

(No Model.)

D. BROWER & J. DUNLAP.

CAR COUPLING.

No. 297,226.

Patented Apr. 22, 1884.

Fig-1-

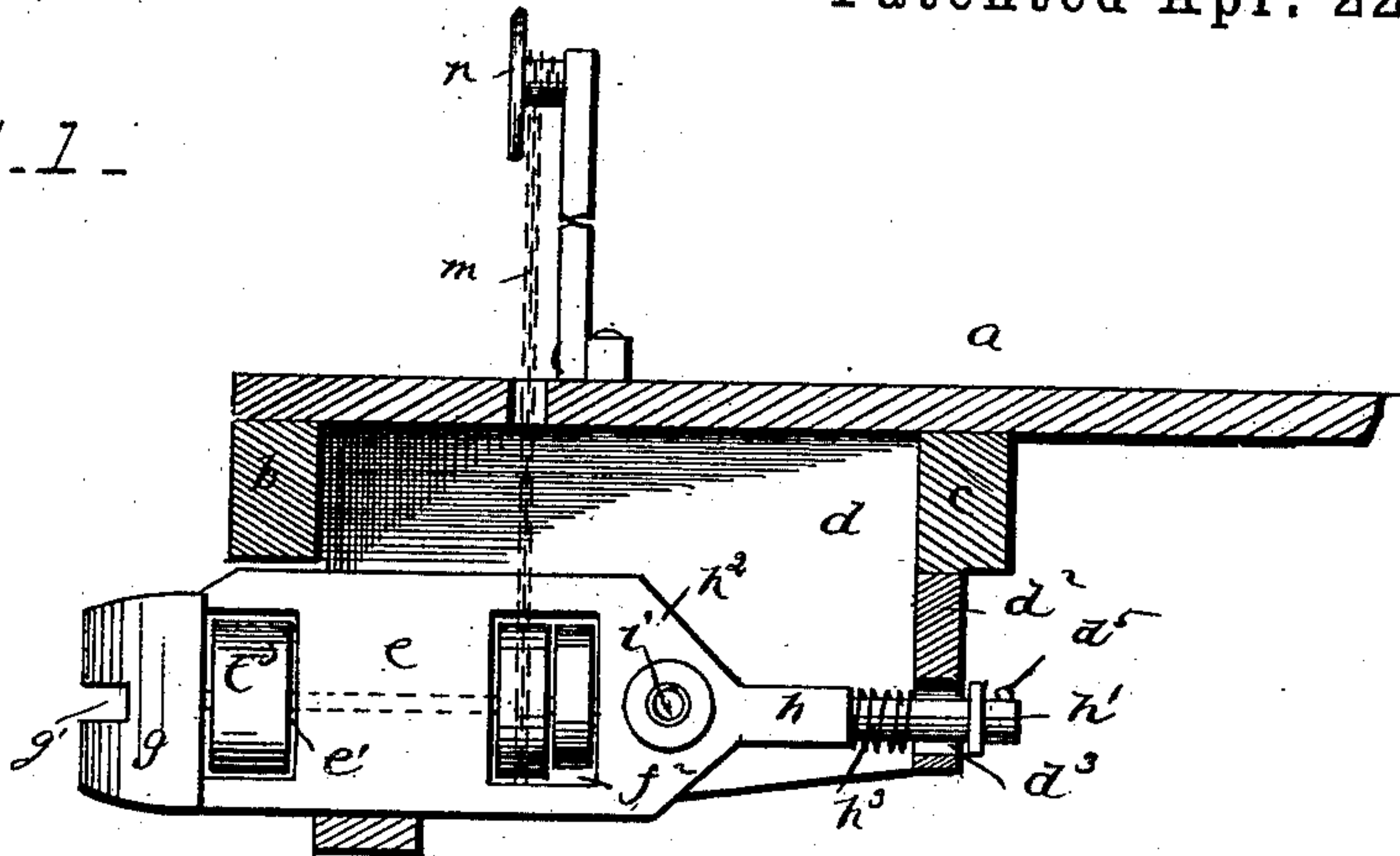


Fig 2

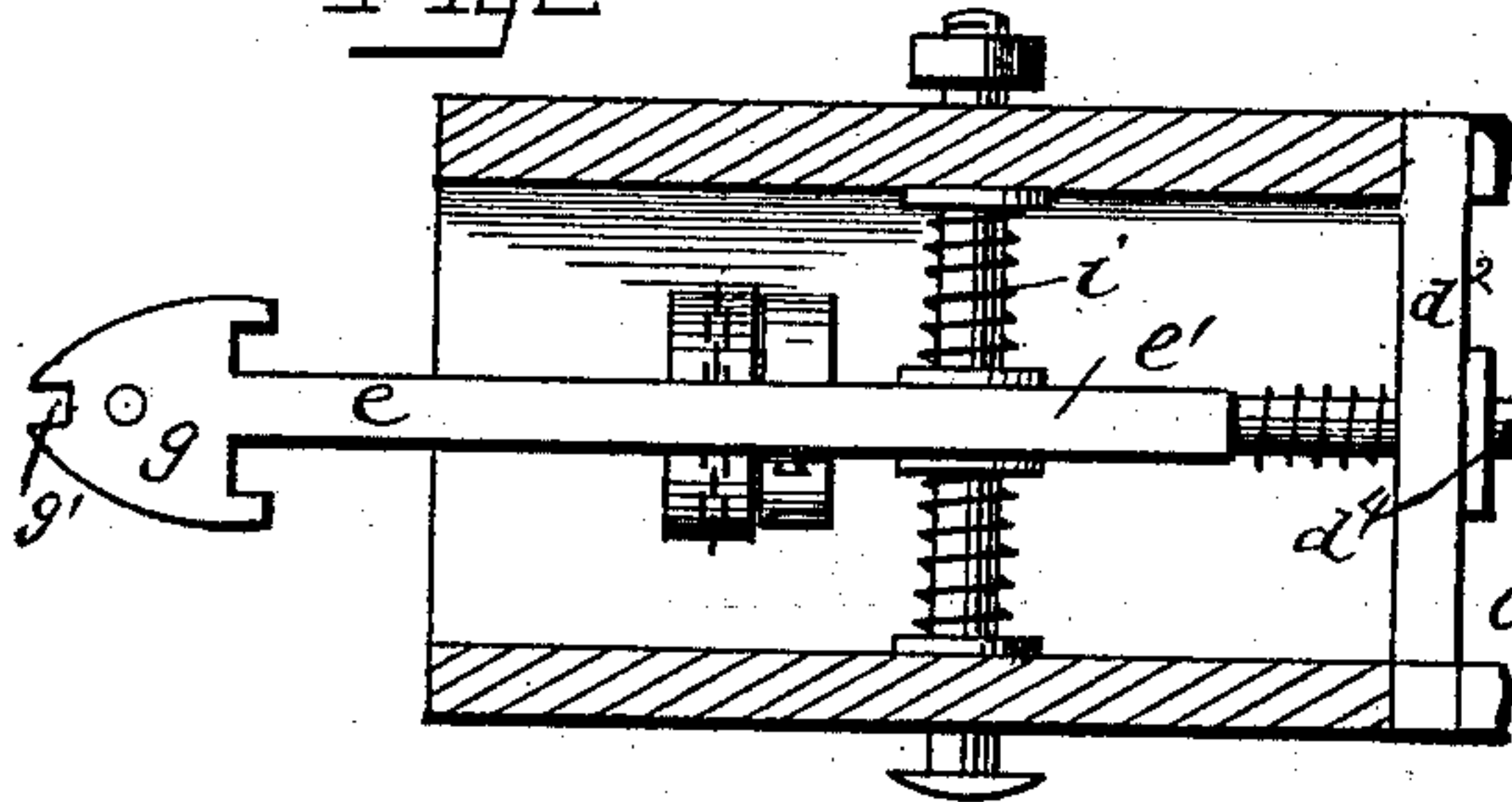


