

No. 612,588.

Patented Oct. 18, 1898.

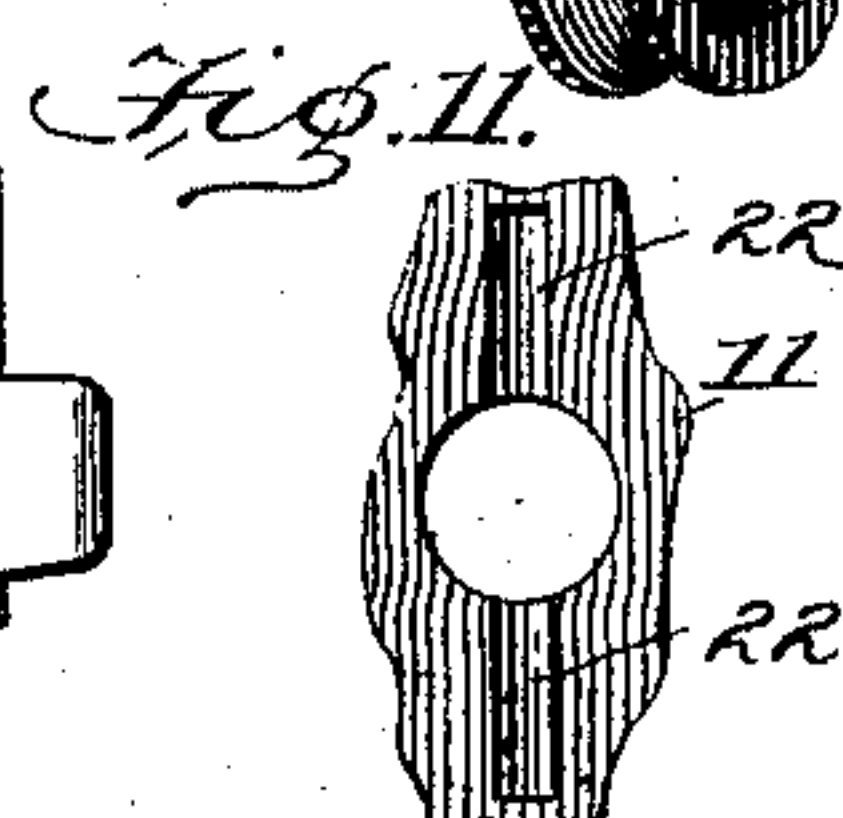
