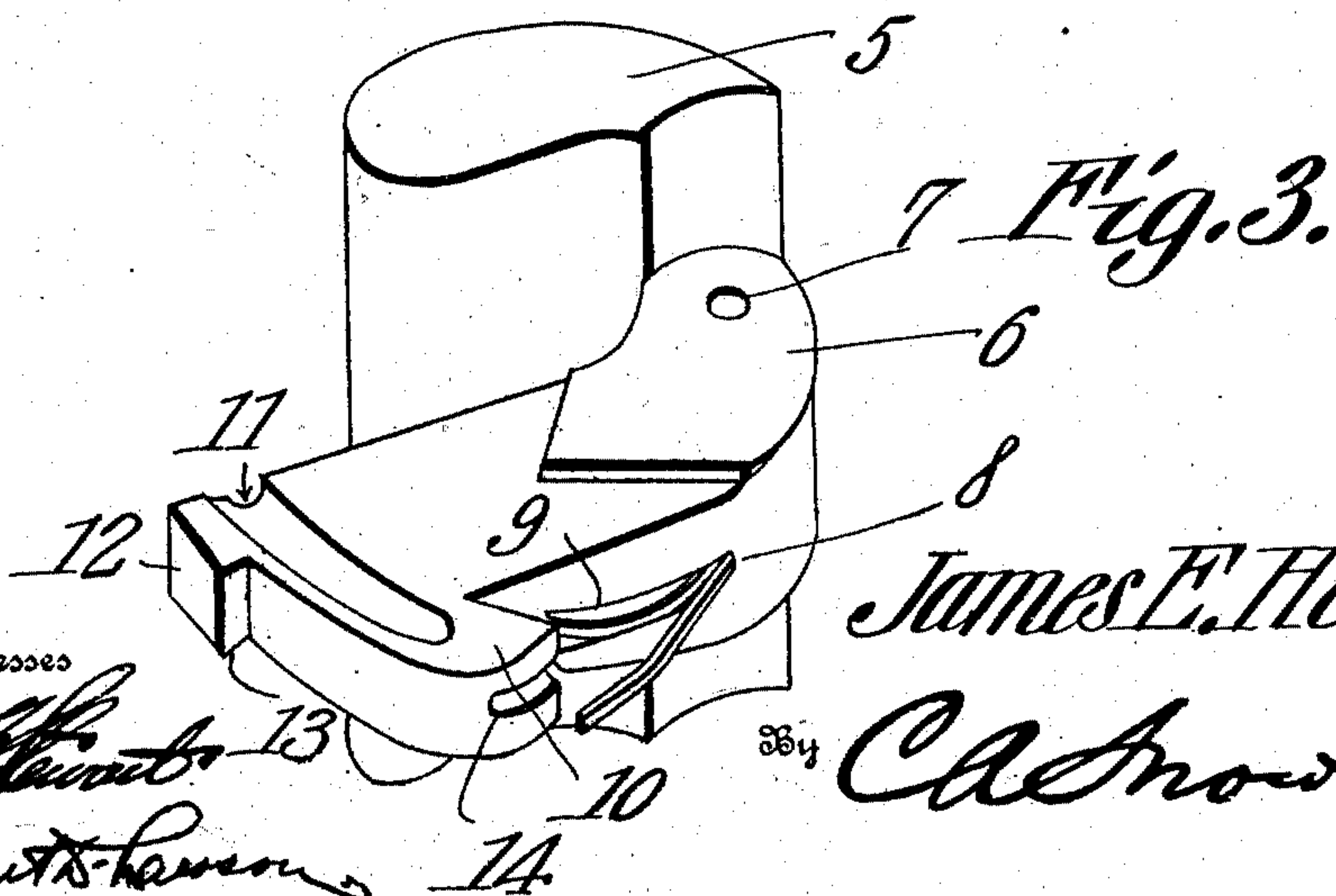
