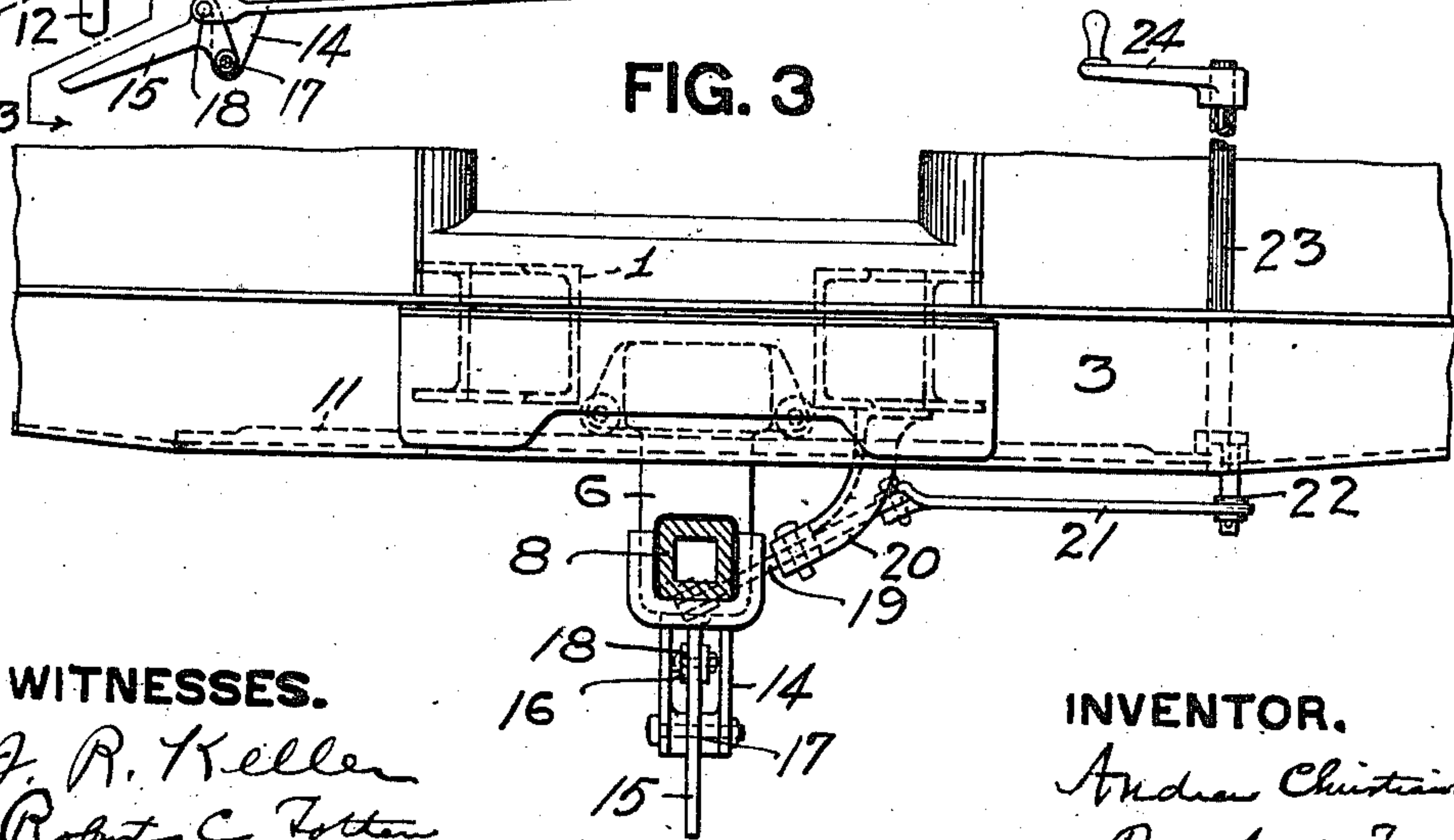
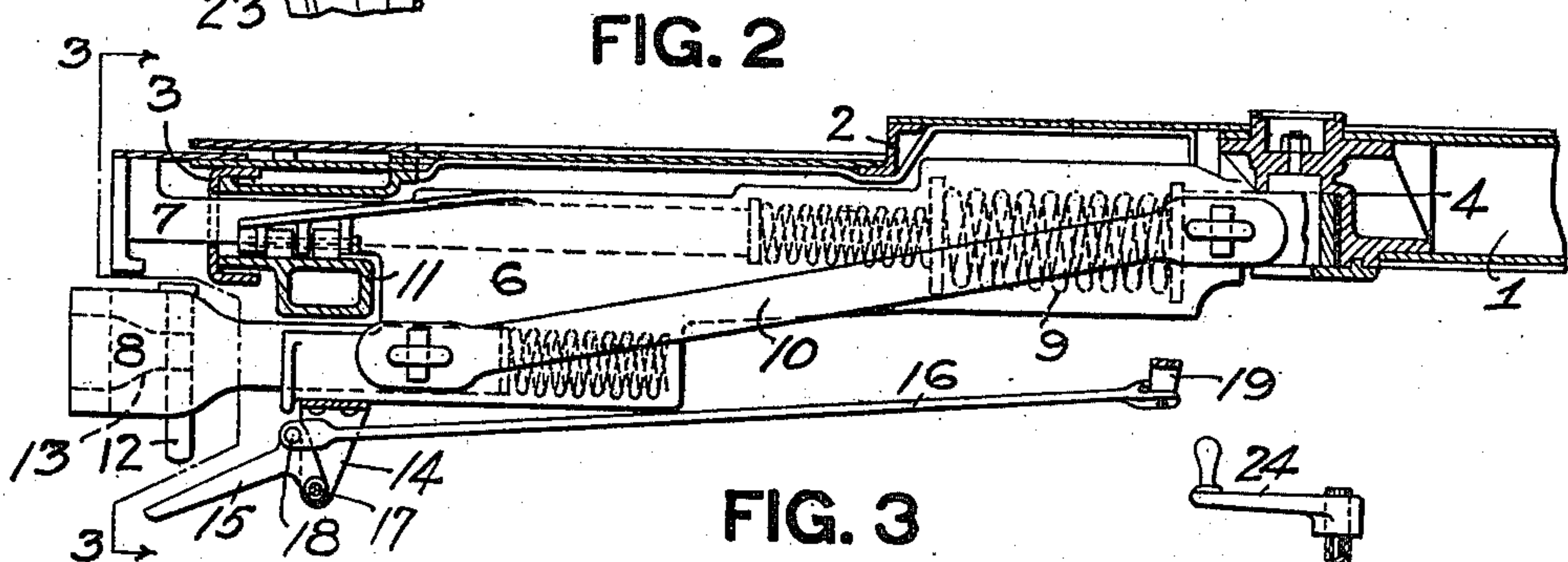