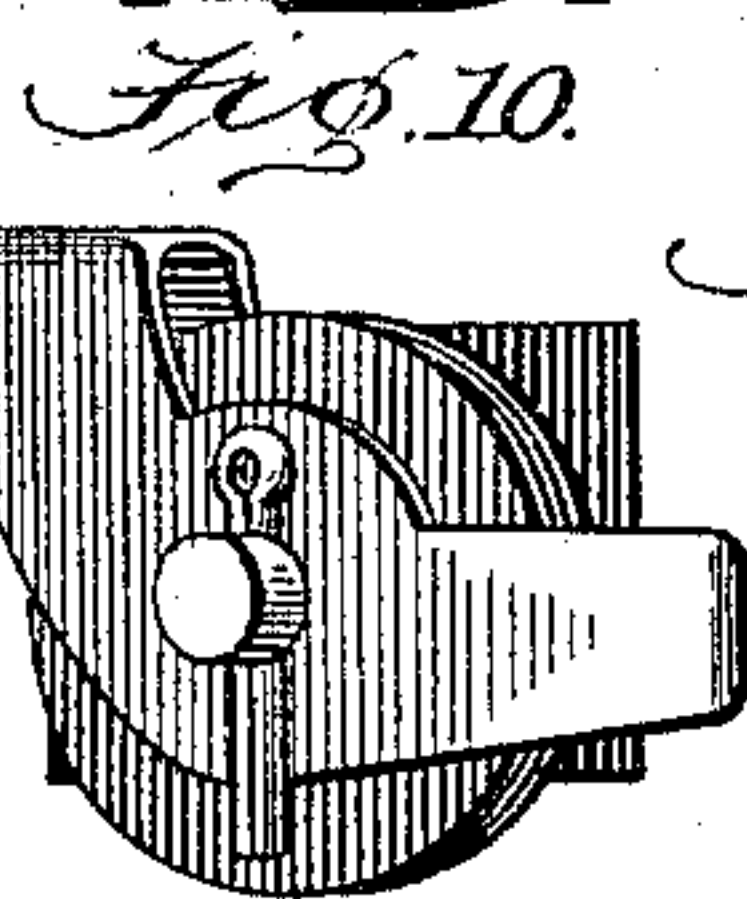
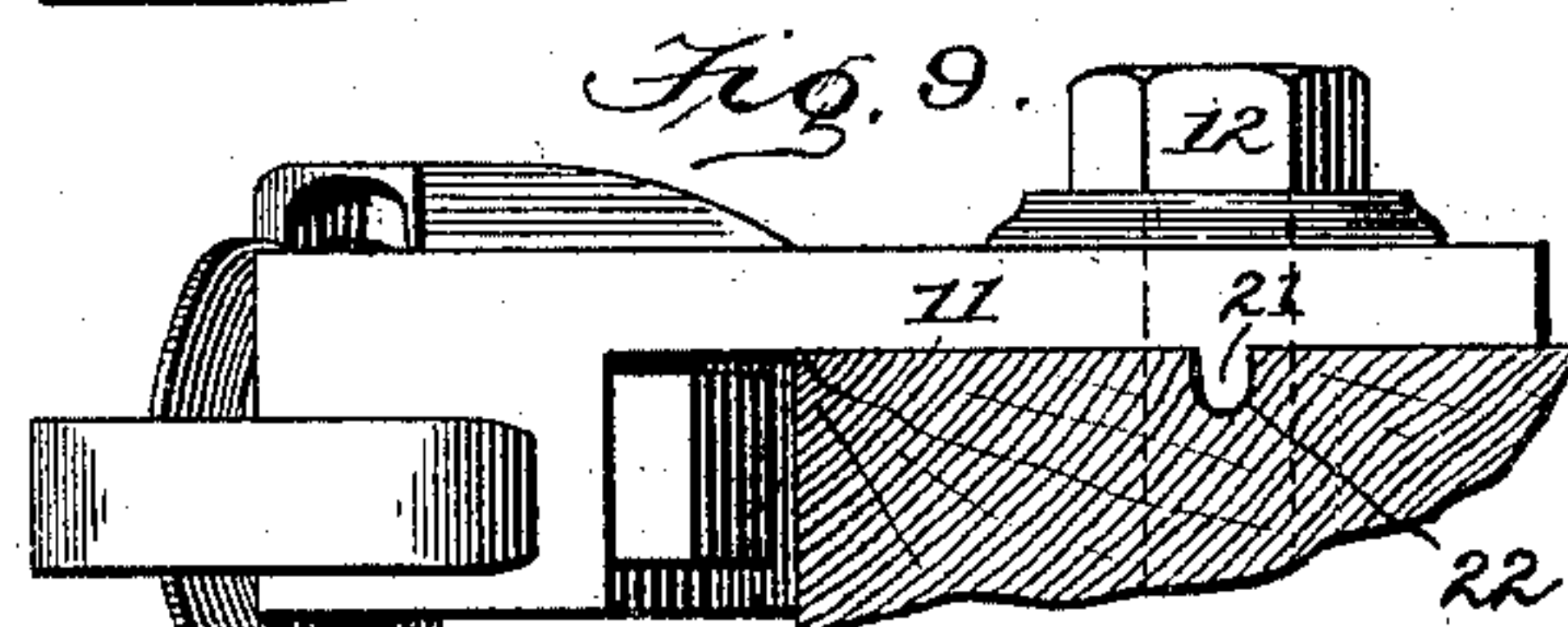
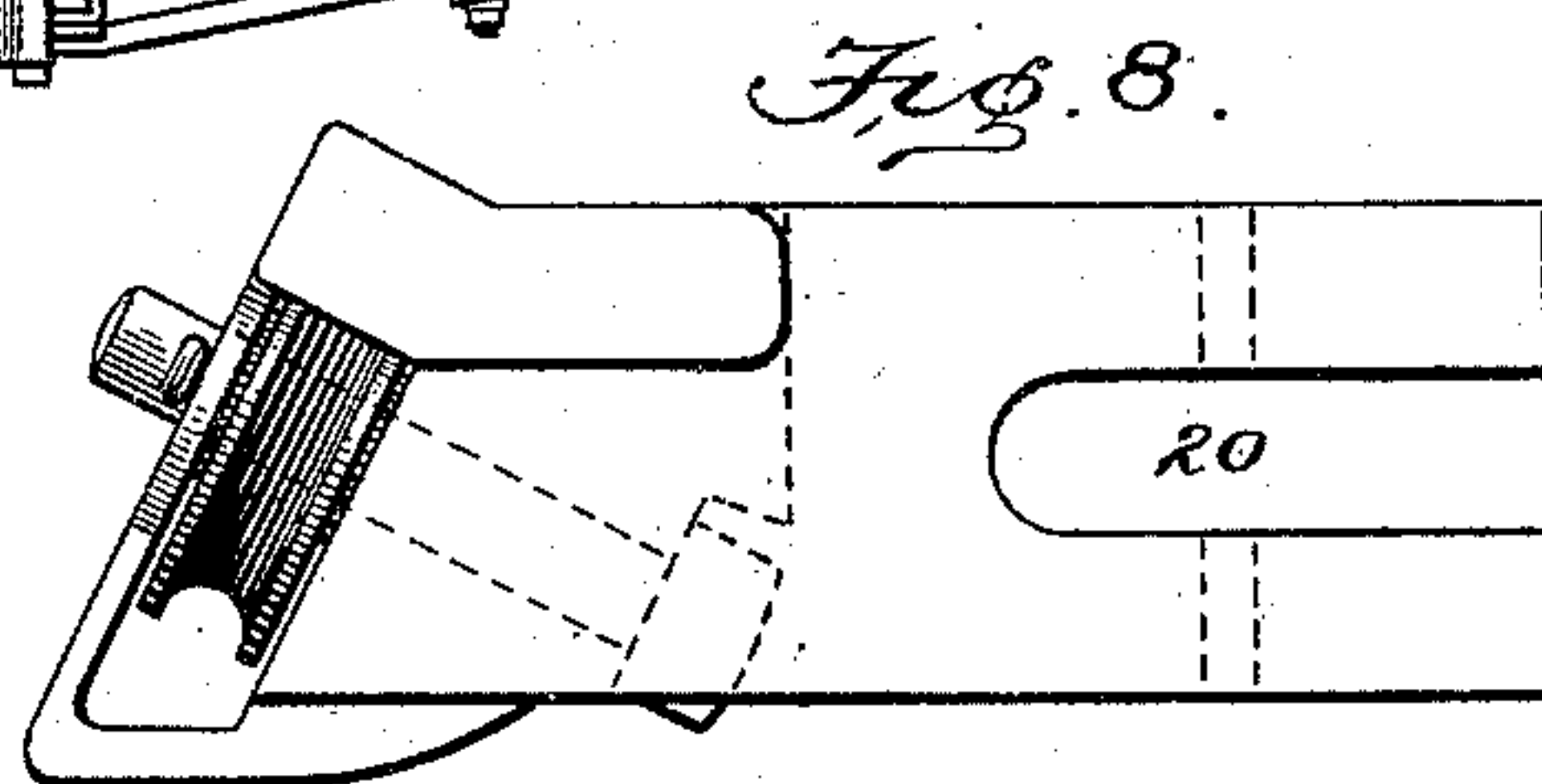
