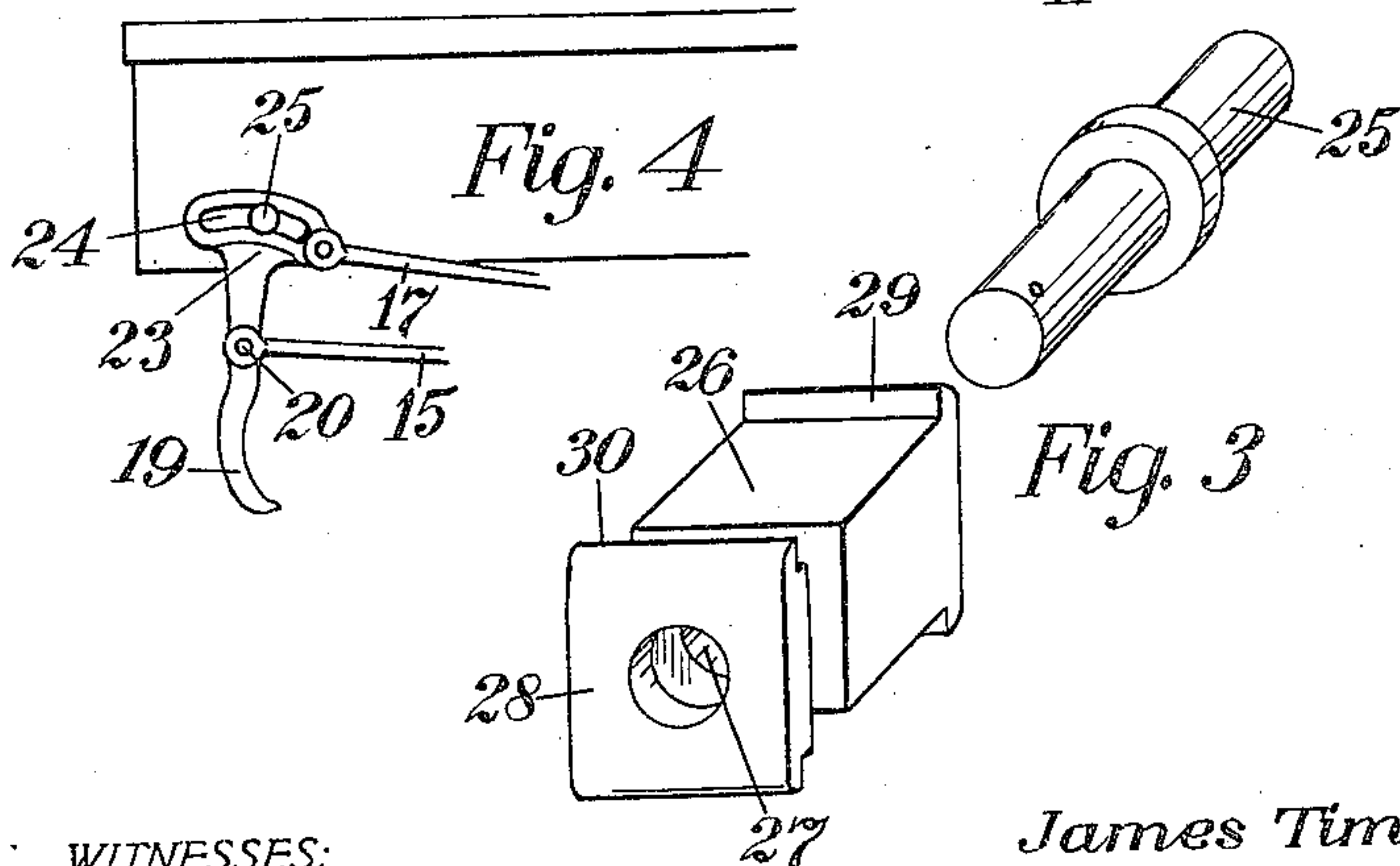
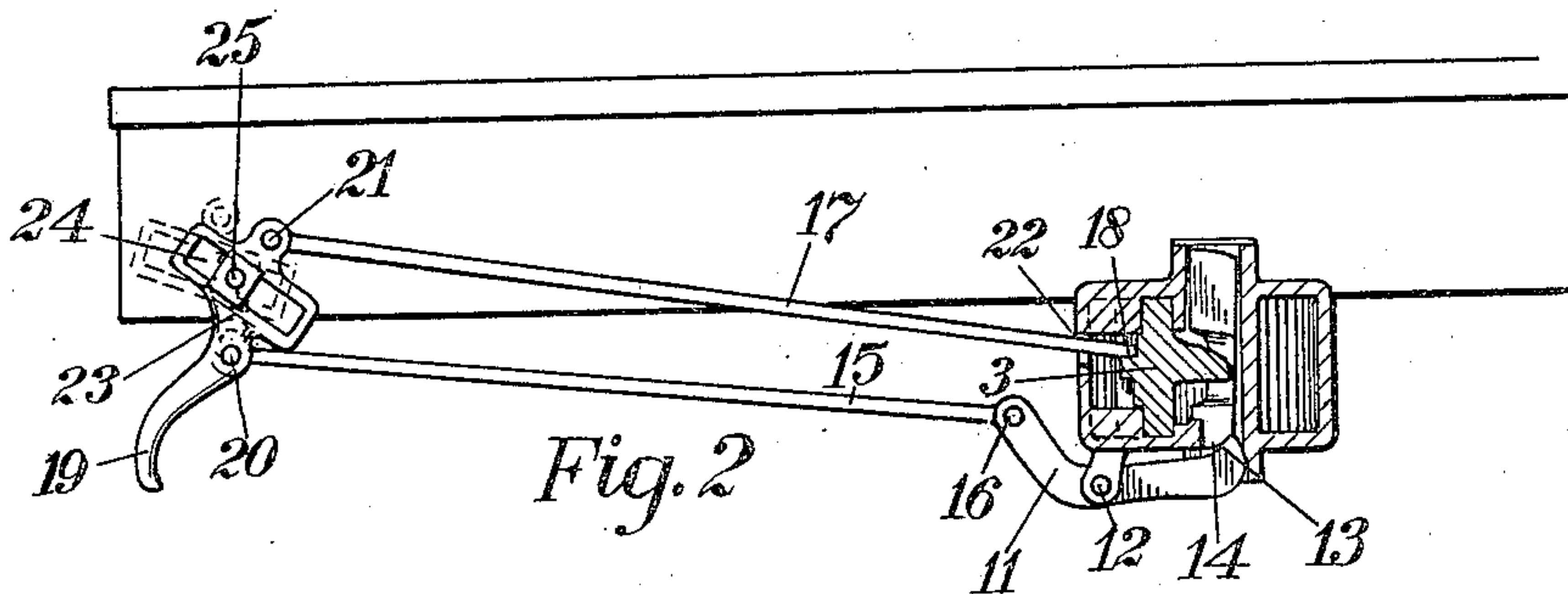