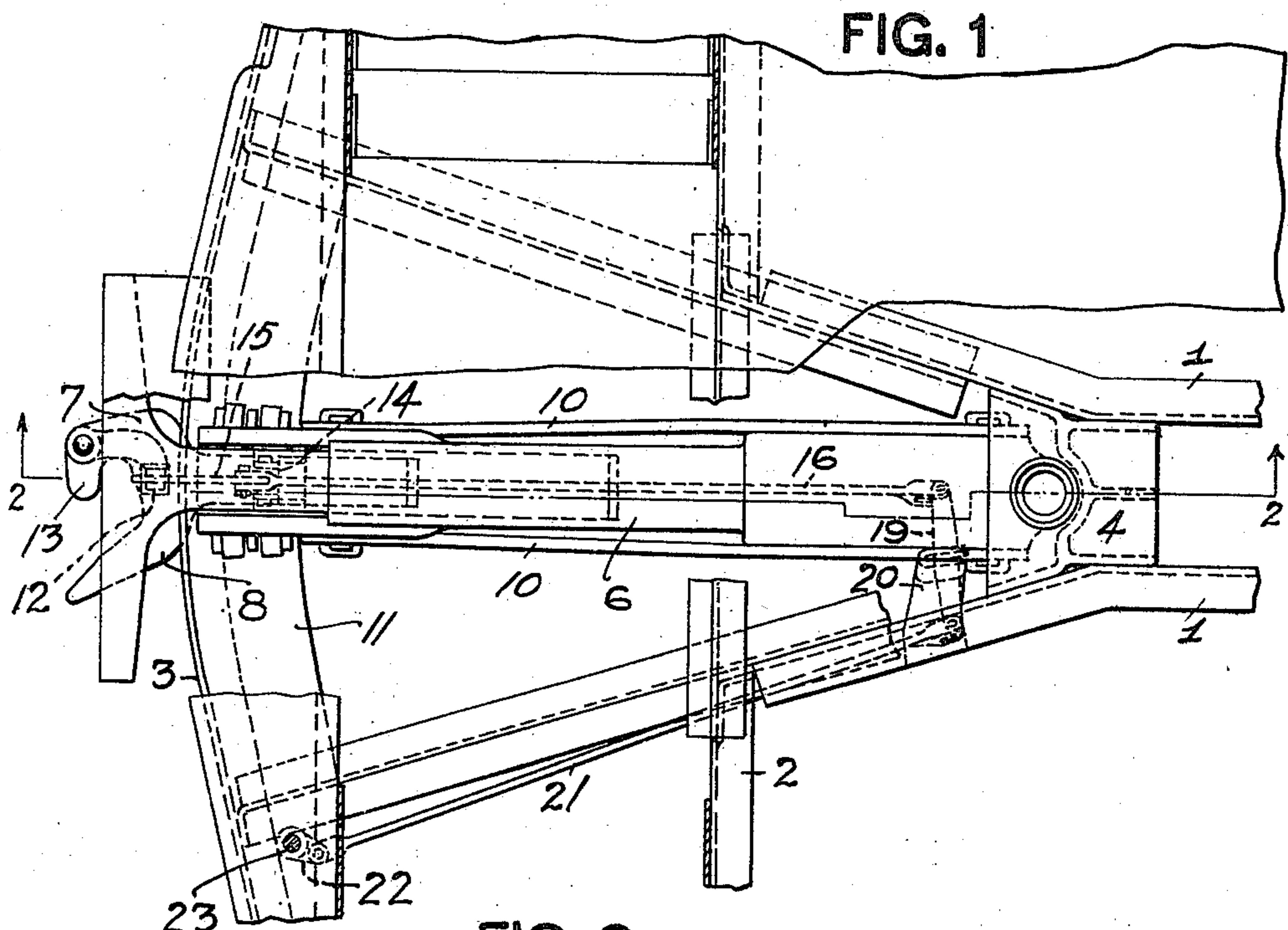