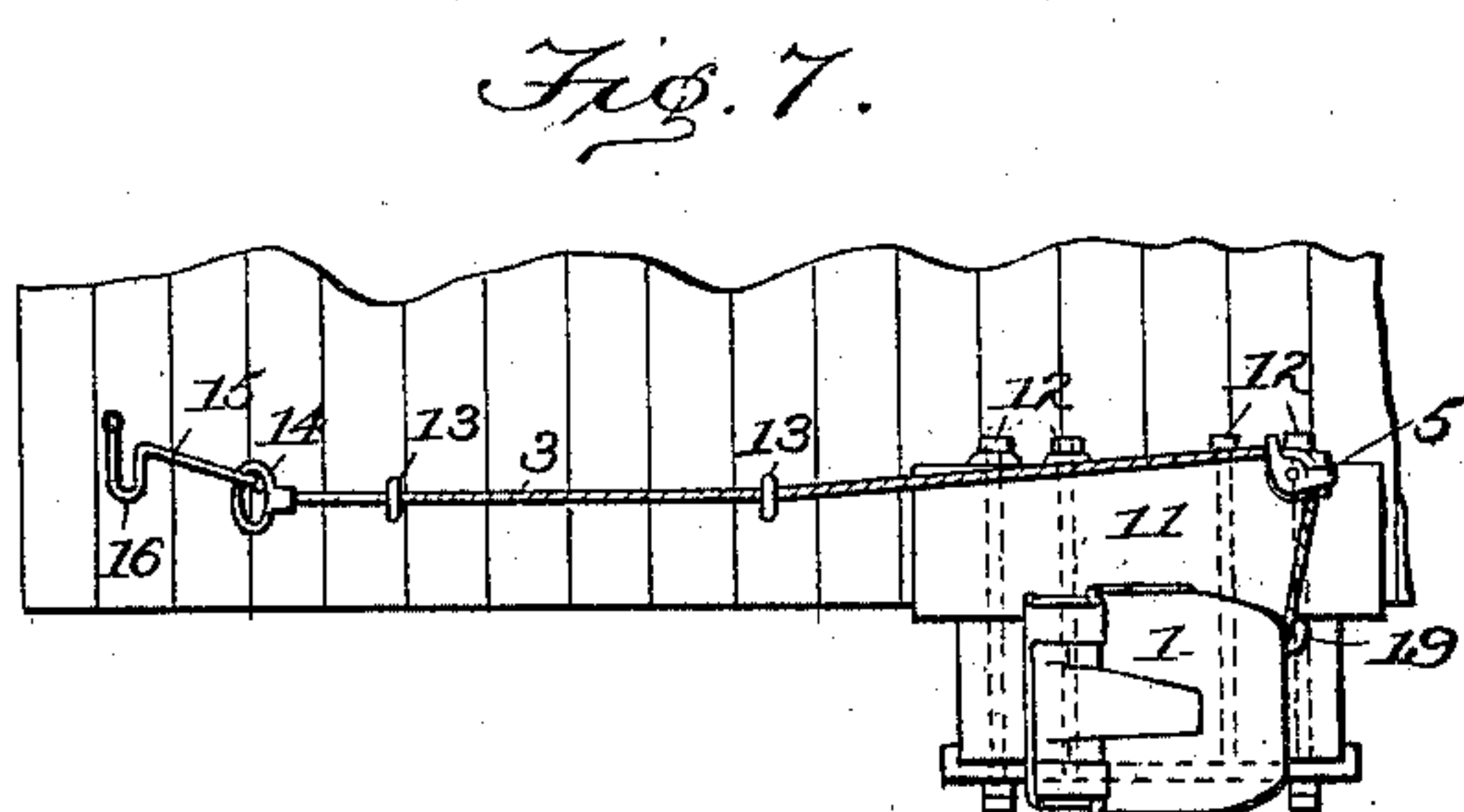
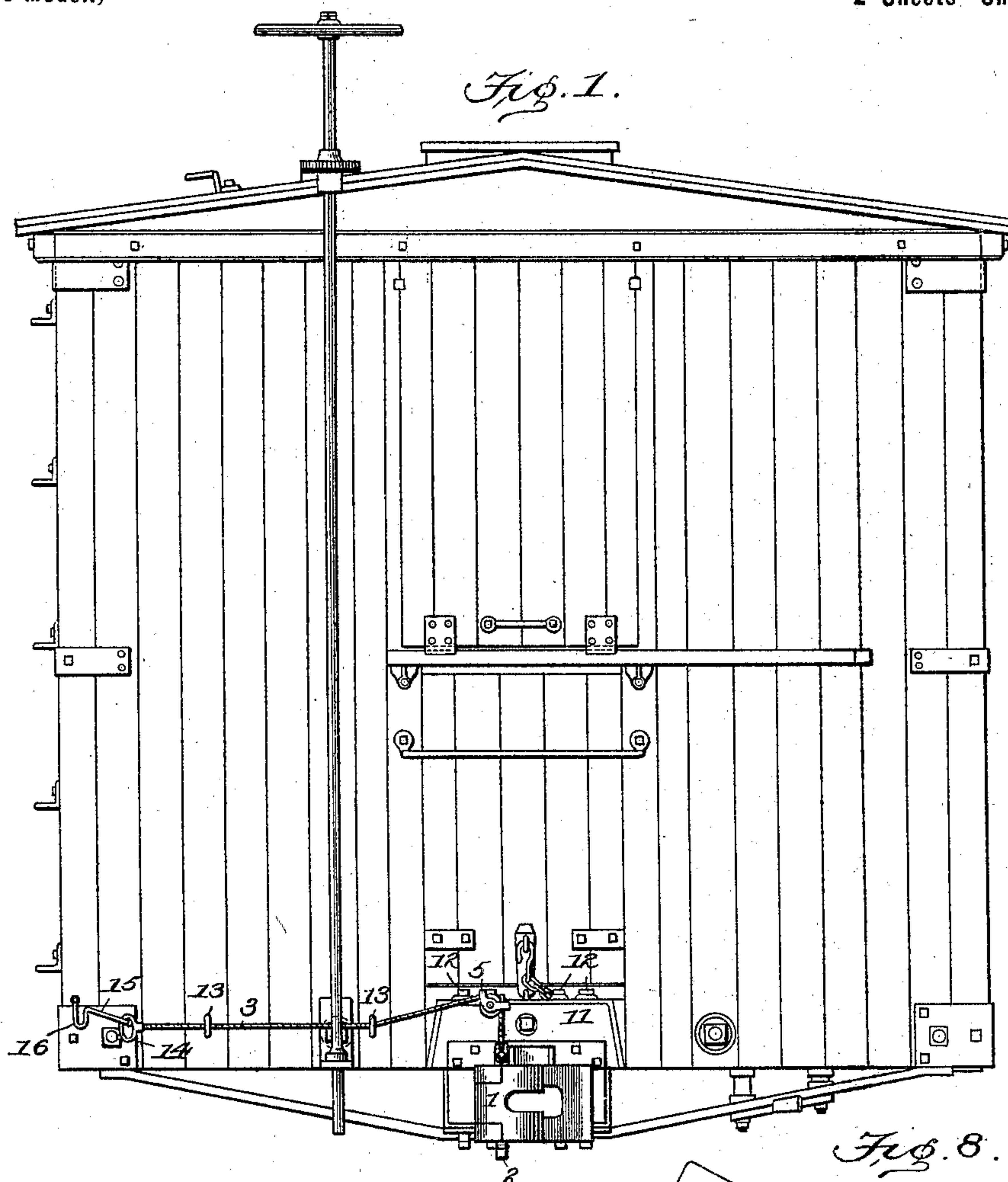
G. GROOBEY.

