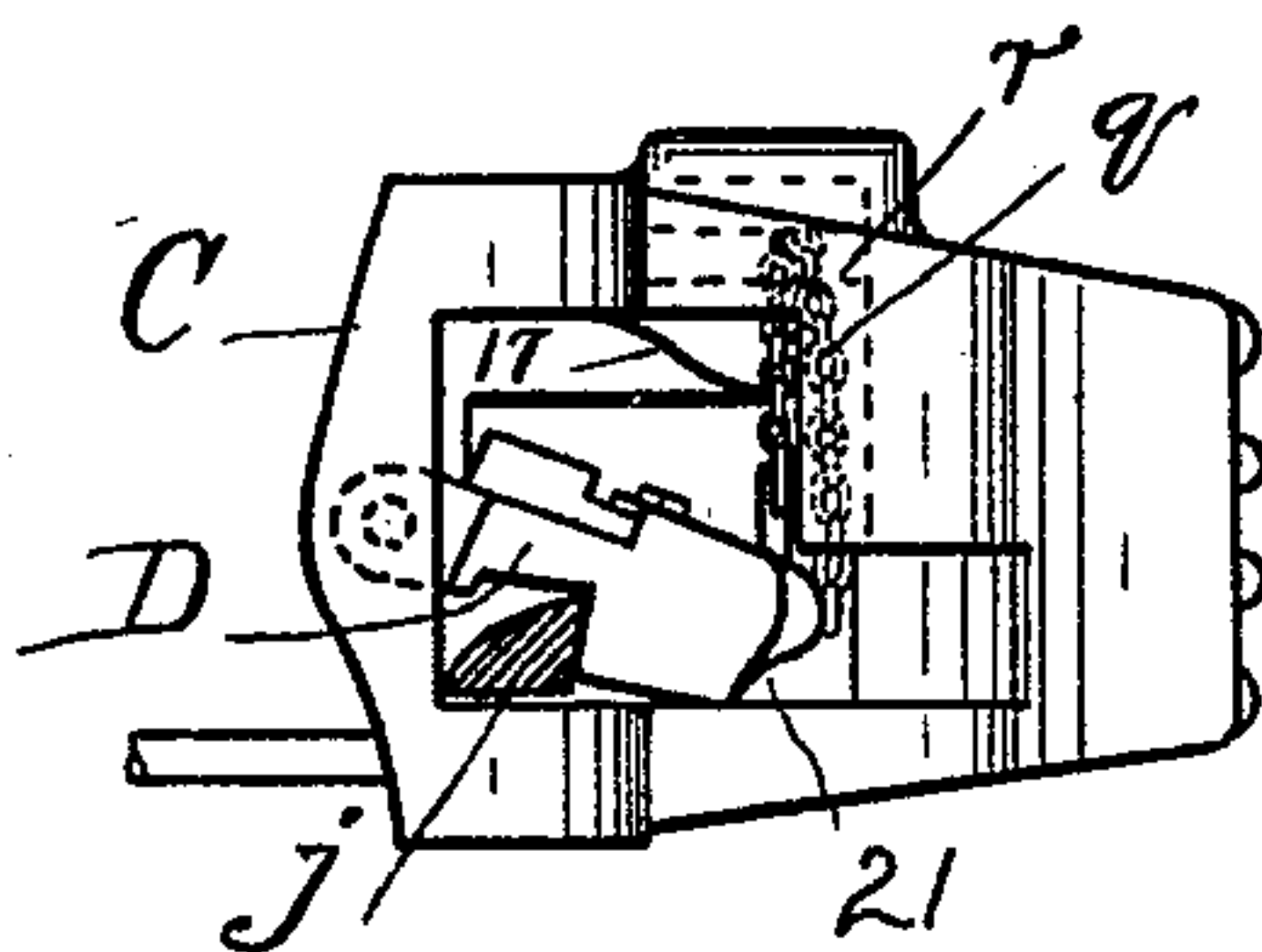