A. CHRISTIANSON.  
COUPLING RELEASING MECHANISM.  
APPLICATION FILED JAN. 11, 1909.

989,945.

Patented Apr. 18, 1911.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## COUPLING-RELEASING MECHANISM.

989,945.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed January 11, 1909. Serial No. 471,756.

*To all whom it may concern:*

Be it known that I, ANDREW CHRISTIANSON, a resident of Butler, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Coupler-Releasing Mechanism; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to mechanism for releasing car couplings, its object being to provide a simple means for uncoupling the cars without passing under or between the same, together with mechanism for operating the same at any desired position on the car.

While the invention is applicable to all classes of car couplers, it has been especially designed for use in connection with swinging draft rigging, such, for example, as that found in the companion application filed by me of even date herewith, Serial No. 471,757. In that application the coupler and draft rigging are mounted to swing from a pivot point back of the end of the car, and by the present invention I am enabled to release the coupler by means of a hand lever mounted on the car platform, no matter what may be the position of the swinging coupler.

The invention comprises the combination with a car coupler, of lever mechanism mounted back of the coupler head and adapted to release the coupling, and an operating rod extending backwardly from the point of mounting and connections therefrom to the hand lever for releasing the coupling.

It also comprises the combination with the swinging coupler of such lever mechanism mounted back of the coupler and swinging therewith, with an operating rod extending back toward the point of pivoting of the coupler a forwardly extending rod pivotally connected to said operating rod and a hand lever mounted in the end sill, or in like operative position, and connected to the forwardly extending rod for releasing the coupler.

It also comprises other improvements as hereinafter set forth.

In the accompanying drawing Figure 1 is a plan view of the car frame showing the invention as applied to a swinging coupler; Fig. 2 is a section on the line 2-2, Fig. 1; and Fig. 3 is an end view of the underframe showing the invention.

As above stated, the invention is illustrated in connection with the apparatus forming the subject matter of said application, Serial No. 471,757. As illustrated in said application and as shown in the present drawings, the center sills 1 are carried past the end sills 2 out to the platform end sill 3, a pivot casting 4 being mounted between the center sills, and from such pivot casting the center sills are flaring out to the platform end sill 3, leaving a space for the swinging of the draft gear. The apparatus illustrated in said application, Serial No. 471,757 and as shown in the present drawings comprises a main frame or casing 6 mounted at one end in the pivot casting 4 and carrying a buffer bar 7 and a coupler 8, the shafts of which parts are mounted to slide in the casing 6, together with suitable draft gear and springs, the same being indicated in dotted lines, and the construction being such that the buffer bar presses directly upon the draft gear 9, while the side strips 10 connect the shaft of the coupler 8 to the rear plate of the draft gear so that the coupler operates upon the same draft gear. The casing 6 carrying the buffer and coupler swings at the forward end upon a guide 11, the platform end sill being slotted for the passage of the buffer to permit the buffer and coupler to swing with the car as it passes around curves. The above parts are simply described to illustrate the application of the present invention to a swinging buffer and draft rigging, but, as above stated, the invention may be employed with any draft rigging to which it is applicable.