FLEXIBLE UNCOUPLING MEANS FOR RAILROAD CARS.

(Application filed Aug. 12, 1897.)

(No Model.)

2 Sheets—Sheet 1.



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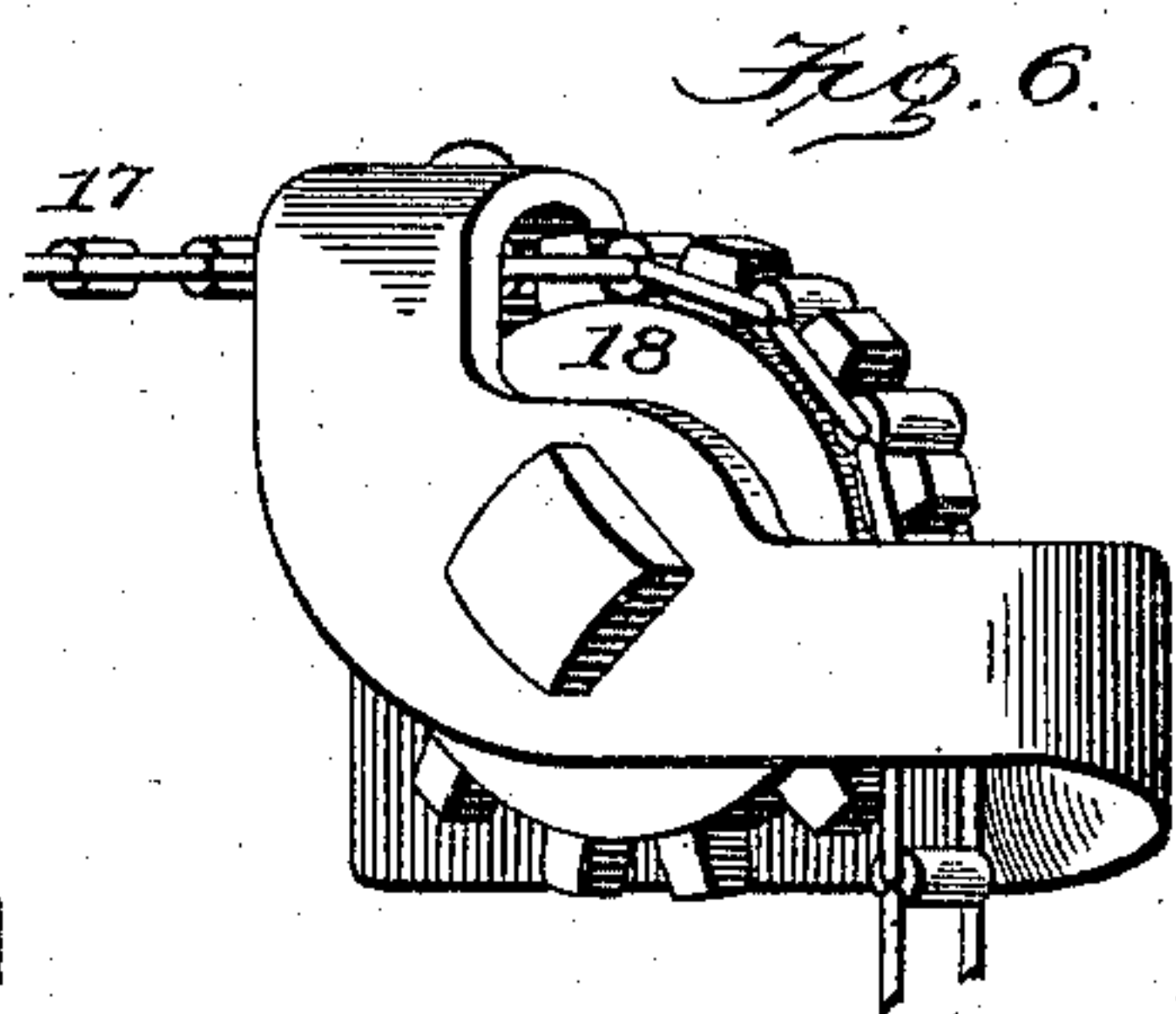
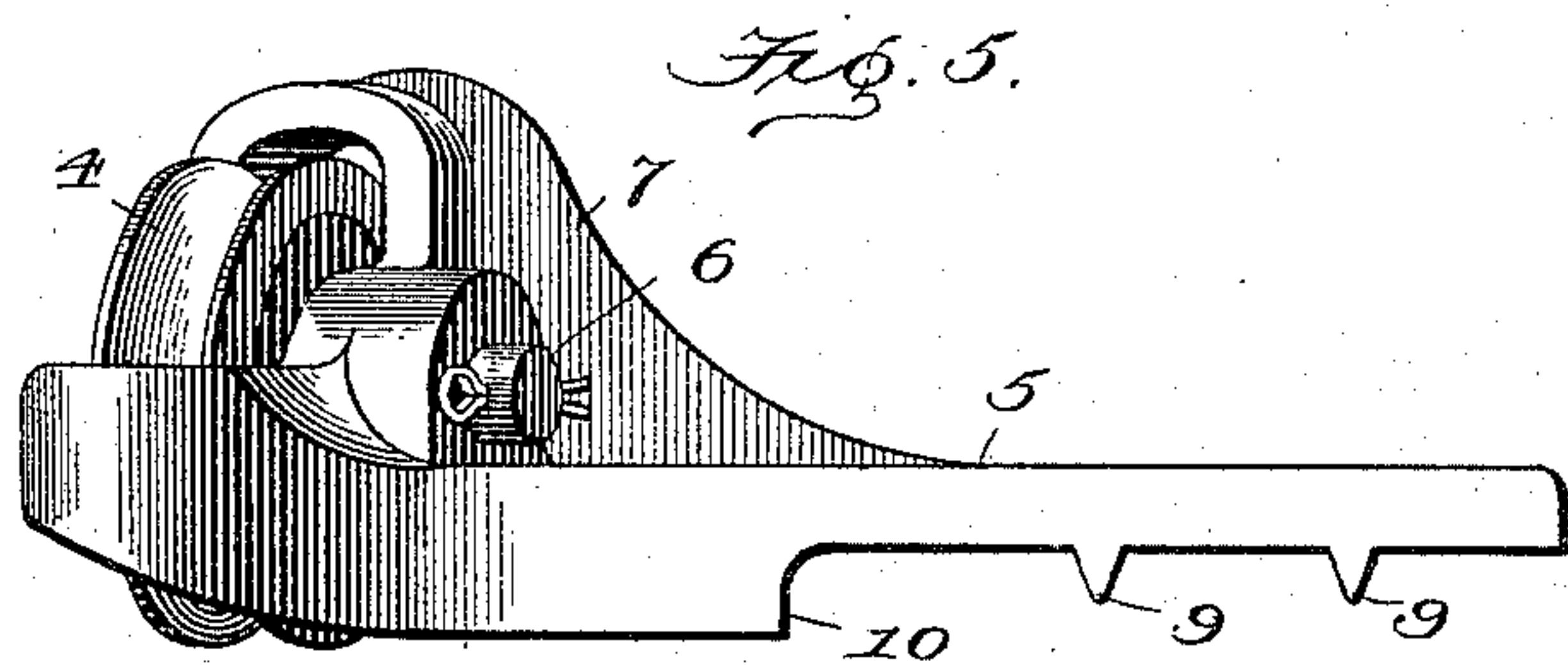
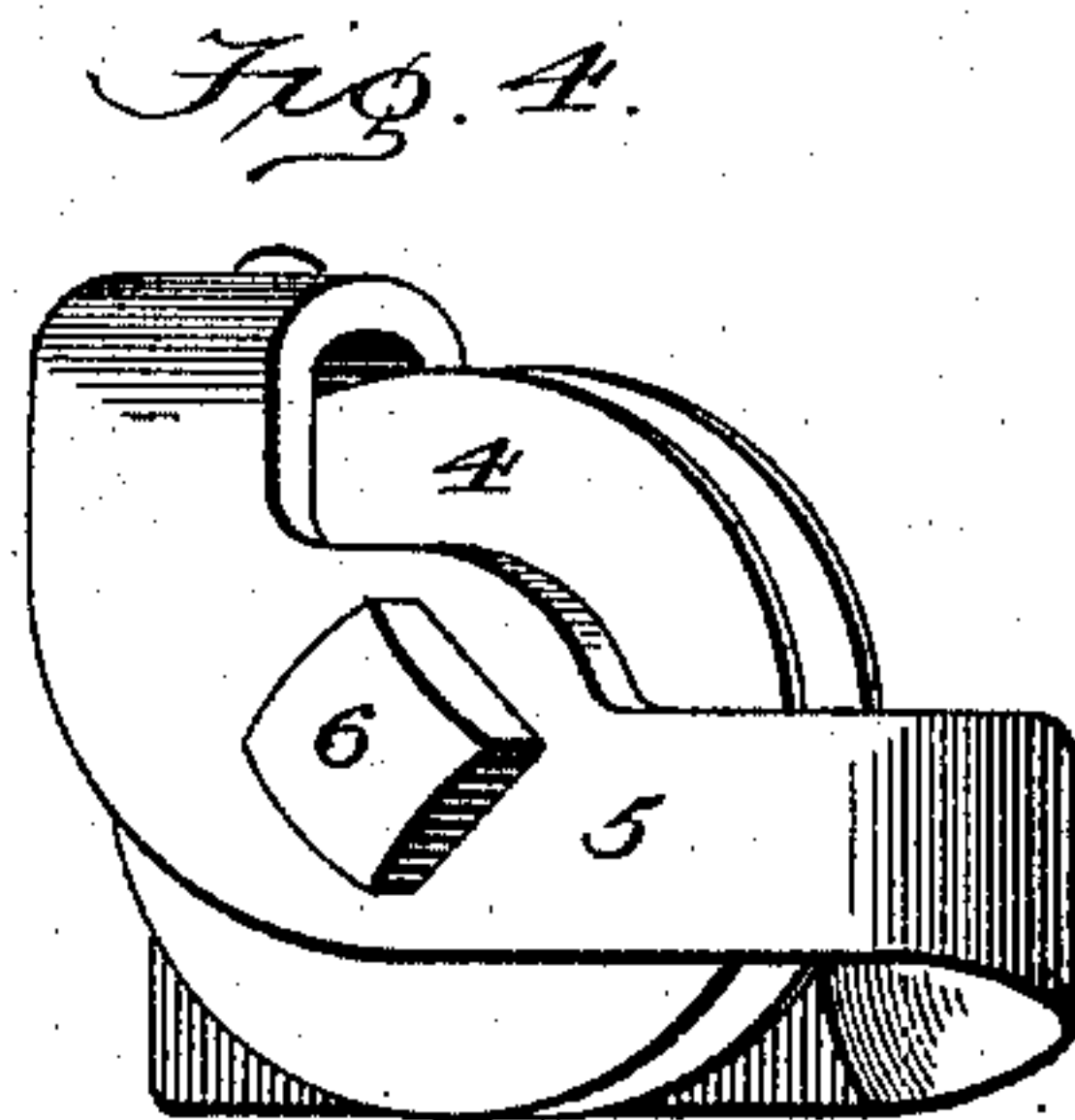
