

(No Model.)

2 Sheets—Sheet 1.

C. DIETZ.
CAR COUPLING.

No. 304,184.

Patented Aug. 26, 1884.

Fig. 1.

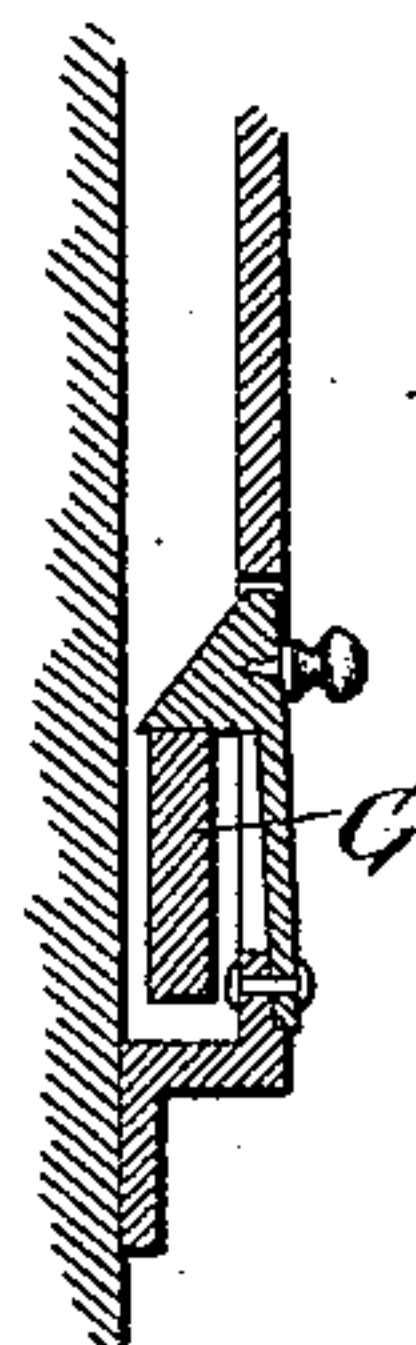
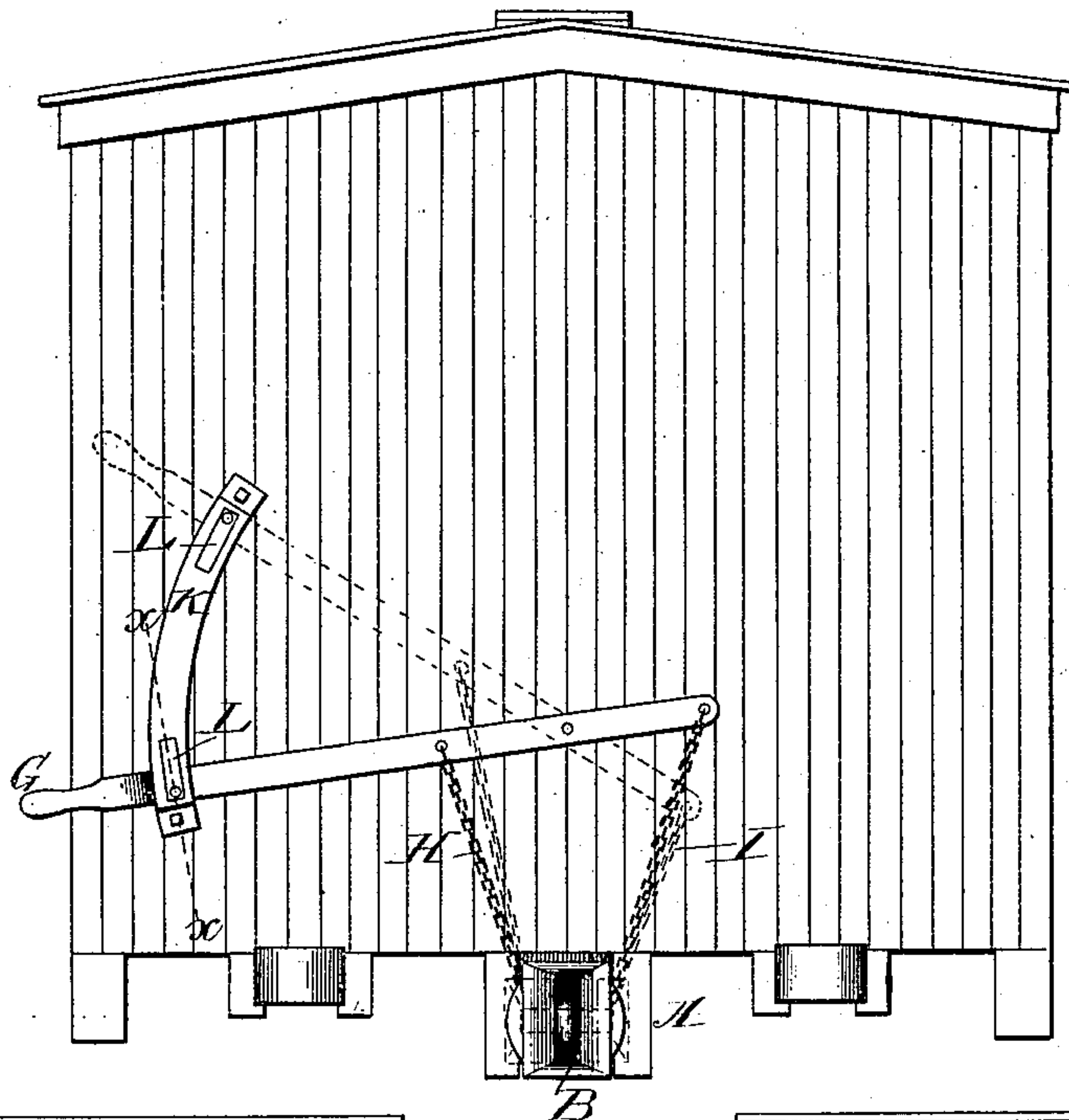