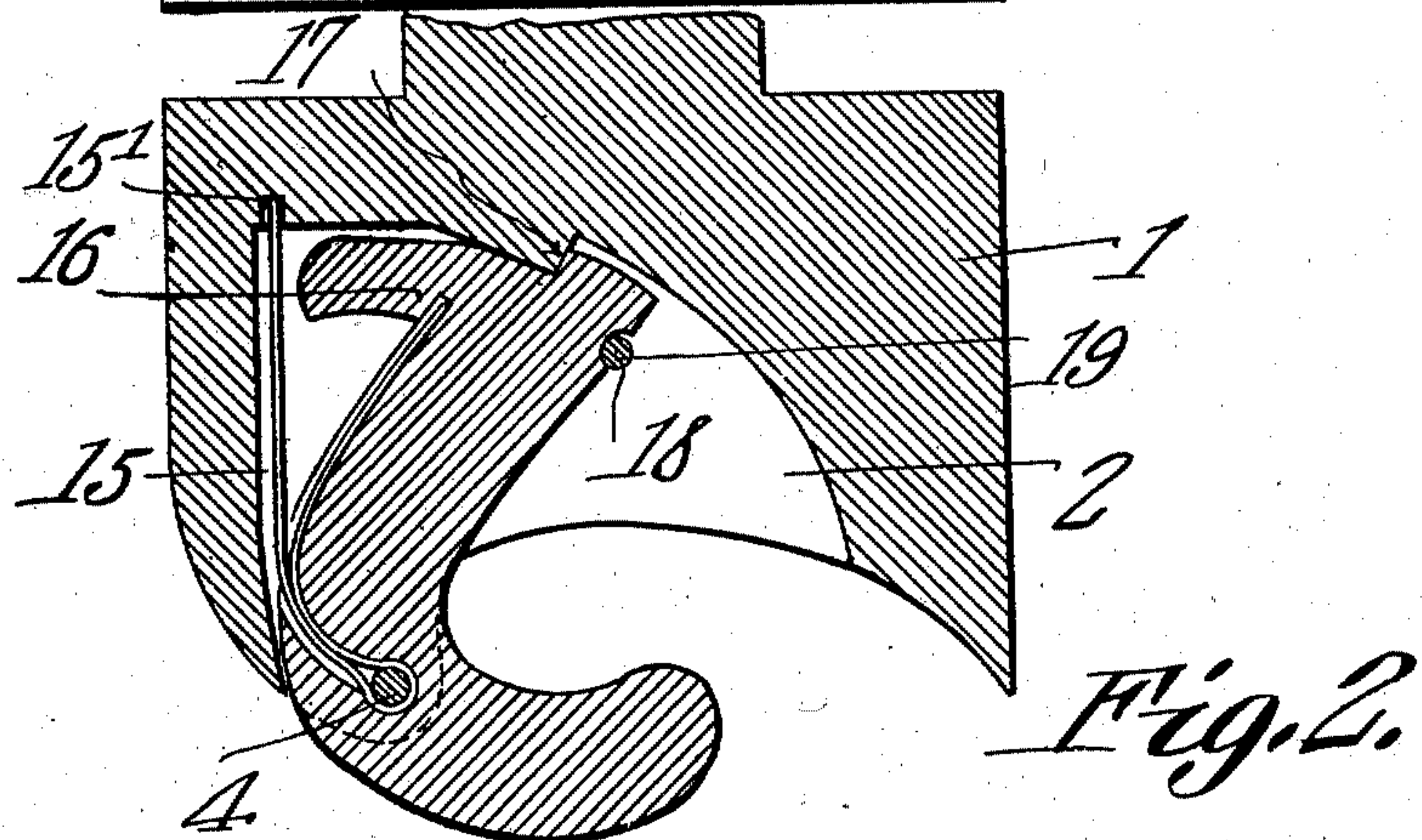