Fig 3

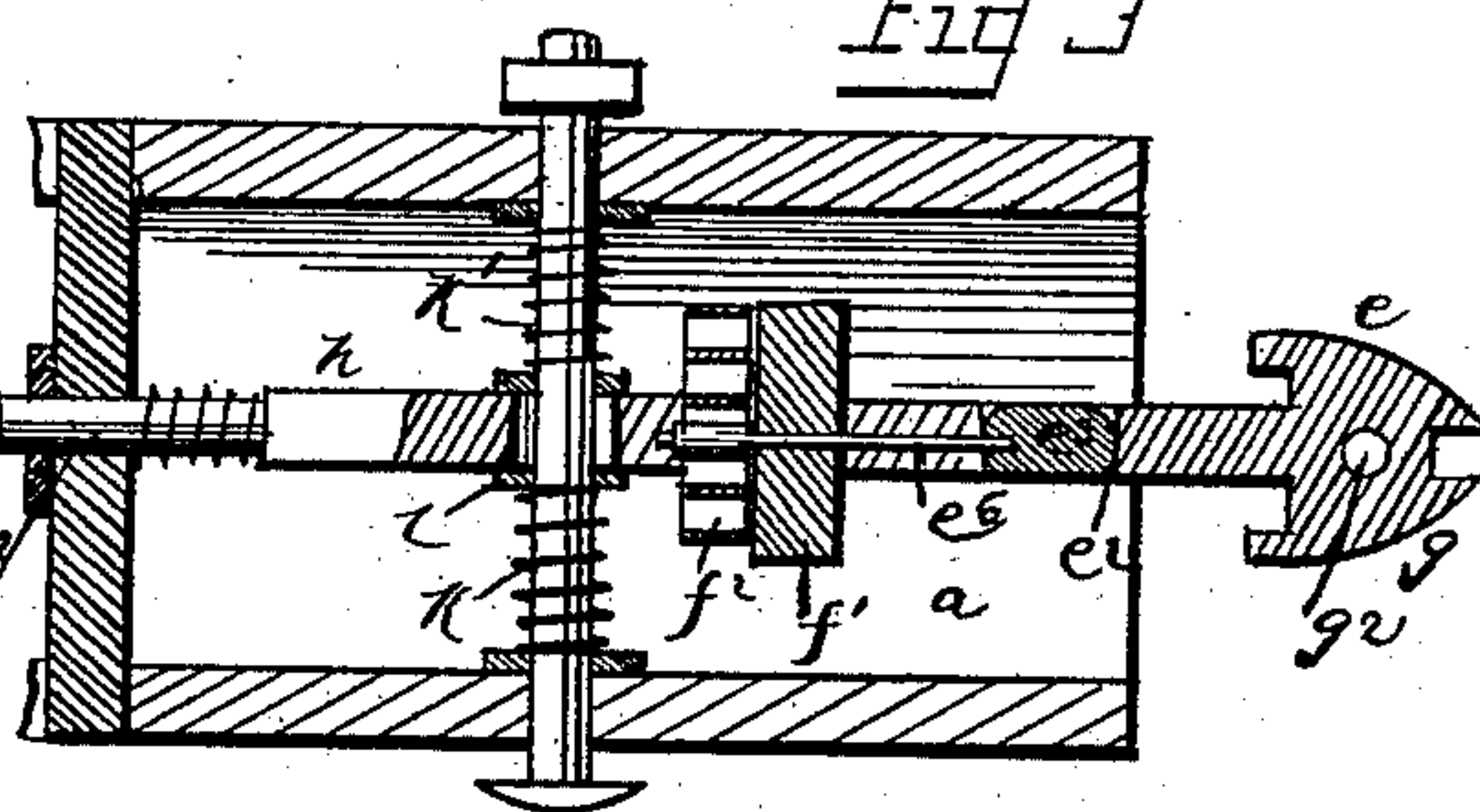
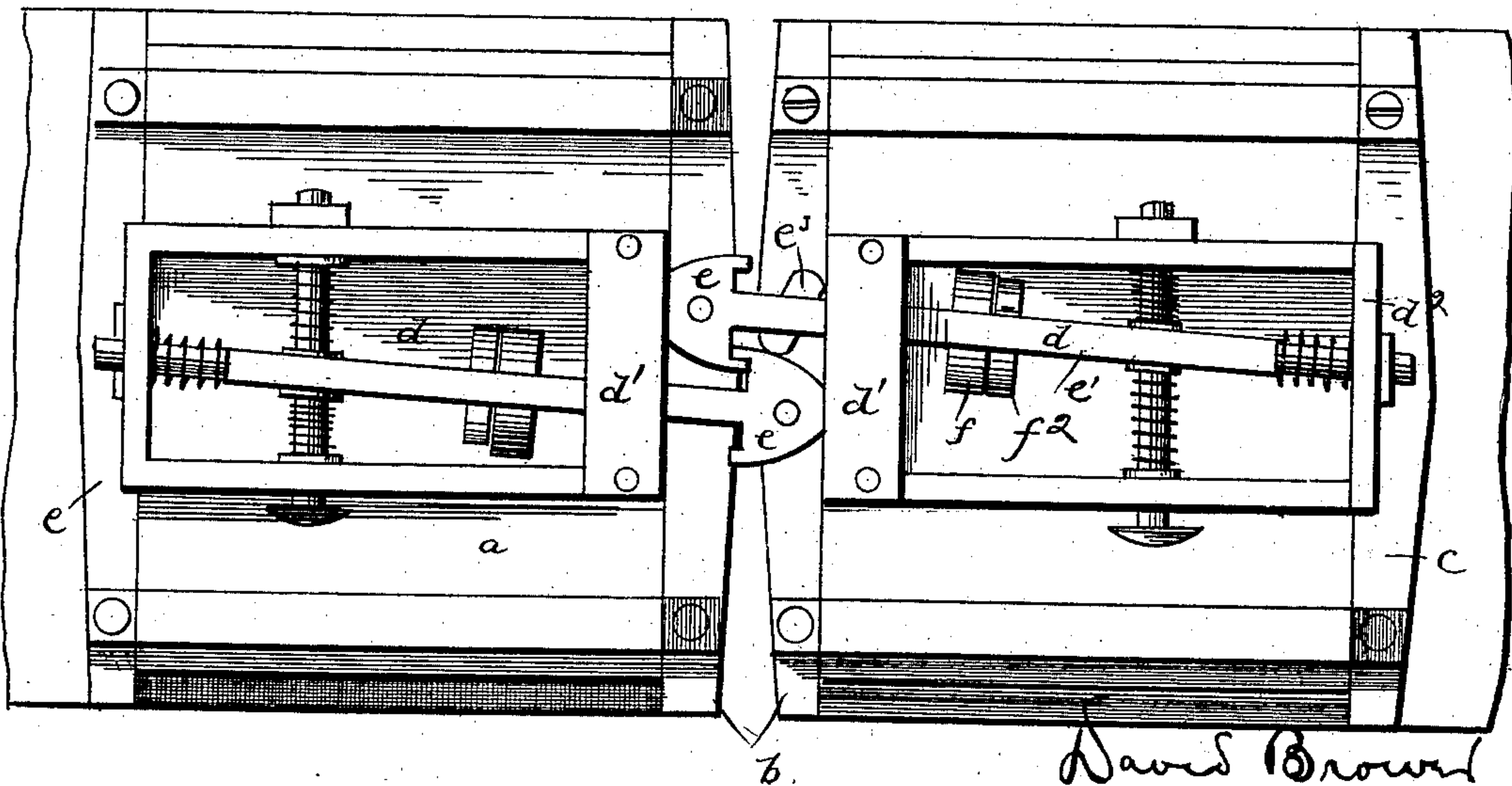