Fig. 3.

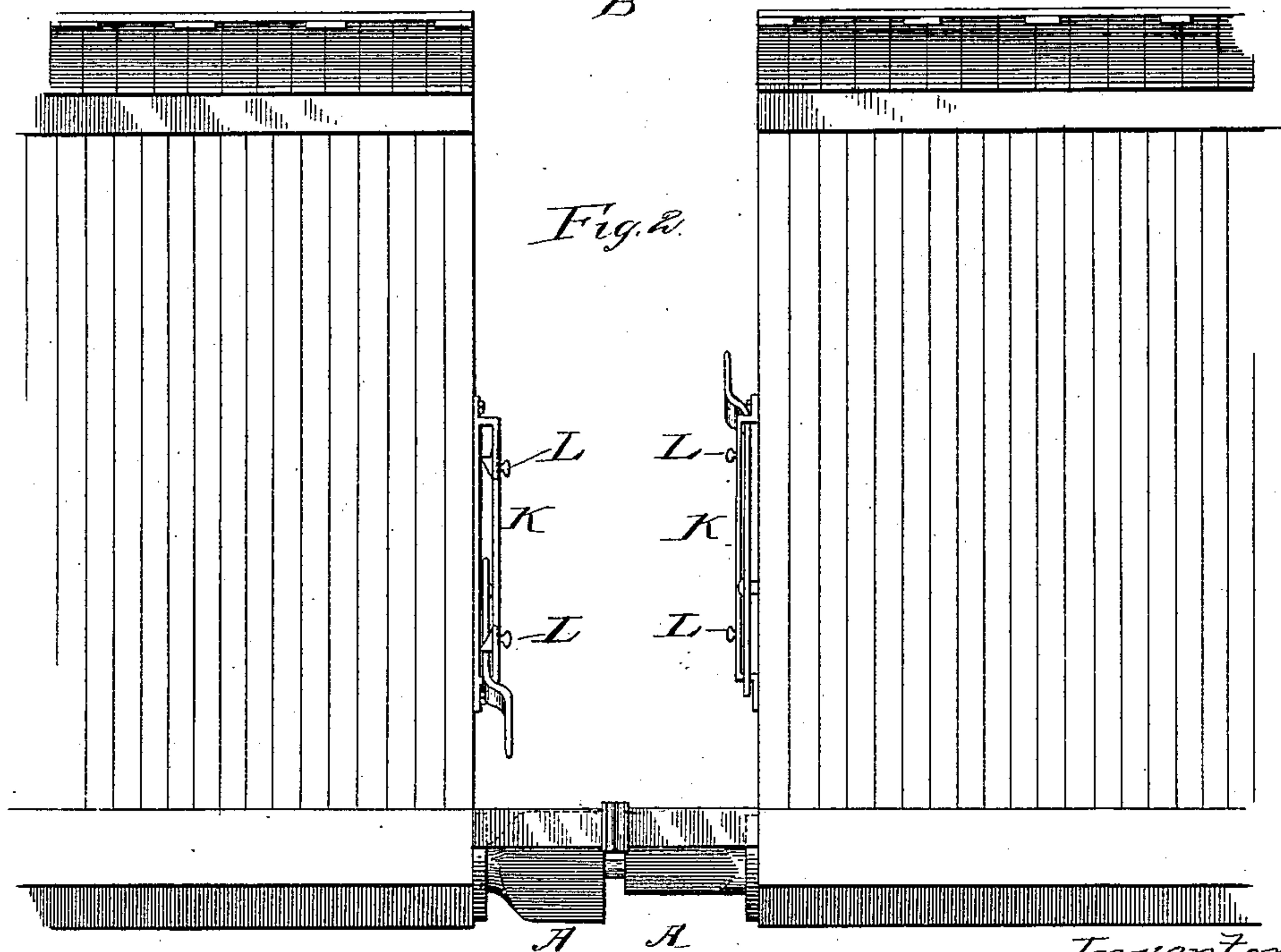


Fig. 2.