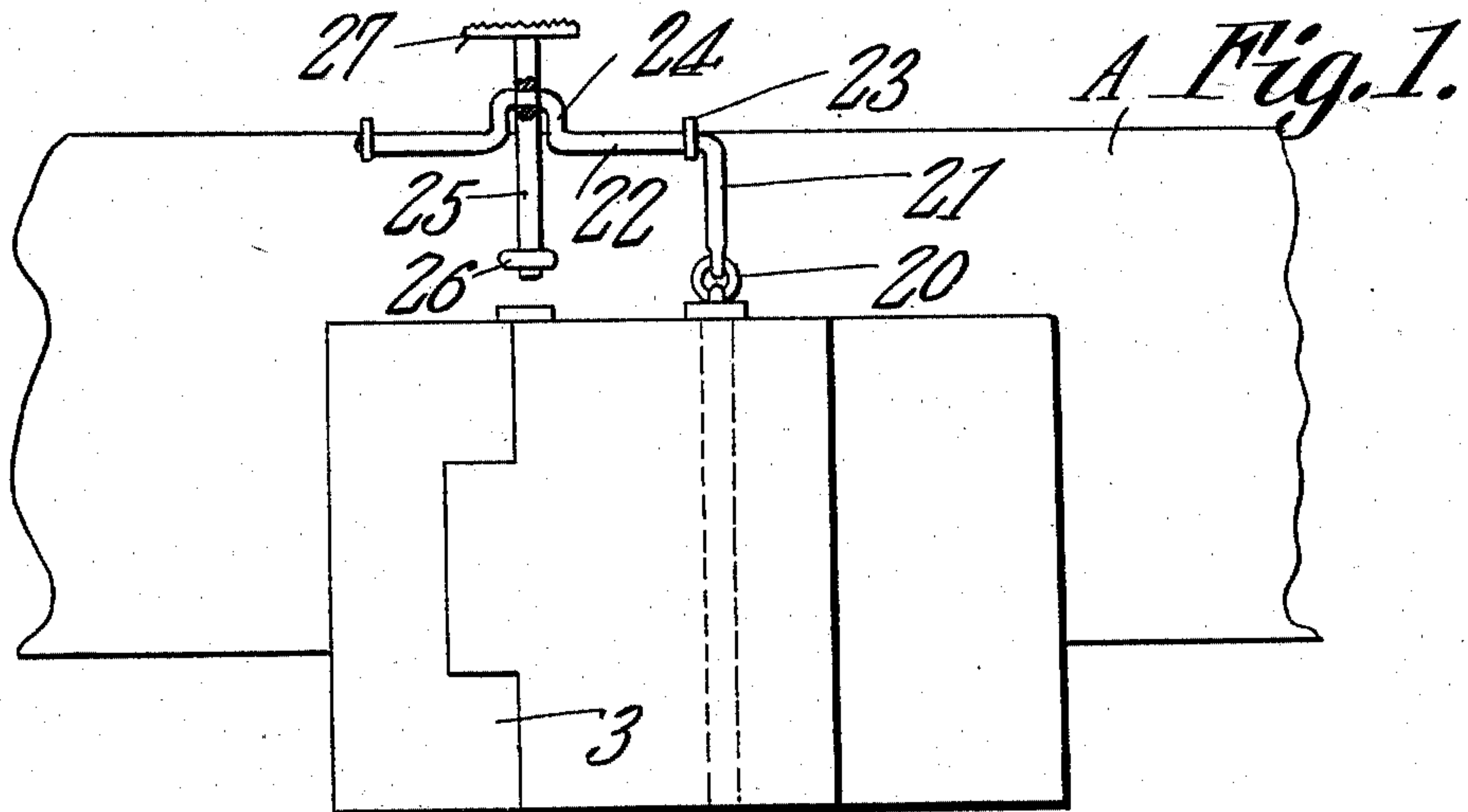