Fig 4



WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID BROWER AND JAMES DUNLAP, OF BOWERSTON, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 297,226, dated April 22, 1884.

Application filed February 23, 1884. (No model.)

To all whom it may concern:

Be it known that we, DAVID BROWER and JAMES DUNLAP, citizens of the United States, residing at Bowerston, in the county of Harrison and State of Ohio, have invented a new and useful Car-Coupling, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to automatic car-couplings for passenger, freight, and platform cars; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Figure 1 is a vertical longitudinal-sectional view, showing one coupling-head applied to a car. Fig. 2 is a horizontal section above the coupling-head, showing the operating mechanism for uncoupling the coupling-heads. Fig. 3 is a horizontal sectional view through the middle line of the coupling-head and its supporting-frame; and Fig. 4 is a bottom view of two coupling-heads, showing one of the shifters turned to throw the heads out of engagement to permit them to be uncoupled.

Referring by letter to the accompanying drawings, *a* designates a car-bottom provided with the usual bumper, *b*, and the cross-timber *c*, between which the framing *d*, that forms the bearings for the coupling-head *e* and its attendant mechanism, is secured by bolts or otherwise, and projects below the bumper and timber, as shown. The lower edges of the side pieces of the framing *d* incline downward and forward, and are strengthened by a cross-piece, *d'*, at their forward ends. The rear portion, *d''*, of the framing *d* is provided near its lower edge and about midway of its length with an elongated slot, *d'''*, through which the rear end or stem of the coupling-head *e* projects when in place, and has slight lateral or oscillating play therein, as hereinafter explained.