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Fig. 4.

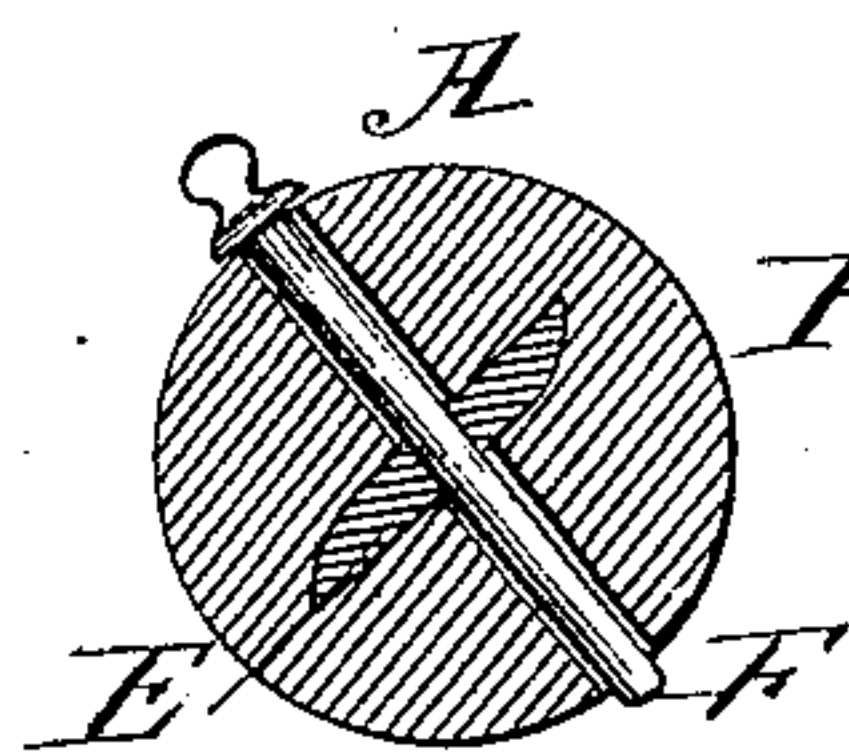
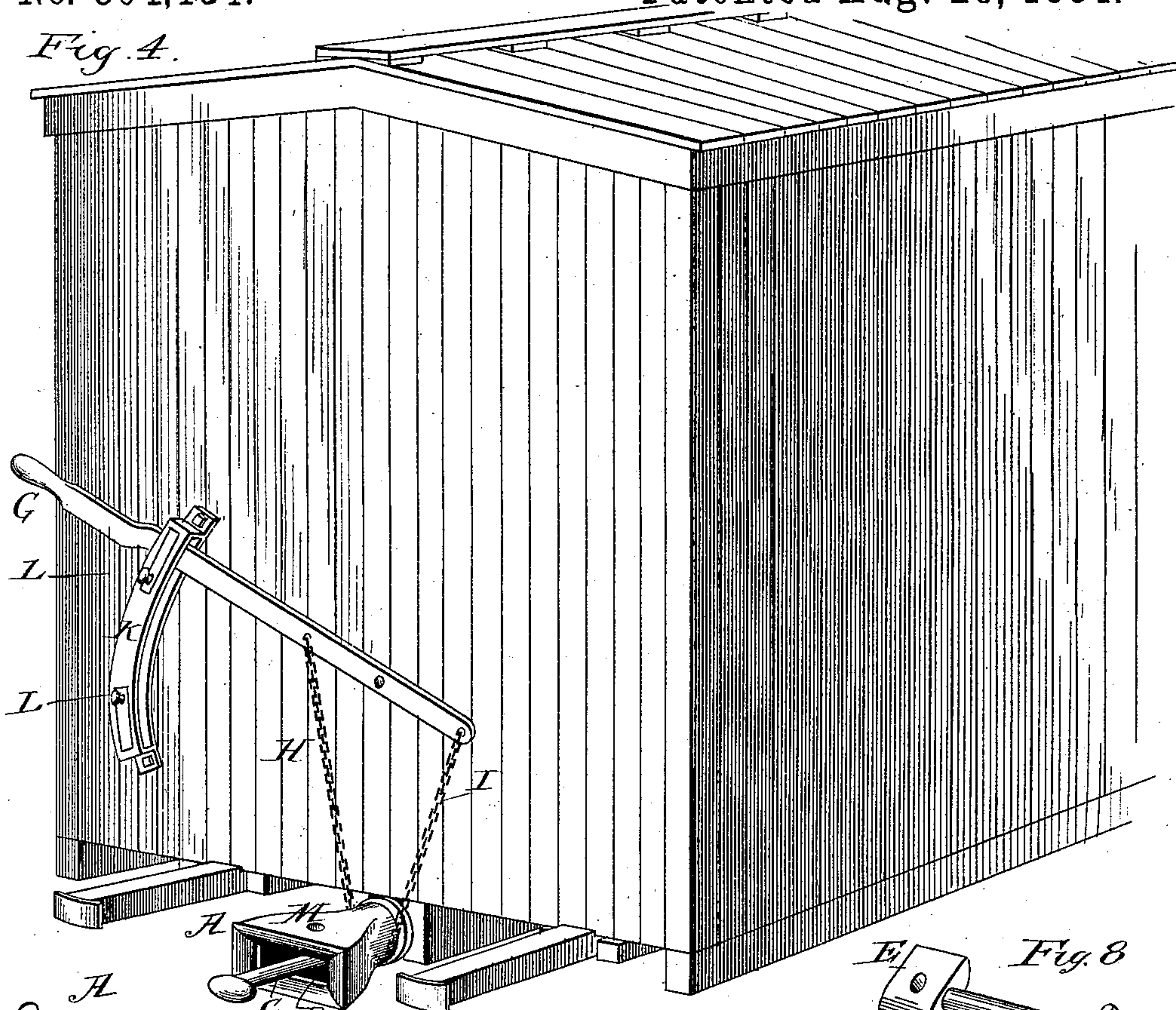