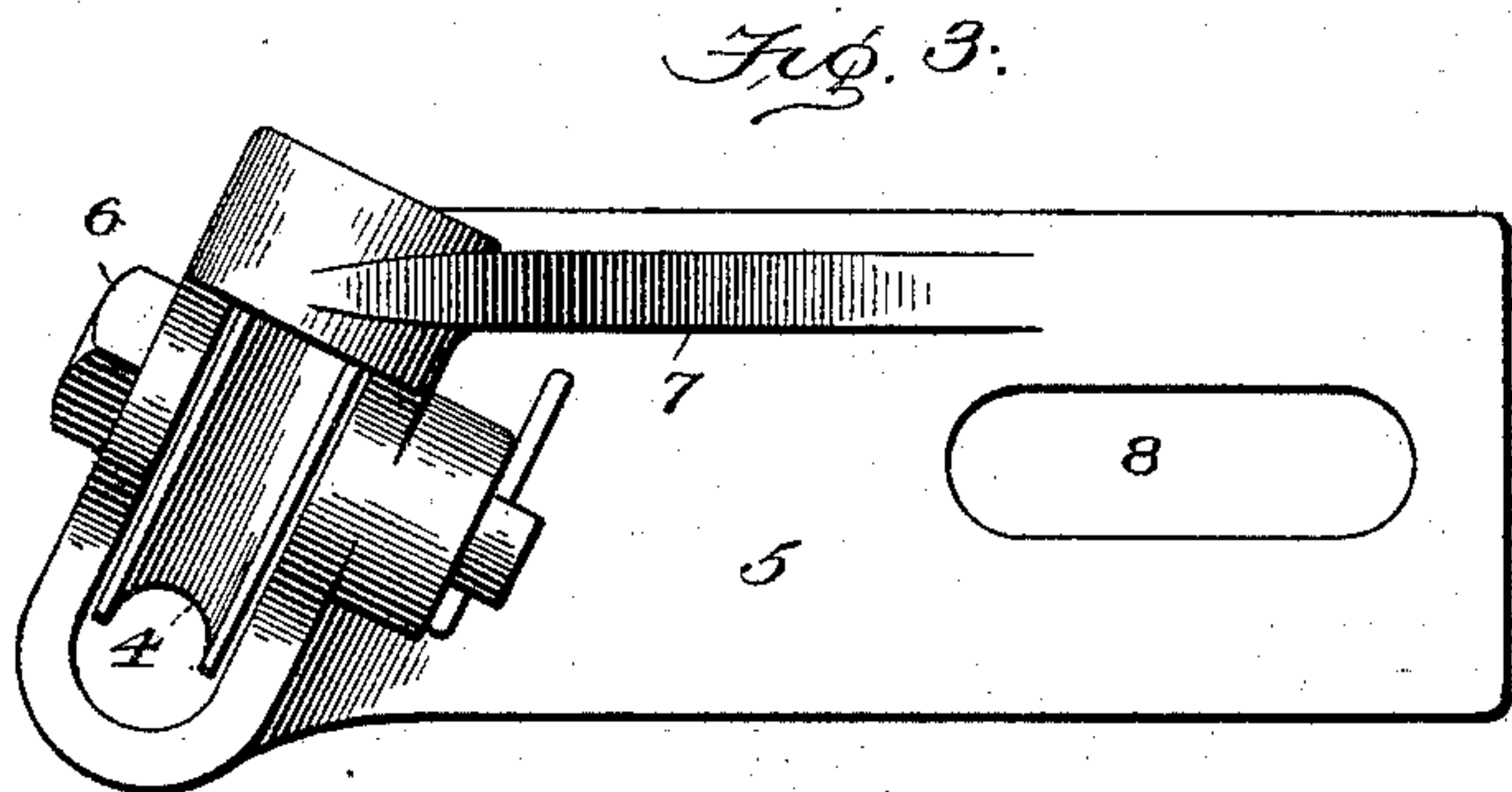
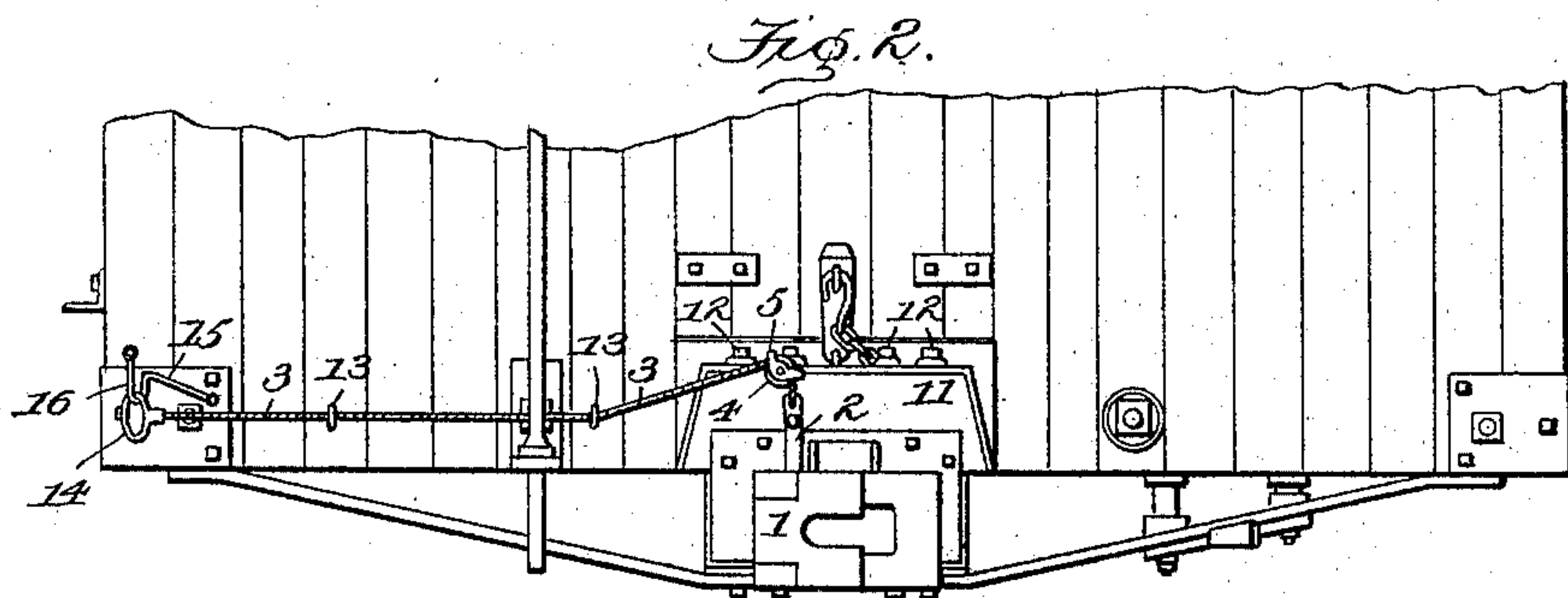
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2 Sheets—Sheet 2.