The coupling-head *e* comprises the enlarged flat portion *e'*, provided near its forward end with the rectangular slot *e''*, for the pivoted shifter-block *e'''*, which is oval shape in vertical cross-section, and near its rear portion with a rectangular slot, *f*, in which is journaled a wheel, *f'*, provided with a spring, *f''*, which

holds the wheel in its normal position, and returns it to its normal position, when it has been turned therefrom, when the power that turned it has been relaxed. The front of the coupling-head *e* is in the form of an arrow-head, *g*, which extends the entire width of the enlarged portion *e'*, and is made integral therewith. This arrow-head *g* is provided with a link-receptacle, *g'*, and a pin-hole, *g''*, for the ordinary coupling link and pin when it is necessary to use them, which occurs when cars not provided with the improved coupling-head are to be coupled to it. The rear edges of the enlarged portion of the coupling-head *e* incline toward each other and terminate in a stem, *h*, having a rounded rear portion, *h'*, and a shoulder, *h''*. A spiral spring, *h'''*, encircles the rounded portion *h'* between the shoulder *h''* and the front face of the rear portion, *d''*, of the framing *d*. The extreme rear end of the rounded portion *h'* extends through the elongated rectangular slot *d'''* in the piece *d''*, is provided with a pin-hole, *d''''*, for a pin, *d'''''*, and holds the coupling-head in place at this point. Washers are interposed between the pin and piece *d''*. A cross-bolt, *i*, passes through the sides of the framing *d*, and through a perforation, *i'*, in the coupling-head *e* in rear of the slot *f*, that carries the wheel *f'* and spring *f''*. This bolt *i* is encircled on each side of the coupling-head *e* with coil-springs *k k'*, and with washers *l* at each end of said springs. These coil-springs *k k'* and the connection at the rear piece, *d''*, of the framing *d* permit a lateral movement of the coupling-head *e* in either direction, so that when two coupling-heads meet they will couple automatically.

The shifter-block *e'''* and the wheel *f'* are on the same shaft, *e''''*, having its bearings in the portion between the rectangular slots in the coupling-head *e*. An operating-chain, *m*, is connected to a stud, *m'*, on said wheel, and leads either to a hand-wheel, *n*, on the end of a box freight-car or to a rod, *n'*, in the case of a passenger-car, a platform-car, or a box-car, in which the coupling-head is to be operated from the top of the car. In all except the first instance one or more guide-pulleys, *o*, must be employed to give direction to the

chain, which is connected to the rod in the same manner that a brake-chain is connected to its rod. The hand-wheels for the coupling-heads should be located out of the way of the hand-wheels and chains for the brakes.

The cars will be coupled automatically when they come together. To uncouple them the hand-wheel must be turned to operate the wheel f' to throw the shifter-block e^3 at a right angle to its normal position in its recess. This will force the coupling-heads apart and the cars may be uncoupled. The spring f^2 will return the wheel f' and the shifter-block e^3 to their normal positions as soon as the hand-wheel shall have been released. The spring f^2 may be either a flat coil-spring or simply a flat spring uncoiled, and will operate effectively in either case.

This device is cheap, simple, and efficient for the purposes for which it is intended, and is certain and positive in its action, and is not likely to get out of order. Besides, the attendant's limbs or life will not be endangered in using it.

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

1. In an automatic car-coupling, the combination, with the supporting-frame, of the laterally-operating coupling-head provided with the pivoted shifter-block and operating-wheel on the same shaft, the tension-spring, and mechanism for operating the same, substantially as specified.

2. In an automatic car-coupling, the combi-

nation, with the framing having the transverse bolt provided with coil-springs and washers, and the elongated slot in the rear piece of said framing, of the coupling-head having the arrow-head, the enlarged portion provided with the rectangular slots in which work the pivoted shifter-block and the operating-wheel on opposite ends of the same shaft, the shouldered stem, the coiled spring between the shoulder and the rear piece of the framing, the pin and washer for holding the head in place, and the chain and hand-wheel for operating the parts, substantially as specified.

3. In a car-coupling, the combination, with framing having the rear piece slotted rectangularly for the reception of the rear end of the coupling-head, and the transverse bolt passed through the sides of the framing and through the coupling-head, of the coupling-head provided with the arrow-head, the enlarged portion provided with the pivoted shifter-block and the operating-wheel on the same shaft therewith, at the opposite end thereof, the tension-spring for controlling the wheel and the chain leading therefrom, and mechanism for operating the same, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

DAVID BROWER.
JAMES DUNLAP.

Witnesses:

W. H. HOST,
J. T. BOYD.