Fig. 9.

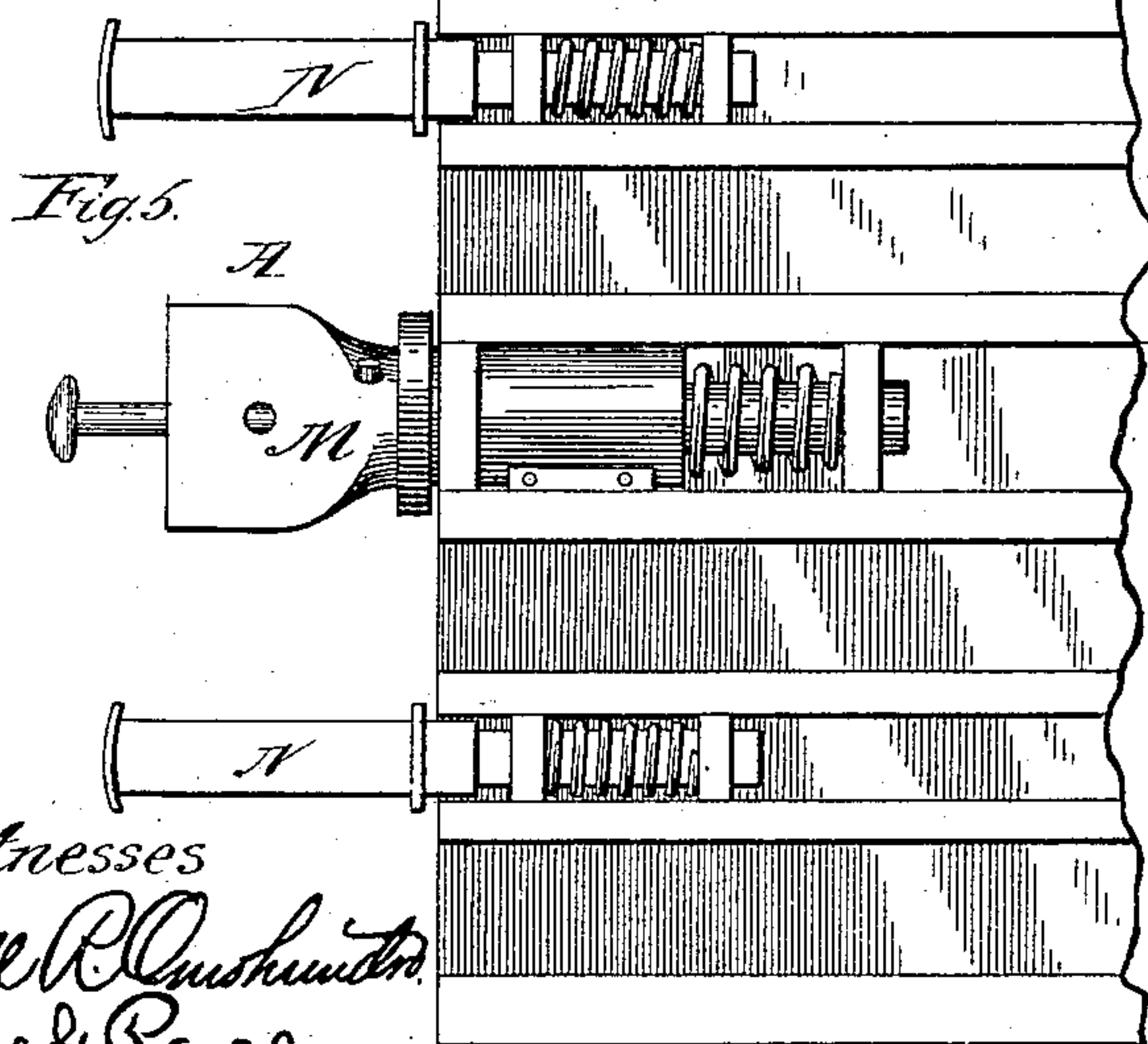


Fig. 5.