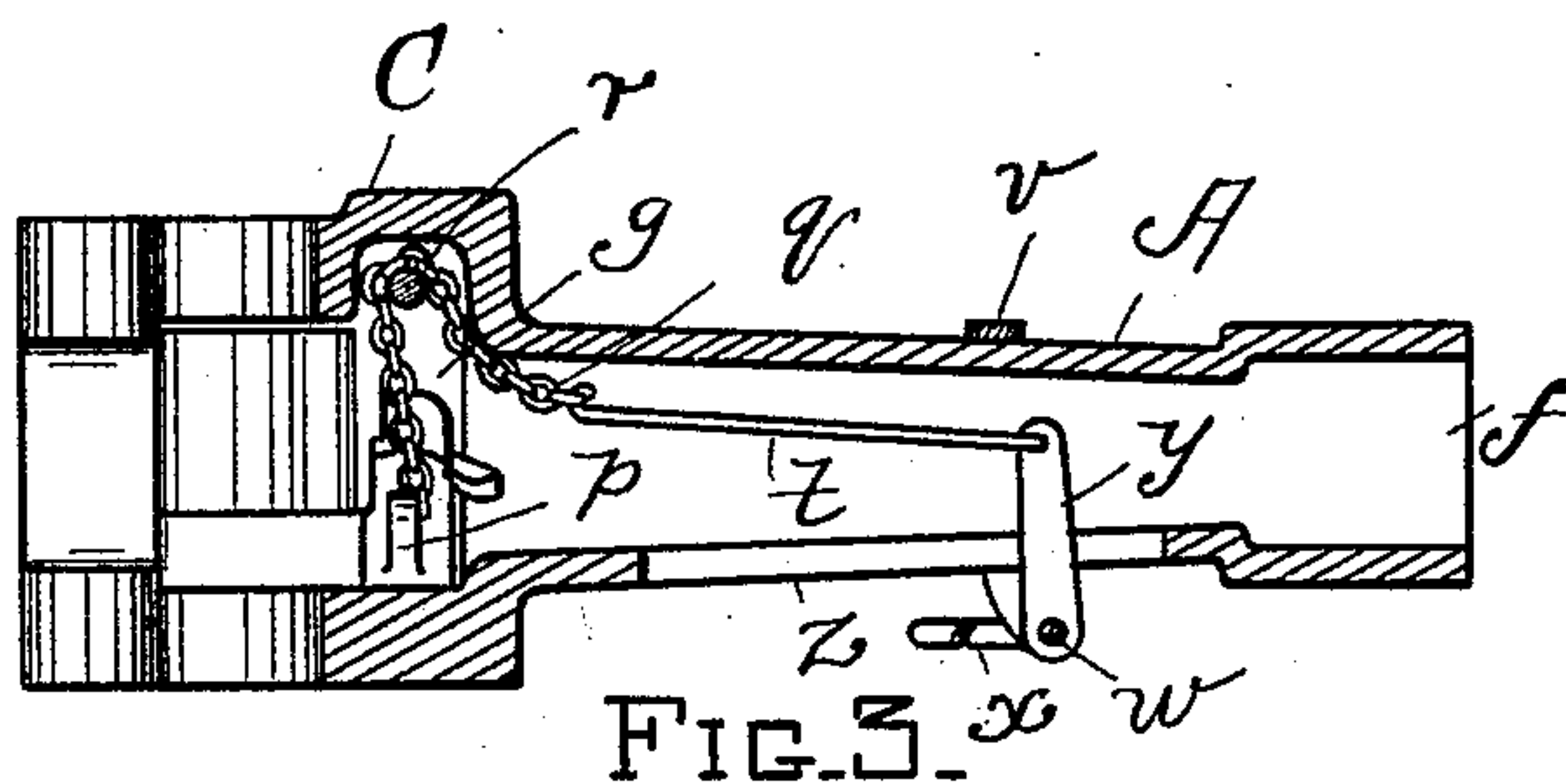
