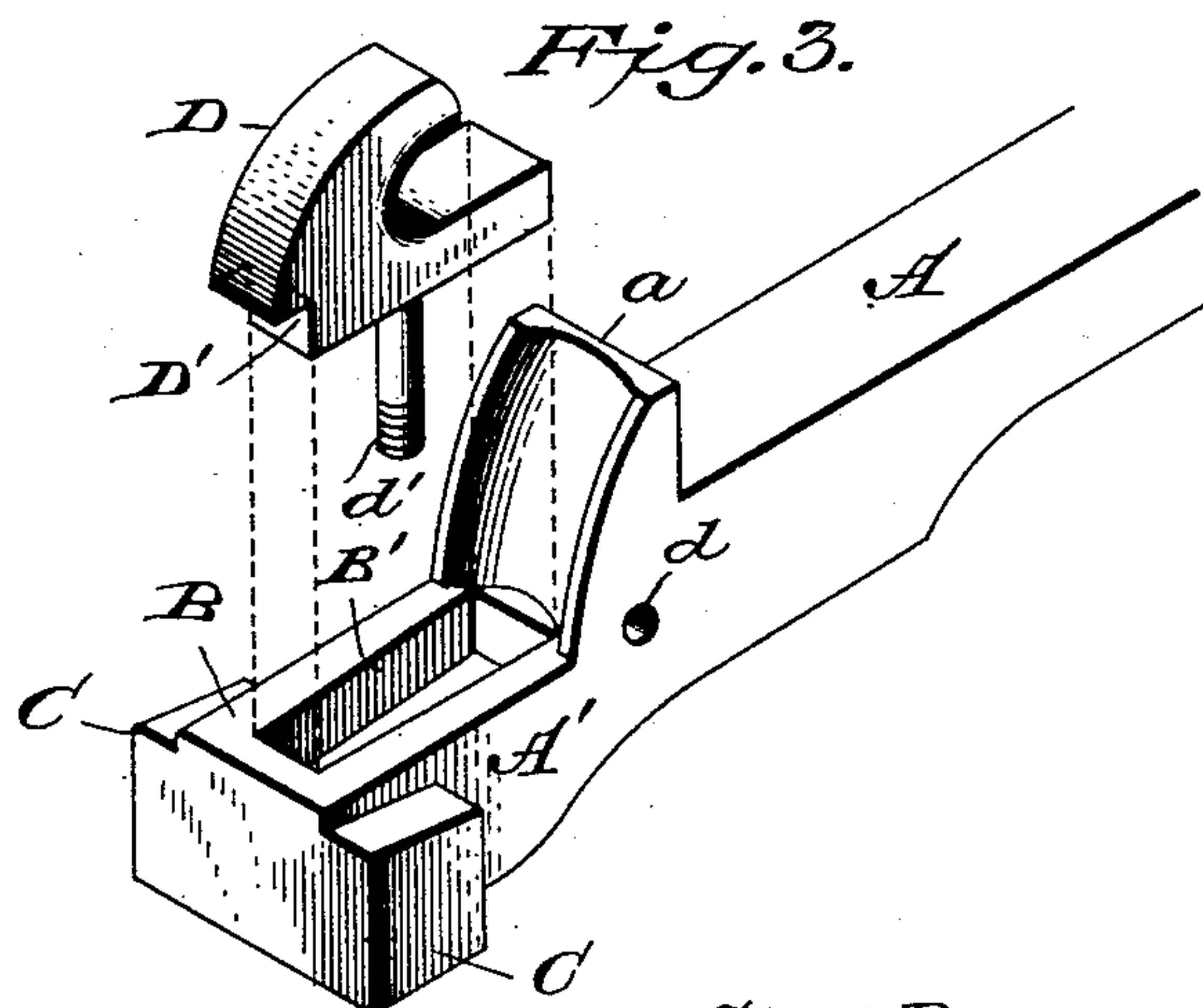
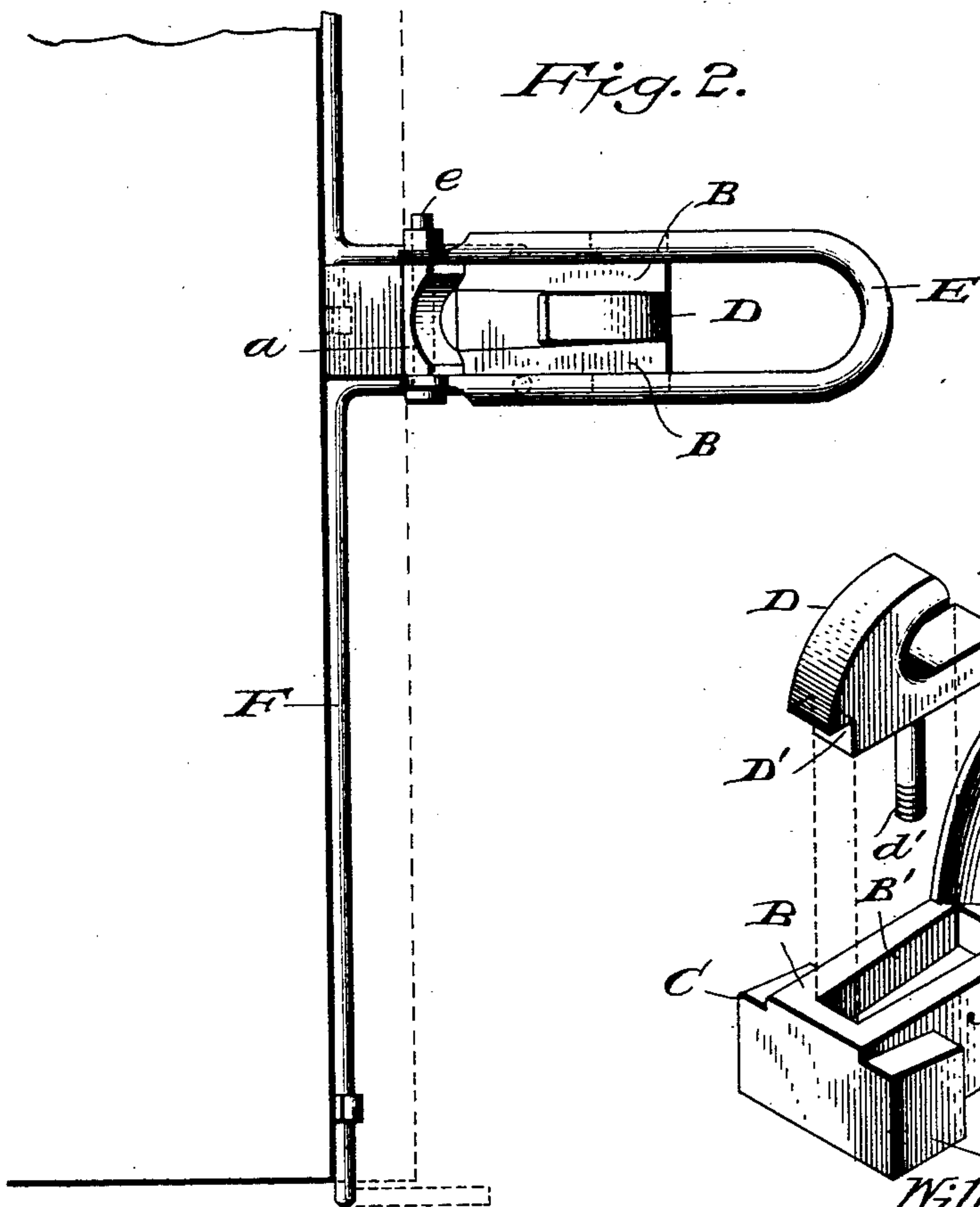
