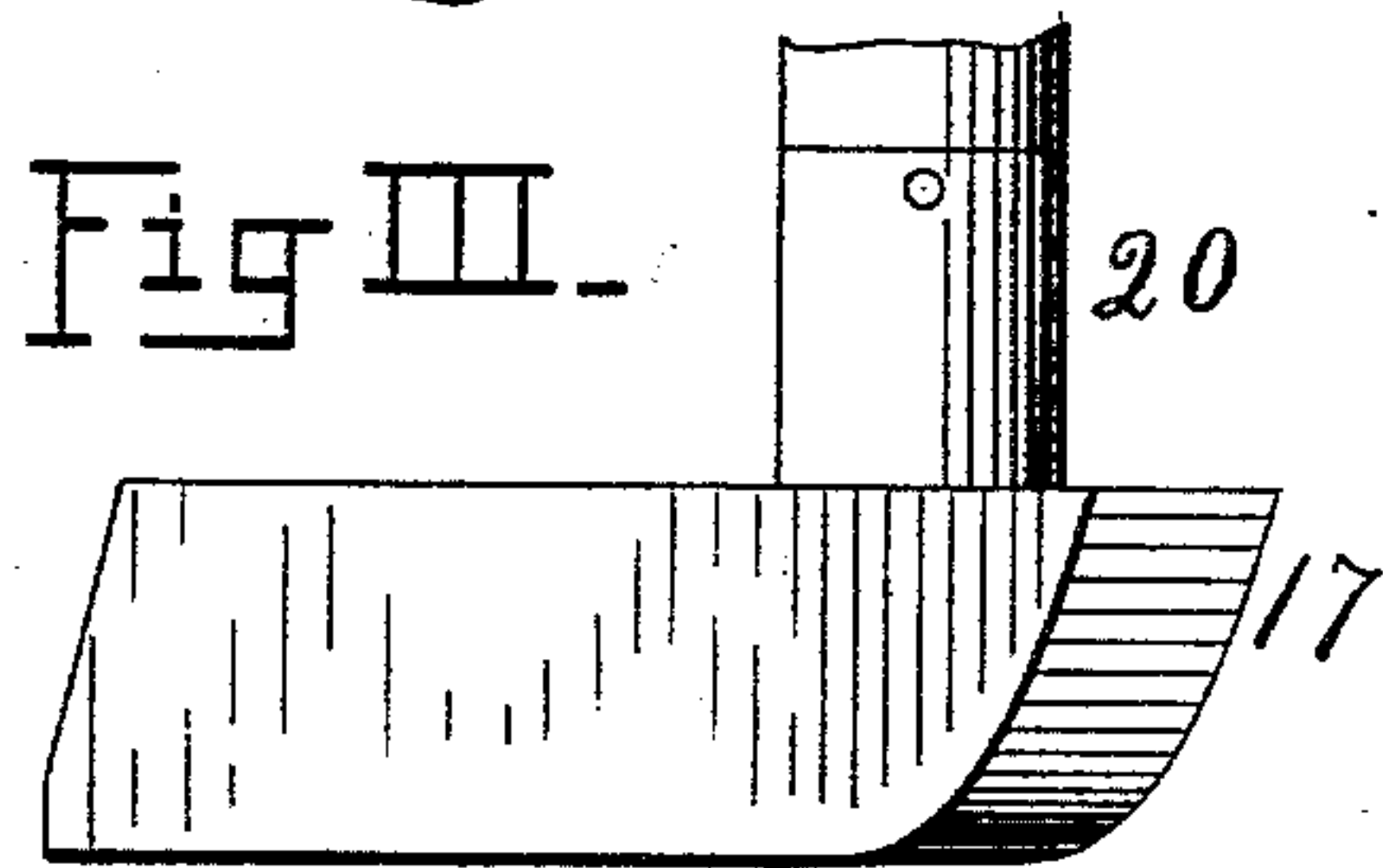