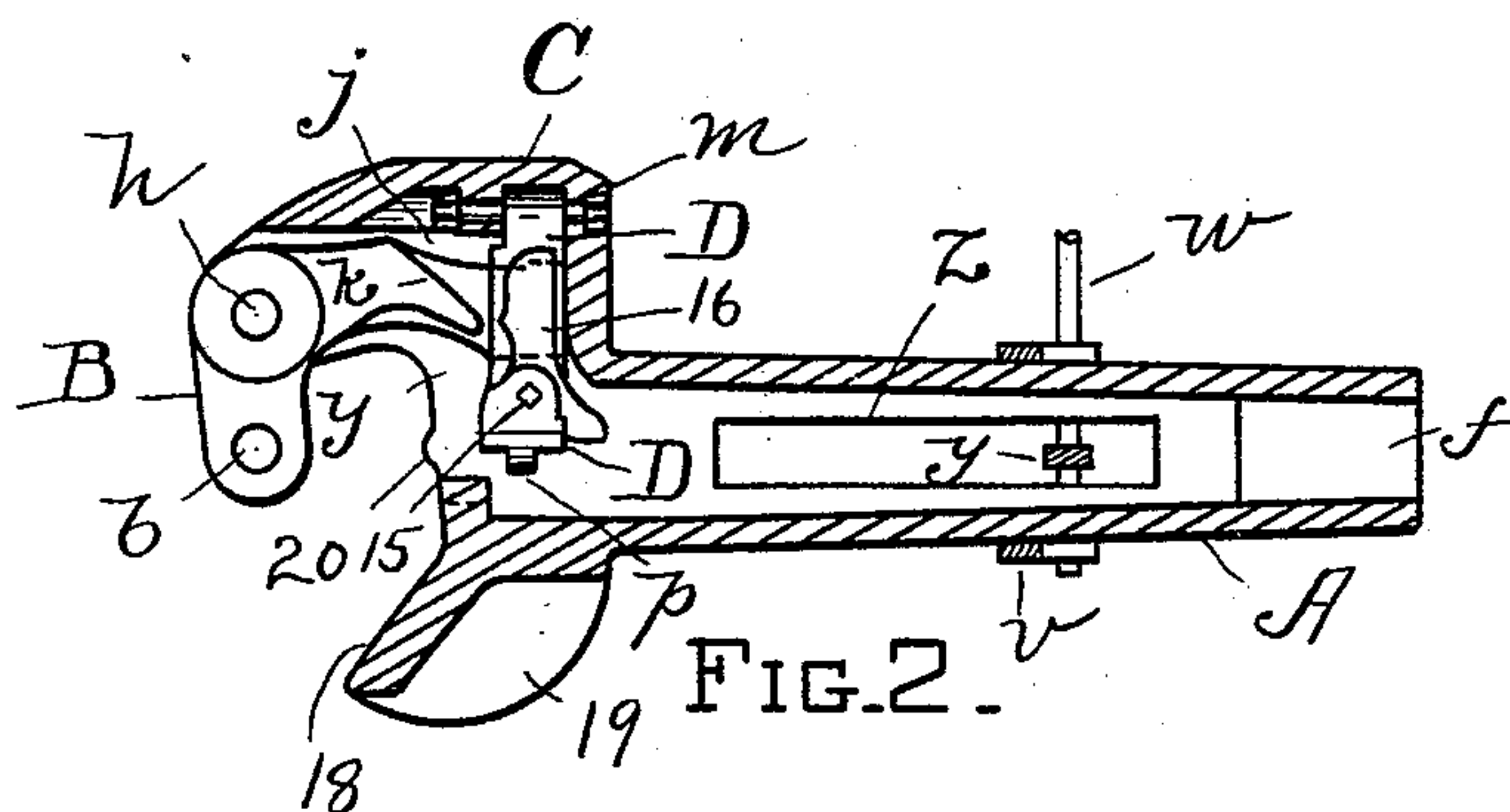