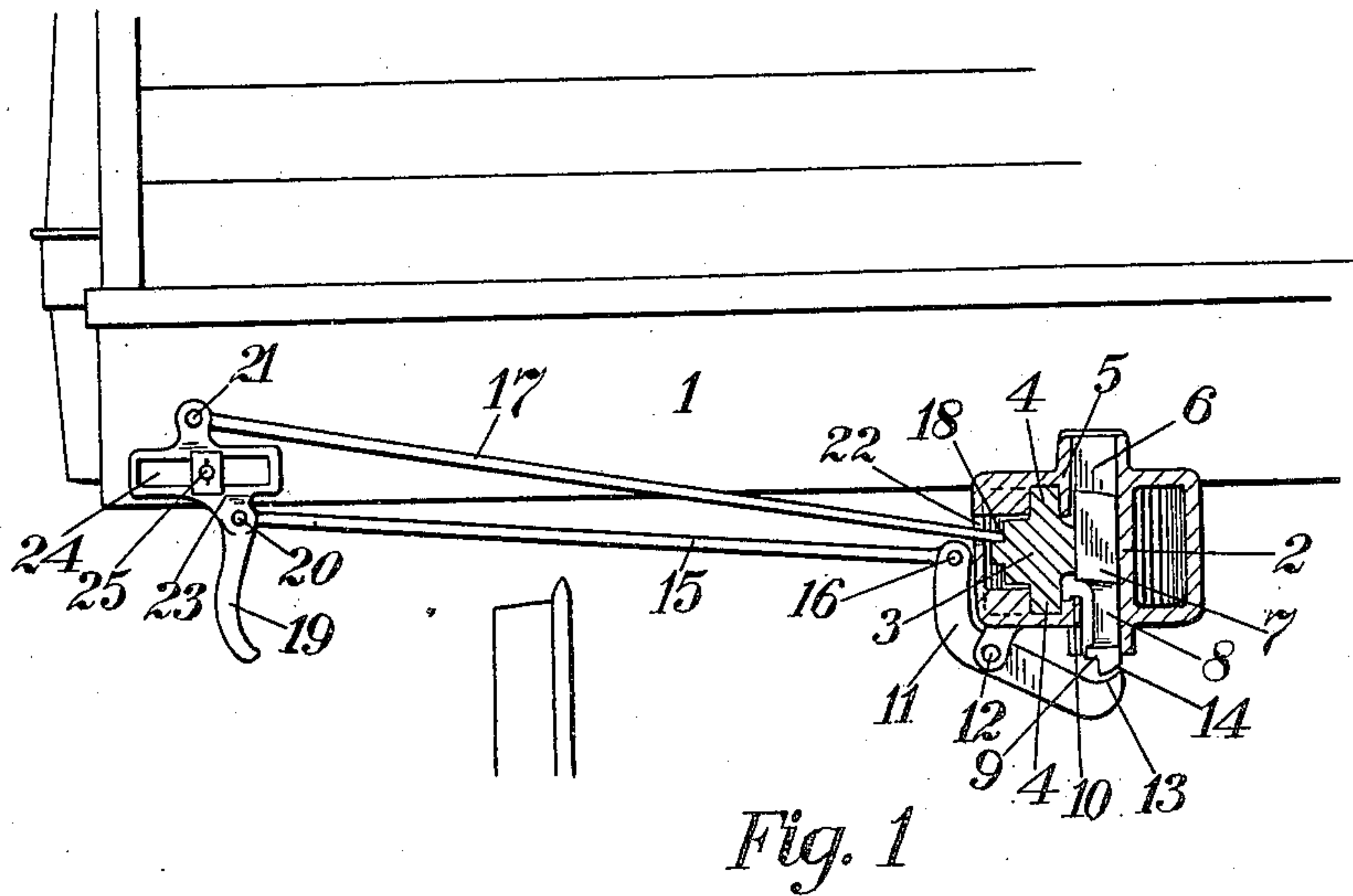