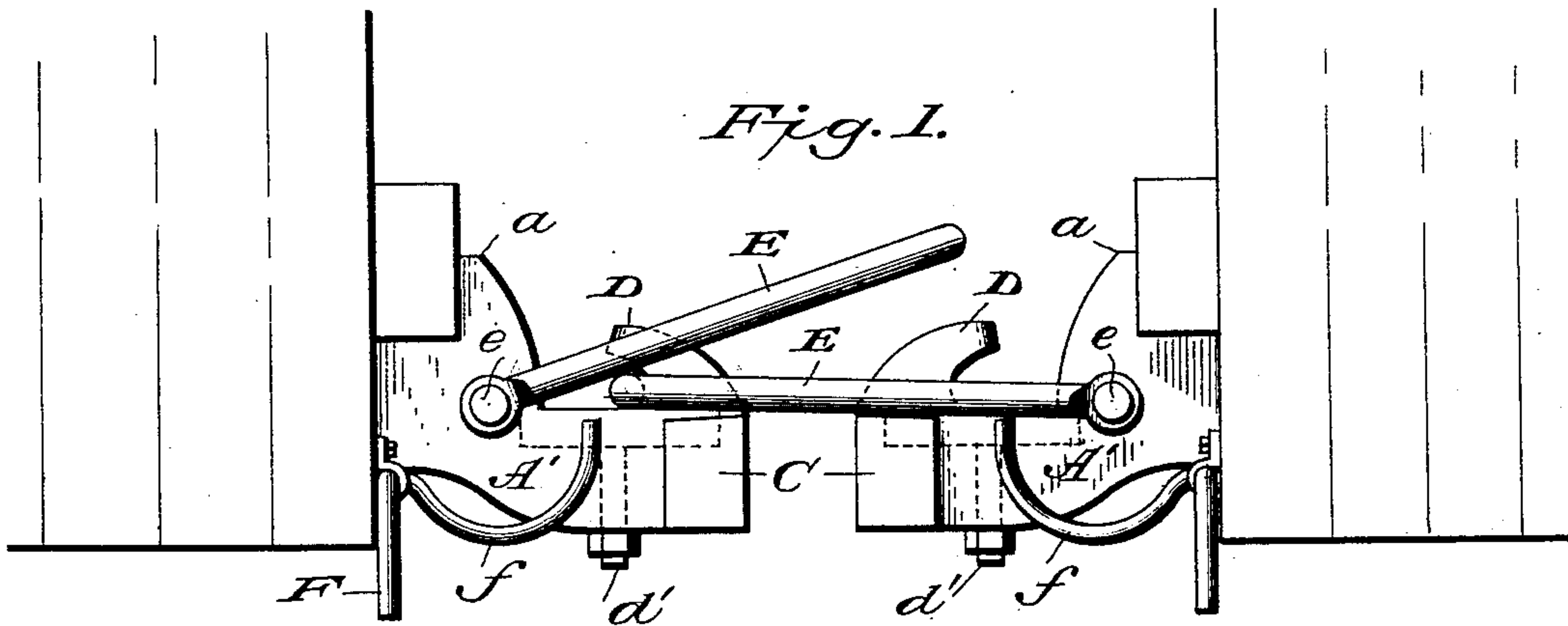