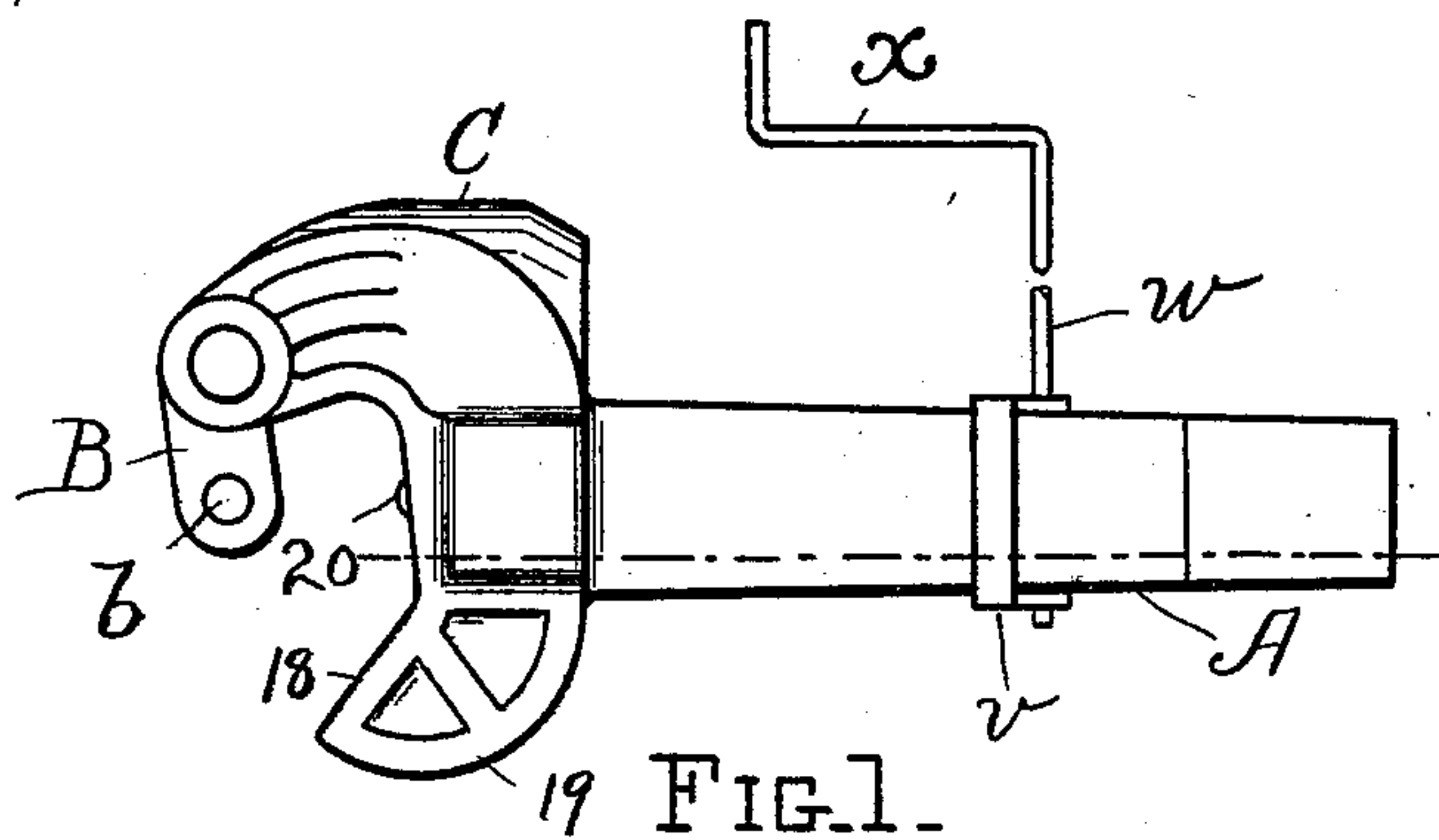