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CAR COUPLING.
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934,582.

Patented Sept. 21, 1909.



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CAR-COUPLING.

934,582.

Specification of Letters Patent. Patented Sept. 21, 1909.

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To all whom it may concern:

Be it known that I, JAMES TIMMS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to improvements in operating devices for car couplings and is especially adapted for use with the well known Janney type of coupling, and comprises devices for opening the coupling by a pull in one direction only upon a lever located preferably near the side of the car at the end thereof, so that they may be manipulated without going between the cars.

It further comprises, in operative association with said lever, a plurality of rods or bars extending inwardly to the coupling, of which one is adapted to bring the locking pin to lock-set position, and another is adapted thereupon to force the knuckle open.

It further comprises a manipulating lever so constructed and arranged that the fulcrum therefor during one portion of its movement is at one point, and during another portion of its movement is at another point.

It further comprises a manipulating lever mounted to permit both a rotary and a sliding motion thereof on its pivot.

It further comprises features of construction and operation and their combinations which will be more specifically described hereinafter.

In the drawings which are hereto attached and hereby made a part of this specification, Figure 1 is a side view of my devices mounted upon the end sill of a car, in position to be operated to open the knuckle, the coupling being shown in section; Fig. 2 is a similar view of Fig. 1 showing the parts after operation, the knuckle being open; Fig. 3 is a view of the parts constituting the sliding and rotating pivot for the manipulating lever; Fig. 4 shows a modified construction.

Referring to the drawings in which the same numeral indicates the same part throughout, 1 is the end sill of a car having the coupling shown in position on said car in the well known manner; 3 is the knuckle pivotally mounted at 4, 4, in the coupling head 5, having the opening 6 therethrough; in said opening 6 and adapted to move longitudinally and laterally therein, is the locking pin 7, provided with the transverse re-

cess 8, and having adjacent one end the shoulder 9. When the locking pin is in raised position as shown in Fig. 2 the shoulder 9 rests upon the ledge 10 and the locking pin 7 is thereby supported in the raised position. The elevation of the locking pin 7 to this point is accomplished by the actuation of the lever 11 pivoted at 12, and having a cam face 13 formed on one end thereof adapted to engage a cam face 14 formed at one end of the locking pin 7; when these cam faces engage through the swinging movement of lever 11, the locking pin is both lifted and moved laterally, to bring the shoulder 9 into engagement with the ledge 10, to rest thereon. In this position of the parts, the knuckle 3 may be swung through the recess 8 of the locking pin 7, as shown in Fig. 2, and thereby brought into its open position.