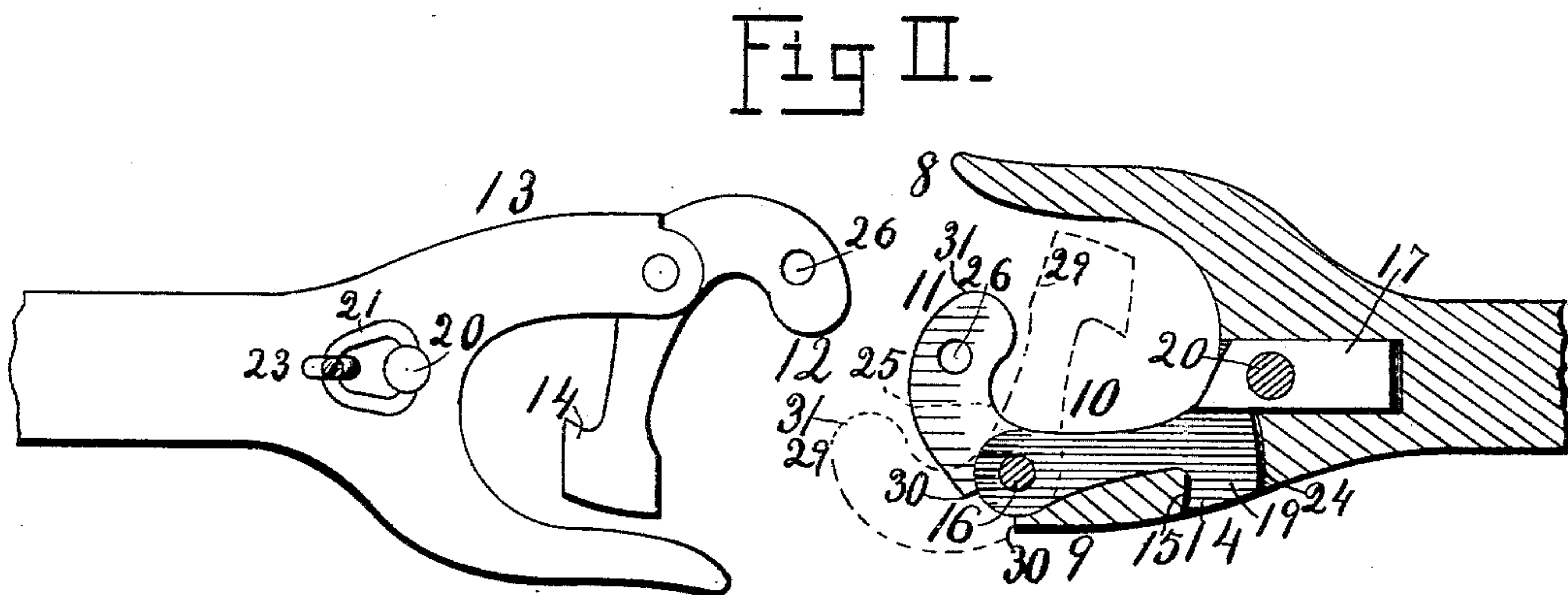