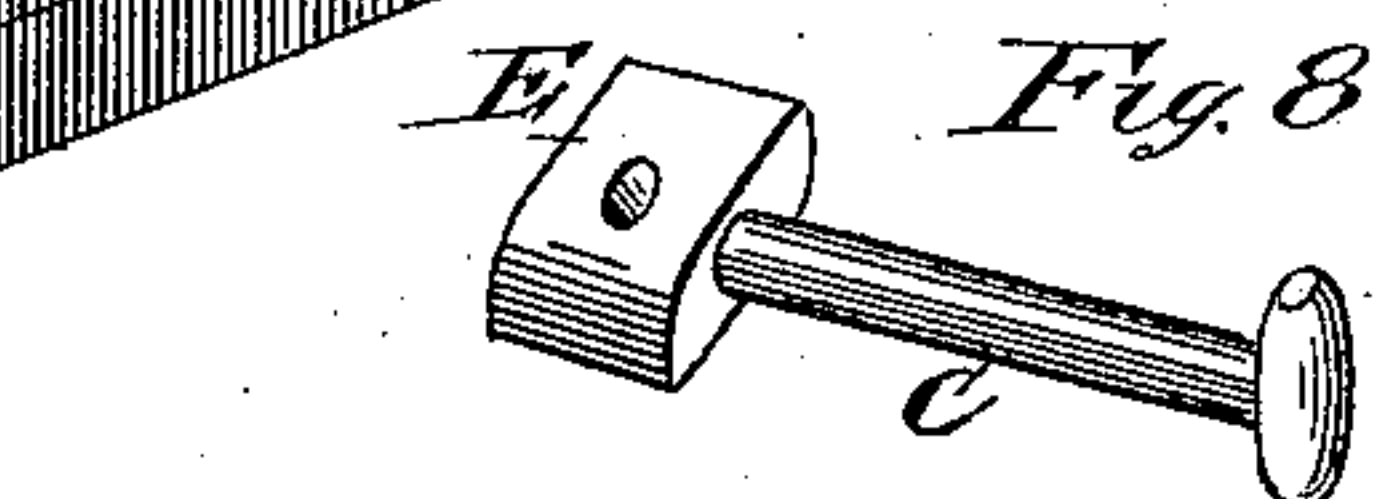


Fig. 8.