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UNITED STATES PATENT OFFICE.

JAMES E. HENRY, OF REEDSVILLE, PENNSYLVANIA.

CAR-COUPLING.

966,832.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed October 15, 1909. Serial No. 522,822.

To all whom it may concern:

Be it known that I, JAMES E. HENRY, a citizen of the United States, residing at Reedsville, in the county of Mifflin and State of Pennsylvania, have invented a new and useful Car-Coupler, of which the following is a specification.

This invention relates to car couplers and one of its objects is to provide a device of this class having a spring controlled knuckle designed to be automatically swung into open position as soon as the same has been unlocked, there being coöperating means upon the knuckle and the draw-head to prevent the spring from becoming crushed or otherwise injured while the coupling of cars is being effected.

Another object is to provide improved means for uncoupling, said means being operated by the depression of a foot plate movably mounted on the car.

A further object is to provide a car coupler which is simple in construction, durable and efficient.

With these and other objects in view, the invention consists of certain novel details of construction and combination of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a front elevation of a car coupler embodying the present improvements. Fig. 2 is a horizontal section through the draw-head and the knuckle therein. Fig. 3 is a perspective view of the knuckle.

Referring to the figures by characters of reference 1 designates a draw-head having a recess 2 therein, there being spaced ears 3 extending from the draw-head at one side of the recess and designed to receive a pivot bolt 4. The knuckle 5 of the coupler has an arm 6 extending between the ears and provided with an opening 7 for the reception of the pivot bolt, there being a recess 8 in the inner face of the arm and extending to the bolt receiving opening 7, said recess also merging, at its outer end, into a longitudinal groove 9 formed within the inner face of the arm. A finger 10 extends inwardly from the free end of the arm 6 and has a longitudinally extending groove 11 within the upper face thereof, said groove extending across the end portion of the arm. An extension 12 is formed at the free end of the

arm and terminates in a shoulder 13 and a groove 14 is formed within the free end of the finger 10. A spring strip 15 is folded at an intermediate point and said folded portion is fitted into the recess 8 so as to extend around the opening 7. One end portion of the spring rests within the groove 9 and projects into a recess 16 formed in one face of the finger 10. The other end portion of spring 15 extends into a recess 15' in the wall of the recess 2 and is designed to swing the knuckle upon its pivot bolt 4 as soon as the same has been unlocked in the manner hereinafter set forth. A shoulder 17 is formed within the draw head and projects into the path of the shoulder 13 so as to limit the swinging movement of the knuckle in one direction.

An opening 18 extends through the draw-head from top to bottom thereof and is designed to receive a locking pin 19. The upper end of this pin is connected, as by means of a link 20, with an arm 21 extending from one end of a rock bar 22. This bar is movably mounted in brackets 23 extending from a car structure A and has a crank 24 at an intermediate point. This crank is movably engaged by a rod 25 which is slidably mounted within a guide bracket 26 located adjacent the lower end thereof, and has a foot plate 27 at its upper end. The crank 24 is preferably inclined upwardly in the direction of the car structure A so that when the foot plate 27 is pressed downward the said crank will also be swung downward and will cause the forwardly extending arm 21 to elevate the pin 19 above the path of the arm 6. It will be understood that as soon as this pin has been elevated in the manner stated, the spring 15, which is normally under stress, will swing the arm 6 forwardly from the recess 2 and produce a corresponding movement of the outer end of the knuckle, this movement being sufficient to disengage the knuckle from the coupler engaged thereby. With the parts thus disposed the pin 19 can be released and will drop into the groove 11 in the arm 6 or the finger 10.

When two couplers such as herein described are brought together after they have been opened in the manner stated, the knuckles 5 will be swung in the direction of the recesses 2 and the arms 6 will be moved from under the pins 19. The pin of each coupler will thus drop by gravity into the

path of the arm and lock said arm and the outer portion of the knuckle in the position shown in Fig. 2 the spring 15 being held under stress while the knuckle is thus locked.

5 It will be seen that a coupler such as herein-described can be readily actuated or unlocked without danger to the operator simply by exerting a downward pressure with the foot on the plate 27. No additional
10 operation is necessary in order to open the knuckle as this operation is effected automatically by the spring 15. By mounting the spring in the manner shown and described, it becomes unnecessary to form an
15 aperture therein for the reception of securing means and therefore the spring is not weakened in any way.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without
20 departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

25 A car coupler including a draw head, a knuckle pivotally connected thereto and

having an arm projecting therein, there being cooperating shoulders upon the arm and draw head for limiting the movement of the arm and knuckle in one direction, a finger
30 extending from the arm, a folded spring having its intermediate or folded portion projecting into the knuckle and engaging the pivot pin of said knuckle, one end of said spring being constantly seated within
35 a recess in one wall of the drawhead and the other end portion of said spring lying flat upon the inner surface of the knuckle arm and projecting into a recess in the finger, the said spring operating to automatically swing the knuckle into open position,
40 a groove within the end of the finger and means for locking the knuckle and arm to hold the spring under stress.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES E. HENRY.

Witnesses:

WM. H. WREN,
W. P. SEAVER.