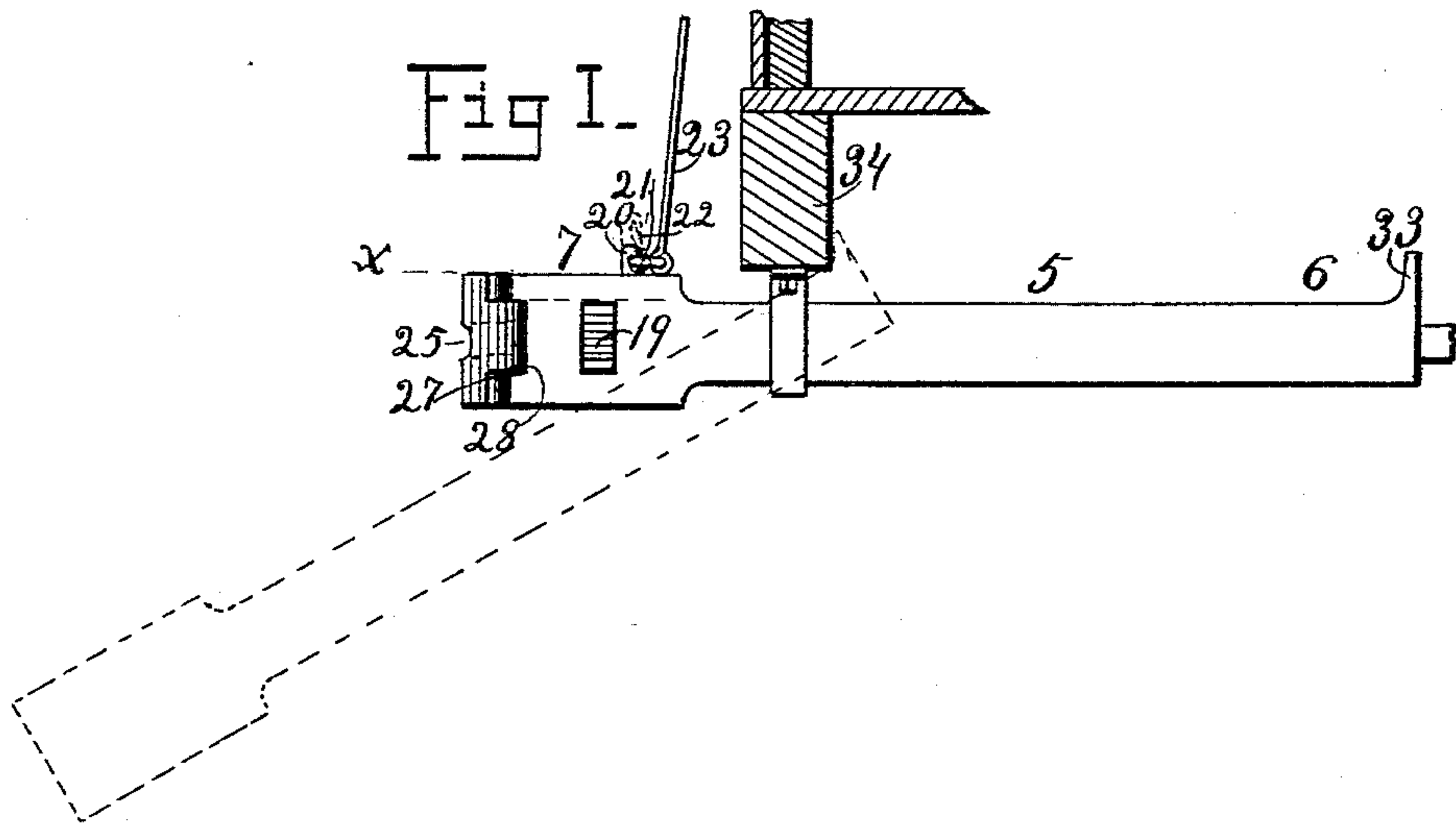