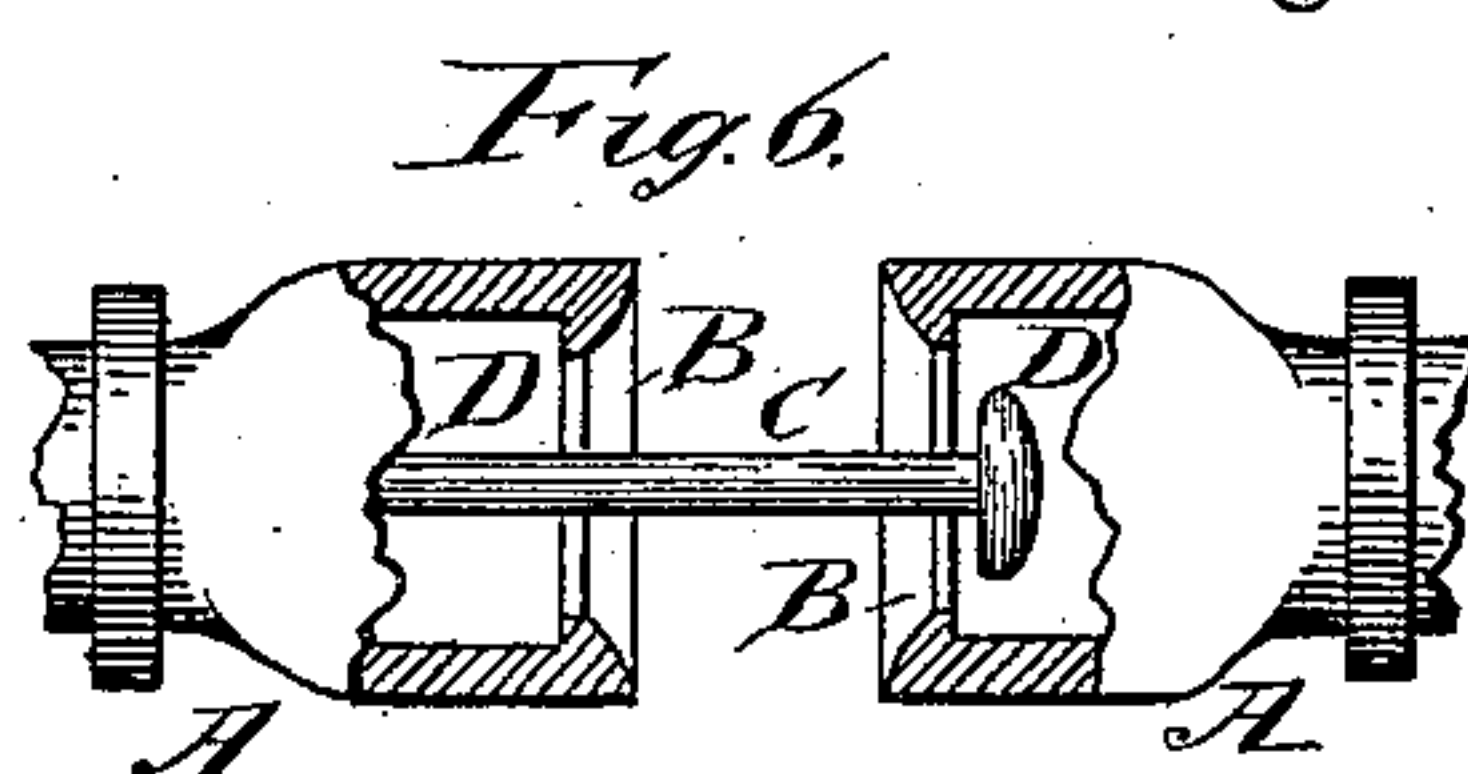


Fig. 6.

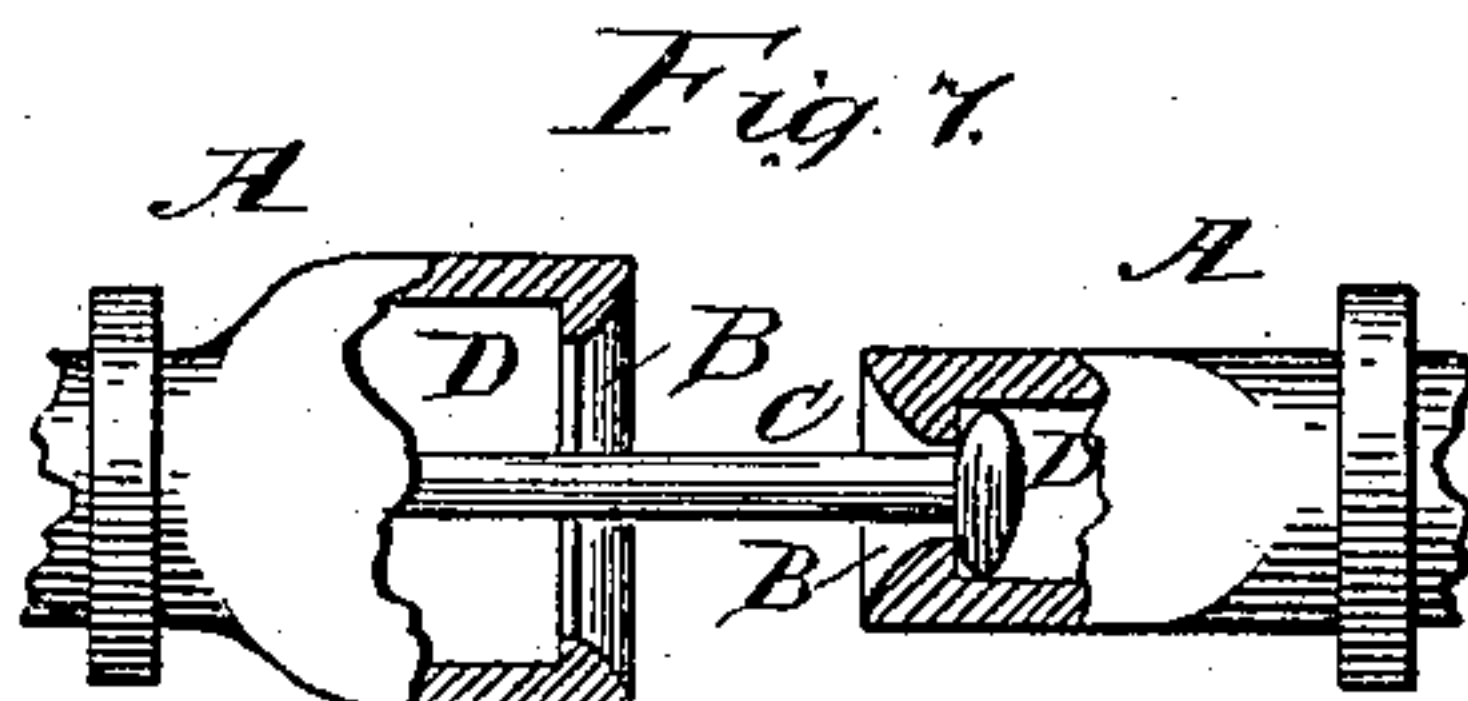


Fig. 7.

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UNITED STATES PATENT OFFICE.

CHARLES DIETZ, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 304,184, dated August 26, 1884.

