a coupling-link carried by said supports and adapted to receive said locking-pins, substantially as set 100 forth.

5. The combination of a pair of draw-heads provided on their under side with pockets, coupling-jaws carried by the draw-heads, locking-pins for said jaws constructed to ex- 105 tend into said pockets, and a coupling-link arranged in said pockets and receiving said pins, substantially as set forth.

6. The combination of a pair of draw-heads provided on their under side with pockets 110 which are open at their front and rear ends, coupling-jaws carried by the draw-heads, locking-pins for said jaws extending into said pockets, and a coupling-link arranged in said pockets and receiving said pins, sub- 115 stantially as set forth.

Witness my hand this 6th day of November, 1902.

PATRICK BROWN.

Witnesses:

THEO. L. POPP,
EMMA M. GRAHAM.