(No Model)

H. M. LUCHIA.
CAR COUPLING.

No. 583,115.

Patented May 25, 1897.



WITNESSES.
Matthew M. Blunt.
C. M. Wilson

FIG. 4.

INVENTOR.
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By O. M. Shaw
att'y.

UNITED STATES PATENT OFFICE.

HENRY M. LUCHIA, OF LYNN, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND
JOSEPH LANGLOIS, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 583,115, dated May 25, 1897.

Application filed March 10, 1897. Serial No. 627,144. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. LUCHIA, of Lynn, in the county of Essex and State of Massachusetts, have made certain new and
5 useful Improvements in Car-Couplers, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which
10 the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a draw-bar and coupler detached from a car and provided with my improvement; Fig. 2, a horizontal longitudinal section of the same; Fig. 3, a vertical longitudinal section; and Fig. 4, an end elevation, partly in section.

Like letters and figures of reference indicate
20 corresponding parts in the different figures of the drawings.

My invention relates especially to an improvement in coupling devices for railway-cars, and is designed particularly as an improvement on the mechanism shown and described in my United States Letters Patent
25 No. 575,656, dated January 19, 1897.

The object of this invention is to provide means for uncoupling the cars without entering between them, and also to do away with
30 openings on the head, which are liable to become inoperative from snow or freezing.

The nature and operation of the invention will be readily understood by those conversant with such matters from the following explanation.

In the drawings, A represents the draw-bar, which is chambered longitudinally throughout its entire length at *f* and with which the
40 head C is cast integral. Said head is also chambered horizontally at *g*, and in one wing thereof the coupling-knuckle B is pivoted at *h*. The outer end of the knuckle is provided with an opening *b* to receive the
45 ordinary coupling-pin. The inner arm of the knuckle *j* is reduced on its upper surface, forming a cam *k*, as shown in Fig. 2. A weighted dog D is pivoted at *m* in the chamber *g*, said dog lapping over the arm *j* of the
50 knuckle and locking said knuckle. At the outer or free end of the dog there is an eye *p*,

in which one end of a chain *q* is fast. This chain passes upward over a roller or stud *r* in the top of the chamber *g*, and its opposite end is secured to a rod *t* in the chamber *f* of
55 the draw-bar A. A strap *v* encircles the draw-bar and in the lower end of this strap a crank-shaft *w* is journaled, provided with a handle *x*, which is designed to be disposed within reach of an operator outside the car-body. 60
On this shaft there is a rigid crank-arm *y*, projecting through a slot *z* in the bottom wall of the draw-bar, and the rod *t* is pivoted to the inner end of this arm.

Pivoted at 15 on the free end of the dog D 65 there is a "kicker" or bell-crank lever 16, the long arm of which is in position to engage the cam *k* on the inner arm of the knuckle B when said lever is actuated. In the top of the chamber *g* there is a cam-surface 17, as shown in Fig. 4, located in such
70 position that it will be engaged by the short arm of the lever 16 when the dog D is thrown upward by withdrawal of the chain *q* to release the arm *j* of the knuckle. 75

In the use of my improvement when the cars are run together and the knuckle B is free, its outer end will strike the incline 18 on the wing 19 of the head C, directing said arm in behind the corresponding arm of the
80 companion knuckle. To render this engagement quicker, I form on the head a boss or projection 20, which will tend to throw this arm outward and prevent its jumping back accidentally. The impact of the heads or
85 the knuckles therewith causes their arms *j* to engage under the bevel ends 21 (shown in Fig. 4) of the dogs D, elevating said dogs and passing thereunder until locked thereby.

When it is desired to uncouple the cars, 90 the operator rotates the shaft *w*, withdrawing the chain *q* over the roller *r*. This raises the dog until the arm *j* of the knuckle is free, and, as before described, when the short arm of the kicker 16 engages the cam 17 in the
95 top of the chamber the long arm of said lever will strike the cam *k* on the knuckle-arm *j* and throw the free arm of said knuckle out of engagement with its companion. This operation is substantially that shown and
100 described in my Letters Patent before referred to. It will be understood, further, that

the use of the boss 20 causes the knuckles to shut quickly and yet permits sufficient space to be left in the head so that there may be a slack between the engaging arms of the
5 knuckles after said knuckles are locked by their latches or dogs. This slack is an essential feature, as it aids materially in starting a train.

Having thus described my invention, what
10 I claim is—

1. In a car-coupler the chambered draw-bar and head in combination with the pivoted knuckle provided with the cam-surface; the latching-dog; the bell-crank lever pivoted on
15 said dog and adapted to engage said cam; the cam in the head for actuating said lever; a crank-shaft on the draw-bar, and a connec-

tion between said shaft and dog whereby the dog may be elevated to release said knuckle substantially as described. 20

2. In a car-coupler the chamber-head, C, provided with the cam, 17, in its upper wall in combination with the knuckle, B, having the cam, *k*; the latching-dog, B, for locking one arm of said knuckle; the lever, 16, piv- 25 oted on said dog in such position that one arm thereof may be engaged with said cam, 17, to throw the opposite arm into engagement with the knuckle-cam; and devices for elevating said dog substantially as specified. 30

HENRY M. LUCHIA.

Witnesses:

O. M. SHAW,
ALVAH C. CALDER.