Application filed June 4, 1884. (No model.)

To all whom it may concern:

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

This invention consists in an improvement in car-couplings, and has for its objects to provide simple and efficient means by which the couplings can be operated from either side of the cars and the cars either coupled or uncoupled without the necessity of an attendant going in between the cars; also, to provide a novel, simple, and efficient construction of coupling, which can be either employed with certain adjuncts which constitute portions of my improvement, or such adjuncts dispensed with in cases where old cars are to be coupled by the ordinary coupling-links; also, to adapt the coupling to be adjusted from one side of the car and maintained in position for coupling, and then by rapid and easy manipulation operated so as to lock together a pair of opposing couplings; also, to adapt the couplings to curves in the road to high and low cars, to provide against loss or displacement of any member of the coupling devices; and, finally, to generally improve the details of construction of a car-coupling, whereby cars can be coupled with certainty and with but little labor, and a breakage of the coupling-bolts easily remedied, all as hereinafter described and claimed, and illustrated in the annexed drawings, in which—

Figure 1 is an end view of a car provided with my improved coupling. Fig. 2 represents in side elevation a pair of cars coupled together. Fig. 3 is an enlarged detail section through the coupling-lever and one of the latches provided for locking the same. Fig. 4 represents in perspective an end portion of a car, with my improved coupling shown in a different position from the coupling in Fig. 1. Fig. 5 is a plan view of the under side of a car, and illustrates the coupling and spring-buffers from below. Fig. 6 represents the two opposing draw-heads partially broken away, with the coupling-bolt of one draw-head received in the remaining draw-head, which latter is in position to receive the head of the bolt. Fig. 7 is a like view, but with the draw-

head receiving the bolt-head turned at right angles to the position in which it is shown in the preceding figure, whereby the bolt-head is prevented from being drawn out of the draw-head, and the draw-heads thereby coupled together. Fig. 8 is a section taken transversely through the draw-head at its junction with the draw-bar, and also through the rear end of the coupling-bolt, which is shown secured in a socket by means of a pin.

Referring by letter to the several figures of the drawings, in which like letters denote like parts, A indicates the draw-head provided with a suitable construction of draw-bar, and employed in connection with any desired construction of spring-cushion or resistance. The mouth or entrance to the draw-head consists of an oblong slot or opening, B, through which the oblong head of a coupling-bolt, C, is permitted to pass when the draw-head is in position to bring the length of its slot coincident with the length of the oblong bolt-head. The draw-head is provided with a chamber, D, back of its oblong mouth, and of sufficient area to allow the draw-head to be turned at a time when the bolt-head is received in its said chamber, in which way, after the bolt has entered a draw-head, as in Fig. 6, and said draw-head is turned, as in Fig. 7, the bolt will be prevented from being drawn out from the draw-head until such time as the draw-head is turned to bring the length of its mouth coincident with the length of the bolt-head. In this coupling the bolt is secured at one end in one draw-head, so that the bolt-head shall project through and beyond the mouth of the draw-head, in order to enter the draw-head of an opposing car in coupling. The bolt can be secured in either draw-head, and for such purpose I provide in the rear wall of the chamber in the draw-head a seat or socket adapted to receive an enlarged butt-end E of the coupling-bolt. The butt-end of the coupling-bolt is secured within the draw-head by means of a pin, F, passing through the draw-head, and also through the butt-end of the coupling-bolt. The passage for this pin is formed at such angle that a quarter-turn of the draw-head will not bring the pin in a position in which it shall be liable to drop out—as, for example, the hole for the pin formed transversely through the draw-head is arranged to be at or

about an angle of forty-five degrees, as in Fig. 9, at a time when the length of the bolt-head is in position to enter an opposing draw-head, in which way, should it be desired to turn the draw-head carrying the coupling-bolt, a one-quarter turn of the said draw-head and bolt will simply bring the pin at an angle of forty-five degrees at the opposite side of a vertical plane through the center of the draw-head.

As a means for operating the draw-head, I provide a coupling-lever, G, pivoted to an end of the car, and having its handle end extending out at one side of the latter, so that it can be manipulated by a person without going between the cars. This lever is connected with the draw-head by a pair of cords, wires, links, or chains, H and I, secured at their lower ends to one side of the draw-head at a point substantially common to both. These chains, respectively, connect with the coupling-lever at opposite sides of the fulcrum of the latter, whereby, when the lever is swung in either direction, one of the chains will be drawn taut, and serve to give a partial axial rotation to the draw-head, while the remaining chain will slacken up, so as to permit the draw-head to thus turn. The lever works in a guide formed between a segmental plate, K, secured at its end to the end of the car, and for the greater portion of its length standing out from the car, so as to allow space for the lever; or said plate can be secured to a segmental base-plate, which latter is in turn secured to the car. The lever is locked at each end of its swing or stroke by a spring-latch, L, two of which are provided for each lever. As a simple arrangement, the latch is provided with a spring-shank secured to the segment-plate, K, in which a suitable opening for the latch is formed. The lever and chains are arranged so that a full stroke of the lever in either direction will give a one-quarter turn to the draw-head, and the latter is so arranged that when it is in position for coupling the length of its mouth shall lie in a horizontal plane, as in Fig. 4, in which way in coupling a stroke of the lever in the proper direction will bring the length of the said mouth into a vertical position, as in Fig. 1. The coupling-bolt is fitted in one draw-head, so that the length of its head shall be parallel with the length of the mouth of the draw-head through which the said bolt passes.