WITNESSES:

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FLEXIBLE UNCOUPLING MEANS FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 612,588, dated October 18, 1898.

Application filed August 12, 1897. Serial No. 648,046. (No model.)

To all whom it may concern:

Be it known that I, GEORGE GROOBEY, a subject of Her Majesty the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Flexible Uncoupling Means for Railroad-Cars; and I do 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 the figures of reference marked thereon, which form a part of this specification.

The object of my invention is the production of suitable means for uncoupling railroad-cars which will obviate the necessity of a trainman stepping between the ends of two adjacent cars for the purpose of manipulating the uncoupling mechanism.

A further object is the provision of uncoupling means which will not be broken or disarranged by the inward and outward movements of the draw-bar.

A still further object is the provision of an uncoupling device which will support the coupler-head when broken from the draw-bar and prevent the said head from falling on the track.

With these objects or ends in view my invention consists in providing a flexible uncoupling device or arrangement preferably made up of a wire rope or sprocket or other chain with means at one end for attaching the same to a locking pin or means of a coupler and provided at the other end with a hand-grab, the said grab being located on a bent rod provided with an offset, which rod is attached to the corner of the car.

Further, it consists in a casting provided with a sheave for guiding the rope and adapted to be detachably held in position by one of the head-block bolts or a bolt passing through the head-block.

Still further, it consists in certain novelties of construction and combinations of parts hereinafter specified, and pointed out in the claims.

Figure 1 illustrates the end of a freight-car provided with a vertical-plane coupler of the Janney type and showing my flexible uncou-

pling arrangement in position for operating the locking-pin. Fig. 2 is a view of the uncoupling mechanism illustrated in Fig. 1, but with the locking-pin raised and the hand-grab dropped into the offset in the grab-iron and holding the locking-pin in a permanently-raised position. Fig. 3 is a plan view of the casting which supports a sheave over which a wire rope is passed and guided. Fig. 4 is an end view of the casting shown in Fig. 3. Fig. 5 is a side view in elevation of the casting, illustrating the lugs which set in the head-block and the strengthening-rib for the sheave-bearings. Fig. 6 is an end view of a modified form of casting provided with a sprocket-wheel and sprocket-chain, which may be substituted for the grooved sheave and wire rope, if desired. Fig. 7 is an illustration of my flexible uncoupling mechanism, adapted for use with a coupling in which the locking pin or means is located at one side of the draw-bar, as in the Buckeye coupling. Figs. 8, 9, 10, and 11 are detailed views of a modified form of guide-casting which is provided with an open slot to receive the head-block bolt.