The construction thus far described is well known in the art, and my invention consists in improved means for compelling the movement of parts just described, and comprises a rod 15 pivotally connected at 16 to the lever 11 and adapted to manipulate said lever; I also provide the rod or plunger 17 adapted to engage the tail of the knuckle at 18 as appears in Figs. 1 and 2, to actuate the same. The rod 15 is pivotally connected with lever 19 at 20, and plunger 17 is pivotally connected with lever 19 at 21; it should be stated that at its other end the plunger 17 enters the coupling head through the opening 22 and is properly positioned therein for engagement with the knuckle tail, as stated.

Lever 19 has a body portion 23 which is slotted at 24 to receive the pivot pin 25 upon which the lever 19 is supported. The pin 25 alone would provide an operative support for the lever 19, in which case the slot 24 would preferably be formed on an arc, and such construction I have shown on a small scale in Fig. 4. However, an objection to this construction is in the rapid wear of the slot and pin, and I have therefore devised a preferable construction illustrated in Figs. 1 and 2, shown disassembled in Fig. 3.

In the preferred construction the pin 25 is fixed in the end sill 1, and the rectangular box or sleeve member 26 having the opening 27 therethrough to receive the pin, is then positioned thereon by sliding inwardly; the slot 24 of lever 19 is adapted to receive the sleeve member 26 and the lever is moved in-

wardly thereon; then the cap member 28 is positioned on the pin outside of the sleeve member 26 and lever 19, and is secured on said pin in any desired way. The lever is now held against lateral movement on the sleeve member by the flange portions 29 and 30, which form stops therefor. It is seen that the lever 19 is capable of a rotary movement on the pin and also a sliding movement thereon, the latter being limited by the extent of the slot 24.

The operation of the devices described is as follows: The parts being positioned as shown in Fig. 1, the lever 19 is swung outwardly, and inasmuch as the plunger 17 engages the knuckle tail and is held against forward movement thereby, (the knuckle being locked in the position of parts shown in Fig. 1), the fulcrum of the lever 19 is at 21, and remains at that point until the locking pin 7 is lifted by lever 11 to its lock set position shown in Fig. 2, whereupon the knuckle tail is free to swing through the recess 8. Further outward movement of the rod 15 is now prevented by the impossibility of a further swinging movement of the lever 11, and a further pull outwardly upon the lever 19 causes the pin 20 to become the fulcrum, and, inasmuch as the knuckle is now free to swing the plunger 17 moves inwardly and pushes the knuckle open by causing the latter to swing on the pivot points 4, 4. During this operation of unlocking and opening the knuckles, the lever 19 has rotated on the pin 25, and has also been drawn forwardly a slight distance on the sleeve bearing member 26, as appears by comparison of Figs. 1 and 2. The pivot points 20 and 21 are preferably arranged in different vertical planes from each other and also from the pivot point 25, and in the arrangement shown the sliding movement necessary for the lever 19 is reduced to a minimum, and the maximum force can be applied to the parts with the least possible movement thereof. A long swing of the operating parts is to be avoided both to reduce the wear thereof and to save time, and my construction accomplishes both ends.

It will be further noted that the knuckle is unlocked and opened by the actuation of the lever 19 in one direction only, and thereby an additional saving of time, labor, and material is accomplished.

In Fig. 4 I have shown a modified construction of the lever 19 designated as 19^a, provided with a body portion 23^a, containing the arcuate slot 24^a to receive the pin 25^a, whereby said lever is mounted on the end sill of the car. The pin 20^a is provided on the lever 19^a to which the rod 15^a is pivotally connected and the plunger 17^a is pivotally attached at 21^a to the body portion 23^a of the lever 19^a.

Other alterations and modifications of the construction herein shown and described may be made to accomplish the same results, and I do not therefore limit myself to the specific construction herein illustrated, but desire to claim all modifications and changes within the spirit of my invention.

What I claim is:

1. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a lever fulcrumed to the outside of the coupler, a link connected therewith, a sleeve member mounted rotatably on the car, a second lever pivotally connected with said link and having a single slot to receive said sleeve to slide and to oscillate thereon to unlock the knuckle, and a plunger connected with said second lever and having one end free to force the knuckle open.

2. In a coupler substantially as described, a lever for unlocking the knuckle, a plunger free at one end for forcing the knuckle to open position, a pin on the car frame, a sleeve loosely mounted on said pin, an operating lever provided with a single slot to receive said sleeve to be oscillated and reciprocated thereon, and pivotally associated with said lever and said plunger.

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

JAMES TIMMS.

Witnesses:

A. ROGER,
HORACE S. KERR.