In coupling the head of the coupling-bolt carried by one draw-head enters an opposing draw-head, and by then giving a part turn to either draw-head the cars will be coupled together. The coupling-bolt head is of an oblong form, and can be of the shape shown, or arrow-headed, or of other analogous configuration, so that after it has entered the chamber in a draw-head, and a partial turn been given to either draw-head, the front walls of the draw-head receiving the head of the bolt will prevent the latter from being drawn out until the members are again brought into position for uncoupling.

The length of the bolt-head can be consid-

erably less than that of the draw-head mouth, in which way no difficulty will be experienced in coupling high and low cars.

Should the bolt at any time become broken, it can be readily removed and replaced by a new one.

Where one or more cars with the old style of draw-head, adapted for the ordinary coupling-links, are made up in the train, the coupling-bolts can be removed and the pins heretofore employed for holding in said bolts can now be used for engaging the links, for which purpose the draw-heads will be provided with holes M, in which the said pins can be inserted for such purpose.

N N indicate spring-buffers for taking up the shock when two cars meet for coupling. These spring-buffers, constituting spring-resistances between the opposing ends of the cars, admit of the draw-heads, and then draw-bars being readily turned, since the draw-heads will be kept away from each other to the required extent. The draw-bar turns in any desired arrangement of bearings, and the spring is arranged in any convenient way.

Having thus described my invention, what I claim is—

1. The swiveled draw-head provided with a chamber, D, an oblong narrow entrance, B, thereto, and a seat or socket formed in the rear wall of said chamber, in combination with a coupling-link, C, having at one end a wide flattened head, and at its other end a butt, E, adapted to fit in the seat in the rear wall of the chamber, and provided with a perforation for a locking-pin which passes through the draw-head and the butt-end of the coupling-link, so as to detachably connect the latter with the draw-head, and a mechanism, substantially as described, for axially turning the draw-head, the said chamber being adapted to in turn receive the head of the link when the latter is carried by an opposing draw-head, and the width of the link-head is coincident with the length of the entrance to the chamber, substantially as set forth.

2. A pair of opposing swiveled draw-heads, each provided with a chamber, an oblong entrance to the same, and a seat back of the chamber for receiving the rear end of a coupling-link, in combination with a mechanism, substantially as described, for axially turning each draw-head, and a coupling-bolt having its rear end detachably secured by a locking-pin in the seat in either draw-head, and having at its forward end a wide flattened head capable of entering an opposing draw-head when the width of the link-head is coincident with the length of the entrance to the chamber therein, whereby the link can be secured by a locking-pin to either one of said draw-heads, and its head coupled with the other draw-head, substantially as and for the purpose set forth.

3. A pair of swiveled draw-heads, each provided with a chamber, D, a narrow oblong entrance thereto, and a socket formed in the rear

wall of said chamber, in combination with a mechanism, substantially as described, for turning each draw-head, a coupling-link, C, having at one end a wide flattened head, and
5 at its opposite end a perforated butt fitted in the seat-back of the chamber of either one of said draw-heads, and a locking-pin, F, passing through the draw-head and through the perforated butt-end of the coupling-link, the
10 passage for said locking-pin through the draw-head and link being arranged to bring the locking-pin in an inclined position when the draw-head is in position to maintain the head of the coupling-link ready for entering the ob-
15 long entrance to the opposing draw-head, so that after the link-head has entered said opposing draw-head a quarter-rotation of the draw-head carrying the coupling-link shall bring the locking-pin into a reversely-inclined
20 position, and thereby in either of the two positions the pin be held at an inclination to a horizontal plane, so as to avoid its dropping out, substantially as set forth.

4. A swiveled draw-head provided with a

chamber, D, having an oblong entrance there- 25
to, in combination with a coupling-link, C, detachably connected at its butt-end in the draw-head, and having its forward end provided with a wide flattened head capable of entering the
30 oblong entrance, a similarly-constructed opposing draw-head when the width of the head is coincident with the length of the said entrance, and a pair of spring-controlled buffers, N, normally projected by their springs beyond
35 the outer end of the swiveled draw-head, whereby said buffers shall take up the shock when the pin carried by one draw-head enters an opposing one, and also admits of either
40 draw-head being readily turned either for coupling or for uncoupling, by reason of the tendency of the buffers to hold the opposing ends of the draw-heads apart, substantially as described.

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Witnesses:

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