Referring to Figs. 1, 2, 3, 4, and 5, the numeral 1 represents a coupler-head of the vertical-plane type. 2 is a locking-pin, such as is commonly used with a Janney coupler. 3 is a wire rope secured to the end of the locking-pin and passing over and guided by a sheave 4, journaled in a guide-casting 5. 6 is a bolt which serves as a journal for the sheave. It will be noted that the sheave is located obliquely to the longitudinal axis of the casting and that the casting is provided with a strengthening-rib 7, such disposition of the sheave serving to return the rope within the shortest distance possible to the car end. 8 is a slot in the casting. 9 9 are lugs which set into the body of the head-block 11 when the casting is in position. 10 is an offset which is seated against the head-block. 12 are the four head-block bolts, which pass through the draft-timbers and carrier-iron. 13 are staples on the car end preferably passing through the end sill and provided with nuts at the ends. 14 is a hand-grab attached to the end of the wire rope. 15 is a grab-iron secured in any convenient way to the corner of the car and provided with an offset 16, formed by

bending the rod to shape. It will be observed that the uncoupling mechanism in this example is applied to the Janney type of coupler which has the locking-pin located several
 5 inches to one side of the longitudinal axis of the draw-bar and that the guide-casting is held in position on the head-block by the second of the head-block bolts. It will further be observed that the arrangement of the sheave
 10 oblique to the length of the guide-casting enables the wire rope to be passed through the staple very near to the end of the head-block and with the least amount of slack possible. The casting is provided with a slot instead of
 15 a single hole for the passage of the head-block bolt, so that the casting can be applied to head-blocks of different diameters. The operation of the device will be readily understood from the illustrations. Fig. 1 shows the
 20 position of the mechanism when two couplers are united and locked. To raise the locking-pin, the hand-grab is advanced toward the corner of the car and the pin raised, and should it be desired to hold the pin in a raised
 25 position the hand-grab is dropped into the offset on the grab-iron.

Should the head of the coupler become broken from the draw-bar, the locking-pin, being provided with a cotter, will support the
 30 said head from falling on the track. Should the guide-casting become broken, the staples through which the wire rope passes will perform the same function in supporting the broken part.

35 The advantages of my invention over those now in use will be appreciated when it is stated that fifty per cent. of all cars equipped with vertical-plane couplers and the ordinary means for manipulating the unlocking mechanism are continually in bad order by reason
 40 of the links which connect the lifting-rod and pin being broken or improperly adjusted. Furthermore, it is an every-day occurrence to see two cars come in contact and at the moment they touch to observe the lift-rods fly
 45 up, and very often the said rods will strike the trainman who is waiting to make the coupling a violent blow more or less dangerous. My flexible arrangement does away with the
 50 common defects of rigid rods, inasmuch as when struck a blow and becoming bent they touch the end of the car and cannot be operated; and, again, they are sometimes sufficiently bent to materially change the length
 55 of the chain. The casting is so proportioned that it can be applied to different sizes of head-blocks, and when broken a new one can easily be substituted by withdrawing the head-block bolt.

60 Fig. 7 of the drawings illustrates the adaptability of my uncoupling mechanism to vertical-plane couplers in which the locking pin or means is located at one side of the longitudinal axis of the draw-bar. This example
 65 shows the mechanism applied to a Buckeye coupler. 19 is the locking means, and 12 are the head-block bolts (shown in dotted lines)

passing through the draft-timbers and carrier-iron. It will be noticed that the casting is held in position by the head-block bolt at
 70 the extreme right.

Figs. 8, 9, 10, and 11 illustrate a modified form of guide-casting which differs from that previously described in being provided with
 75 an open slot 20, whereby a casting can be adjusted to position and withdrawn simply by removing the nut or nuts at the end of the head-block bolt and raising the same a very
 80 short distance. In this example the casting is provided with a single lug 21, which fits within a seat 22 made in the head-block 11.

While I have shown a wire rope in the main illustrations of the application of my flexible uncoupling device, I do not wish or intend to
 85 be limited to a wire or other kind of rope, inasmuch as I may substitute for it other flexible means, such as a sprocket-chain. I accordingly illustrate in Fig. 6 such a modification, where 17 indicates a sprocket-chain, and 18 a
 90 sprocket-wheel substituted for the grooved sheave. Many other modifications may likewise be introduced and equivalent elements substituted for those which I have specifically
 95 described for the purpose of physically embodying my invention, and all such I shall regard as falling within the scope of my claims when they perform substantially the same functions and are substantially of the same construction as the elements enumerated and set forth.

100 My purpose is to adapt the flexible uncoupling mechanism for use with any type of vertical-plane coupler in whatever position the locking-pin or locking means is located. I have shown its application to locking-pins
 105 located at both sides of the longitudinal axis of the draw-bar. When the pin is arranged at the center of the bar, as in the Thurmond-McKeen type, I propose to support the guide-casting by a bolt passing perpendicularly
 110 through the head-block only. I have not illustrated such construction inasmuch as it is an obvious arrangement.

What I claim as new, and desire to secure by Letters Patent, is—

115 1. The combination in a flexible uncoupling mechanism of the following elements, to wit: locking means; a flexible operating device; and a guide-casting having a sheave at one end disposed obliquely to the longitudinal
 120 axis of the casting, and a passage for a bolt at the other end; the said casting being located so that its axis will be at right angles to the end wall of the car-body and so that the end of the casting having the sheave will project
 125 from the car-body and occupy a position over the locking means; in substance as set forth.

2. The combination with the flexible uncoupling mechanism, of a guide-casting, having a sheave journaled at one end thereof, and
 130 disposed obliquely, the other end having an opening for a bolt; a head-block; and a head-block bolt; in substance as set forth.

3. The combination in a flexible uncoupling mechanism of the flexible element 3; a hand-
grab 14, in the shape of a ring, and a grab-
iron 15 secured to the car-body and having
5 an offset 16; in substance as set forth.

4. The combination in a flexible uncoupling mechanism of locking means for the knuckle;
a flexible element attached to the lock; a cast-
ing having a sheave at one end disposed ob-
10 liquely and a passage at the other end for a

bolt; a bolt; and means for holding the lock in position when raised; in substance as set forth.

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

GEORGE GROOBEY.

Witnesses:

THOS. R. MORRIS,
WILBERT C. COOK.