The coupler 8 is illustrated as having a suitable releasing pin 12 by which its knuckle 13 may be released, such parts being intended to illustrate any suitable releasing mechanism. Supported back of the coupler head is a bearing 14 and in said bearing is any suitable arm or device 15 extending forward and under the coupler pin 12 so that upon the rocking of the same it will raise the coupler pin and so release the coupler, and connected in any suitable way to this swinging arm 15 is the backwardly extending rod 16 by which the releasing arm 15 is operated. In the preferred construction I form the releasing arm as a lever pivoted at 17, the rod 16 being connected thereto at 18,



this being a very simple form of the apparatus for releasing the coupler. This rod 16 is connected to a lever 19 which is mounted in a suitable bearing 20, the lever 19 having connected to it the rod 21 which extends forward and is connected to the crank arm 22 at the base of the standard 23 mounted in the platform and sill and having the hand or operating lever 24. The bracket or bearing 20 is secured to any suitable support, and where the invention is employed in connection with the swinging coupler mechanism it is preferably mounted on the underframe, such as on one of the car sills close to the pivotal point of the swinging casing, so that on the swinging of the coupling mechanism the rear end of the rod 16 will swing or pivot on the end of the lever 19 mounted in said bracket 20 and there is little or no motion between the backwardly extending rod 16 and the forwardly extending rod 21. Of course, any suitable connection at this point may be made which allows of the slight swinging motion between the parts where the invention is employed with swinging coupling mechanism.

In the use of the invention, where the cars are coupled together in the ordinary running of the train it is evident that the coupler may be compressed or extended according to the compression or tension strains brought upon it entirely independent of the releasing mechanism, the arm 15,—or whatever the releasing source may be,—being of such length as to operate whether the coupler be compressed or extended. When the cars are to be uncoupled it is only necessary to draw upon the backwardly extending rod 16 so as to lift the arm 15 and cause it to contact with and raise the coupler pin 12 a sufficient distance to release the knuckle 13 of the coupler. After the knuckle has so released and been drawn out of the coupler head the coupler pin 12 can drop into position for re-coupling, being entirely independent of the movement of the releasing lever or arm 15. The coupler releasing arm operates in the same manner whether the coupler is mounted to move or swing laterally, it only being required that the releasing arm be held in line with the coupler pin. When the invention is employed in connection with a laterally moving or swinging draft gear, as above described, the backwardly extending arm can be operated, no matter what the position of the coupler and draft rigging may be—whether in central position, as illustrated in the drawing, or at any point in the possible lateral movement or swing of the coupler, the connections being such that by drawing upon the hand lever 24 so turning the standard 23 in the platform or other end sill, by means of the lever 22 drawing on the rod 21 and through the lever 19 and rod 16, the releasing arm 15

can be raised to raise the pin and so release the coupling. The mechanism thus provides for the quick releasing of the coupler no matter what its position may be, either as to compression, extension or lateral swing, overcoming any necessity of the operator entering between the cars, and providing a simple and efficient mechanism for the purpose.

What I claim is:

1. The combination of a car coupler, of lever mechanism mounted back of the coupler head and adapted to release the coupling, and an operating rod extending backwardly from the releasing mechanism, a forwardly extending rod, a hand lever for operating the same and a lever connection between the backwardly extending rod and forwardly extending rod.
2. The combination with a car coupler, of a releasing arm pivoted back of the coupler head and extending forward under the coupler pin, and an operating rod pivoted to and adapted to raise said releasing arm.
3. The combination with a laterally moving car coupler, of releasing mechanism mounted in line with and back of the coupler head and having an arm extended forward under the coupling pin and adapted to move laterally with the coupling, and an operating rod pivoted to said releasing mechanism and adapted to move laterally therewith.
4. The combination with a laterally moving car coupler, of a frame in which it is mounted to move longitudinally, releasing mechanism mounted on said frame back of said head, and adapted to move laterally with the coupler, and an operating rod connected to said releasing mechanism and extending backwardly from the point of mounting.
5. The combination with a car coupler, of a swinging frame in which it is mounted to move longitudinally, releasing mechanism mounted on said frame back of the coupler head, an operating rod connected to the releasing mechanism and extending backwardly from the point of mounting, a hand lever and connections from said rod to the hand lever.
6. The combination with a car coupler, and a swinging frame in which it is mounted to move longitudinally, of lever mechanism mounted on said swinging frame and adapted to release the coupler, an operating rod connected to said lever mechanism and extending back therefrom to a point near the pivotal point of the swinging frame, a hand lever and connections therefrom to said operating rod.
7. The combination with a car coupler and a swinging frame in which it is mounted, of lever mechanism mounted on said frame back of the coupler head and adapted



to release the coupling, an operating rod  
connected to the lever mechanism and ex-  
tending backwardly toward the pivotal  
point of said frame, a bracket or bearing  
5 supported on the underframe, a lever mount-  
ed on said bracket and connected to said  
backwardly extending rod, and a forwardly  
extending rod connected to said lever and

connected at its forward end to a hand lever  
mounted in the end sill. 10

In testimony whereof, I the said ANDREW  
CHRISTIANSON have hereunto set my hand.

ANDREW CHRISTIANSON.

Witnesses:

ROBERT C. TOTTEN,  
JOHN F. WILL.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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