(No Model.)

D. DONAHUE.
CAR COUPLING.

No. 476,450.

Patented June 7, 1892.



WITNESSES,
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 476,450, dated June 7, 1892.

Application filed February 20, 1892. Serial No. 422,266. (No model.)

To all whom it may concern:

Be it known that I, DANIEL DONAHUE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Car-Couplings; and I 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.

This invention relates to automatic car-couplings; and it has for its object to provide a coupling which will couple itself with another coupling like it when the two couplings are brought together, and which may also be coupled with the old-fashioned link and pin.

To this end my invention consists in the construction and combination of parts forming an automatic car-coupling hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a side elevation of a car-coupling according to my invention. Fig. II is a horizontal longitudinal section at the line *x* of Fig. I, showing, also, another coupling ready to couple therewith, as seen in looking down upon it. Fig. III is a detail view of the locking-bolt.

5 represents a draw-bar having any common or preferred shank end 6; but the head 7 is provided with one sidewise-flaring jaw 8 and with another jaw 9, which is shaped as one member of a hinge-joint, in which my double hook 10 is pivoted at 15 as the other member. The forward end 11 of this hook is shaped to engage the corresponding hook 12 of another draw-head 13 when the two are pushed together by the cars on which they are respectively hung coming together.

14 is a rear hook formed integral with the forward hook 11 and adapted to pass out through a hole in the side of the jaw 9 and to engage a shoulder 15 in front of the hole.

17 is a bolt set loosely in the draw-head and adapted to fall by gravity into the path of the swinging hook 14, whereby the whole double hook 11 14 is locked so that it cannot turn upon its pivot 16. The nose 19 of the rear hook is wedge-shaped on its upper side, and the forward end of the bolt 17 is correspondingly wedge-shaped on its under side, so that

when the hook is swung backward into the head the nose will wedge the bolt up out of its path, and when the hook 14 has passed behind it the bolt 17 falls forward of the hook and locks it.

20 is a stem projecting from the bolt up through the draw-head, and 21 is a link of a chain connected with the stem, by means of which the bolt may be raised by hand and may be braced up, as shown in dotted lines 22, or to which link a rod 23 may be connected to pass up to the top of the car, so that the bolt may be raised by a person on the car-top. The hook, even if it be at first fitted to swing closely on the pivot 16, will eventually work loose, and thus endanger breaking the pin by a sudden movement either forward or backward, as by the cars jerking or bumping together. To obviate this, the hook 14 is fitted to engage the shoulder 15 of the draw-head to resist a forward pull and to rest on the rear wall 24 to resist a rearward thrust.

25 represents a mouth in the hook 11 to receive a common link, and 26 is a hole to receive a common pin, whereby the old style of couplings may be connected with my coupling. The top face of the lower portion 27 of the hinge is inclined forward, and the under side of the hook portion 28 of the hinge is slanted to what will be a corresponding incline when the hook is in its open position, as shown in dotted lines 29, in order that the hook may be impelled by gravity to stay open, ready to meet and engage a corresponding coming hook. The hinge is provided with common shoulders 30 to prevent the hook being opened too far. If two cars be brought together when the hooks are set open, the forward edge 31 of one hook 11 will meet the arm of the opposite rear hook 14 and both hooks will be turned inward upon their pivots and after raising their respective bolts 17 pass behind them and be locked. The hooks 11 are properly rounded for each to bear within the curve of the other and permit any necessary sidewise swinging of the draw-heads in passing around curves, &c. The mouths being open freely through the heads permits all the vertical motion due to the movement of cars and adapts heads of different heights within the usual limit to couple with each other.

33 represents a lug rising from the upper

side of the draw-bar near its rear end to engage with the front cross-beam 34 of a car to prevent the draw-bar from dropping on the track if its connection with the car should be-
5 come broken, which frequently happens.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination, in a car-coupling, of a
10 draw-head having two fixed jaws and an opening through vertically between them, a double hook hinged in one of the said jaws with the forward one of its hooks adapted to swing partly across the mouth of the draw-head and
15 the rear hook at the same time to engage a shoulder in front of it in the draw-head, and a bolt loosely set in the said draw-head in the

path of the said rear hook and provided with a stem projecting up through the draw-head, the bolt and hook being correspondingly 20 slanted, substantially as described, whereby the bolt is raised bodily out of the path of the rear hook by the same coming in.

2. A car-coupling draw-bar having an upward-projecting lug near its rear end adapted 25 to engage a cross-beam of the car if its normal connection with the car should become broken, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL DONAHUE.

Witnesses:

W. X. STEVENS,
M. C. HILLYARD.