(No Model.)

W. C. ROBINSON & W. S. PALMER.
CAR COUPLING.

No. 587,658.

Patented Aug. 3, 1897.



William Clack Robinson
and
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WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM CLACK ROBINSON AND WILLIAM SHELBURN PALMER, OF BIG STONE GAP, VIRGINIA, ASSIGNORS TO THEMSELVES, WILLIAM S. MATHEWS, WILLIAM T. GOODLOE, AND WILLIAM S. BEVERLEY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 587,658, dated August 3, 1897.

Application filed April 9, 1897. Serial No. 631,399. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM CLACK ROBINSON and WILLIAM SHELBURN PALMER, citizens of the United States of America, residing at Big Stone Gap, in the county of Wise and State of Virginia, have invented certain new and useful Improvements in Car-Couplings; and we 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in car-couplings of the hook-and-bail type, the invention embodying a draw bar and head which may be made of cast metal, an insertible hook, bails which are pivoted to the draw-head, and bail-lifters carried by the car, the bail-lifters being positioned so as to engage with the draw-heads.

Our invention consists more particularly in the construction of the draw head and bar, the same being adapted to receive a hook, the hook being constructed to lie partially within a tapered recess; also, in the construction of the draw-head, which has laterally-projecting portions which serve as supports for the bail to maintain the same in a horizontal position, said projections also serving as guards for the forwardly-projecting ends of the bail-lifters.

The invention further consists in the special construction and combination of the parts, as will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, which illustrate our invention, Figure 1 is a side elevation representing two cars coupled together by means of our improvement. Fig. 2 is a plan view, and Fig. 3 is a perspective view, showing the hook detached from the draw head and bar.

A refers to the draw-bar, which has the draw-head A' formed integral therewith, the draw-bar, its head, and component parts being preferably cast metal, and the draw-bar

is attached to the car-body in the usual manner. The draw-head is provided with an upwardly-projecting portion *a*, the front face of which is provided with a recess which is curved transversely and vertically, the side walls from the upper face of the draw-head extending upwardly and rearwardly. This projecting portion *a* abuts against a transverse sill or beam of the car-body.

The draw-head is provided with a flat upper face B, which is cut into to provide a recess B', the side walls of which diverge from the front of the recess rearwardly. The recess is intersected by a vertical aperture *b*, which extends through the draw-head, said recess being preferably elongated on a line with the draft. Upon the forward end of the draw-head are formed laterally-projecting portions C, the tops of which slope downwardly and rearwardly to provide rests for the bails and protection for the bail-lifters, as will be hereinafter set forth. On a line with the upper face of the draw-head is a transverse aperture *d*. The draw-head, draw-bar, and the component parts thereof, as hereinbefore described, are made of a single casting, this being the preferred form of construction for reasons of economy.

D refers to the draft-hook, made, preferably, of wrought-iron or a forging, and this hook is provided with a lower portion which is adapted to fit snugly within the recess B', the side walls flaring rearwardly. The forward portion of the forging has a shoulder D', formed by an extension of the hook, the same terminating on a line with the front face of the draw-head.

d' refers to a pin formed integral with the hook D, said pin being of sufficient length to pass through the aperture in the draw-head, and as said aperture is elongated on the line of draft said bolt or pin will not receive the strain of draft. The rear portion of the hook is substantially on a line with the rear edge of the bolt, and if there is any strain other than a direct forward pull it will be resisted by that portion of the hook which overlies the front upper edge of the draw-head.

E refers to the bails which are secured to

the draw-head by bolts *e*, said bolts passing through eyes formed in the rear ends of the bails, said ends being flattened to provide bearing-surfaces for the head of the bolt and the nut thereon. The distance between the side members of the bail is equal to the normal width of the draw-head and the diameter or thickness of the bail is about equal to that of the laterally-projecting portions C. When the bails are lowered, they will rest upon the sloping tops of the projecting portions C, the bail being maintained in such a position that when the cars approach each other the forward end of the bail will be on a line with the sloping forward portion of the hook, so that the bail will ride thereon and fall, so as to be automatically coupled, when the bail of the opposite draw-head will bear upon the forward portion of the bail engaging the hook and will prevent accidental displacement. The bails can be swung upwardly and beyond the center of the bolts *e* when it is not desired that the cars should couple when they come together, and the bails can be maintained in such elevated position by bail-lifters, as shown, which frictionally engage the draw-head.

F refers to a bar which is journaled to the car-body and is provided with operating-handles which normally depend, and to this rod is suitably attached the bail-lifters *f*, which are curved, as shown, so that the forward ends will project upwardly and lie normally on a line with the upper portion or face of the draw-head. The curved portions *f* of the bail-lifters, there being one on each side of the draw-head, have a certain amount of resiliency, and they embrace the sides of the draw-head with considerable spring-pressure, and the operating-handles on the bar F are of sufficient weight to overbalance the members *f*. The members *f* lie in rear of the projecting portions C of the draw-head and are protected thereby.

In operation when it is desired to uncouple the cars it is only necessary to turn one of the handles of the rod F in a forward direction, when the bail-lifters will be caused to engage with the bail and elevate the same, so as to disengage it from the hook on the opposite draw-head, and if it is desired that the bail should be maintained in an elevated position it will be so held by the frictional contact of the members *f* with the draw-head, but if it is desired that the bail should be left in a position for coupling then the handles are turned to a depending vertical position, which permits the bail to rest upon the sloping tops of the projecting portions of the draw-head.

The device hereinbefore described may be used for coupling ordinary railway-cars or as

a coupling for tram-cars such as are used in mines for the transportation of ore.

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

1. In a car-coupling, the combination with a draw-head having a hook and bail, of bail-lifters consisting of a rod journaled adjacent to the draw-head and provided with forwardly and upwardly projecting members which frictionally engage the sides beneath the bail substantially as shown.

2. In a car-coupling a draw-head and draw-bar made of a single piece and provided with a projecting portion which extends above the upper face of the draw head and bar, the draw-head having in the upper face thereof a recess with vertical side walls, the longitudinal side walls of said recess diverging from the forward end of the draw-head to the base of the projecting portion, the draw-head also having a vertical aperture which extends from the base of the recess, in combination with a hooked member having a base portion the sides of which taper longitudinally, and a bolt carried by said hooked portion, substantially as shown and for the purpose set forth.

3. In a car-coupling, a combined draw head and bar made of a single piece, the draw-head being below the major portion of the draw-bar and provided with laterally-projecting portions C, C, at its forward end, the rear portion of the draw-head having an upwardly-projecting portion *a* with an upwardly and rearwardly inclined face which is concave transversely, a recess in the draw-head having rearwardly-diverging side walls, an aperture extending from said recess through the draw-head and a transverse aperture through the draw-head on a line with the upper face thereof; together with a bail bolted or pivotally secured to the draw-head, a hook having a base portion adapted to fit snugly within the recess in the draw-head, the forward portion of the hook projecting beyond that portion which lies within the recess, a depending pin integral with the hook portion, and a nut for securing the parts in positive engagement, the parts being combined and organized substantially as shown and for the purpose set forth.

In testimony that we claim the above we have hereunto affixed our signatures in the presence of two witnesses.

WILLIAM CLACK ROBINSON.
WILLIAM SHELBURN PALMER.

Witnesses:

W. T. GOODLOE,
S. L. WHITEHEAD.