

No. 781,302.

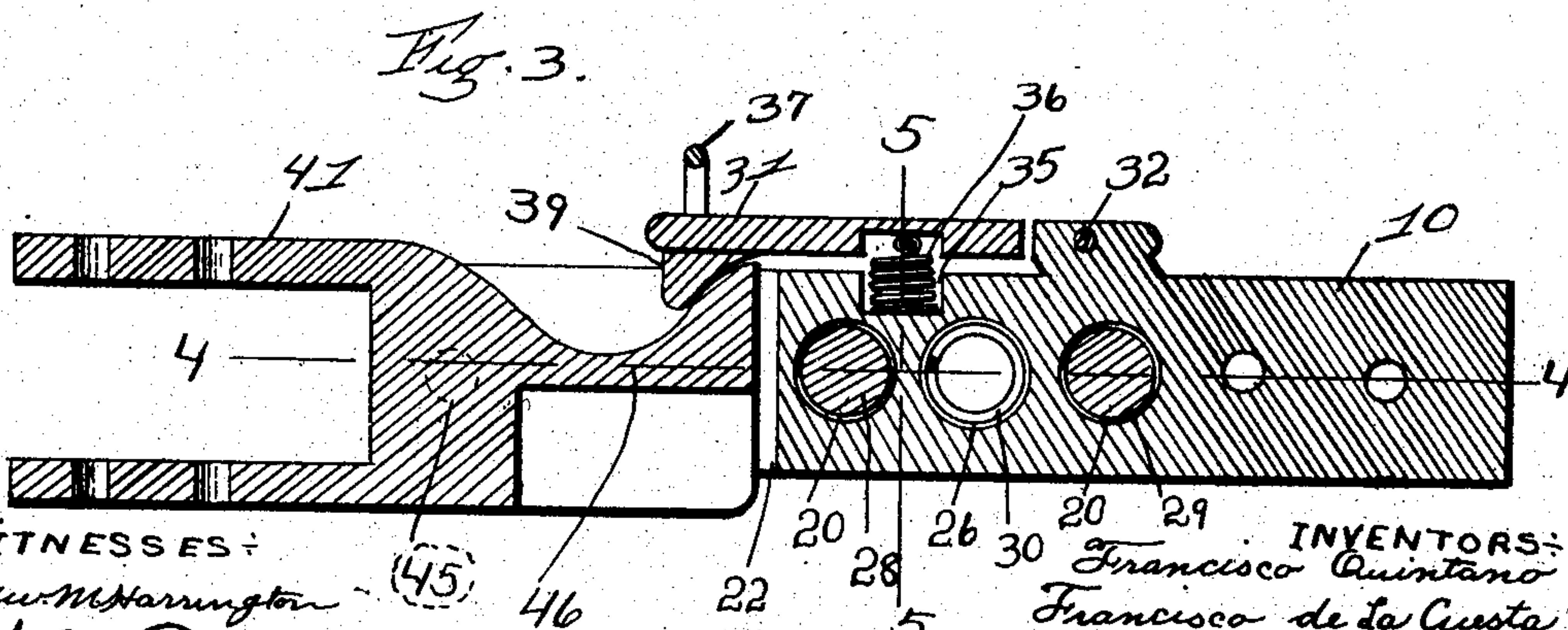
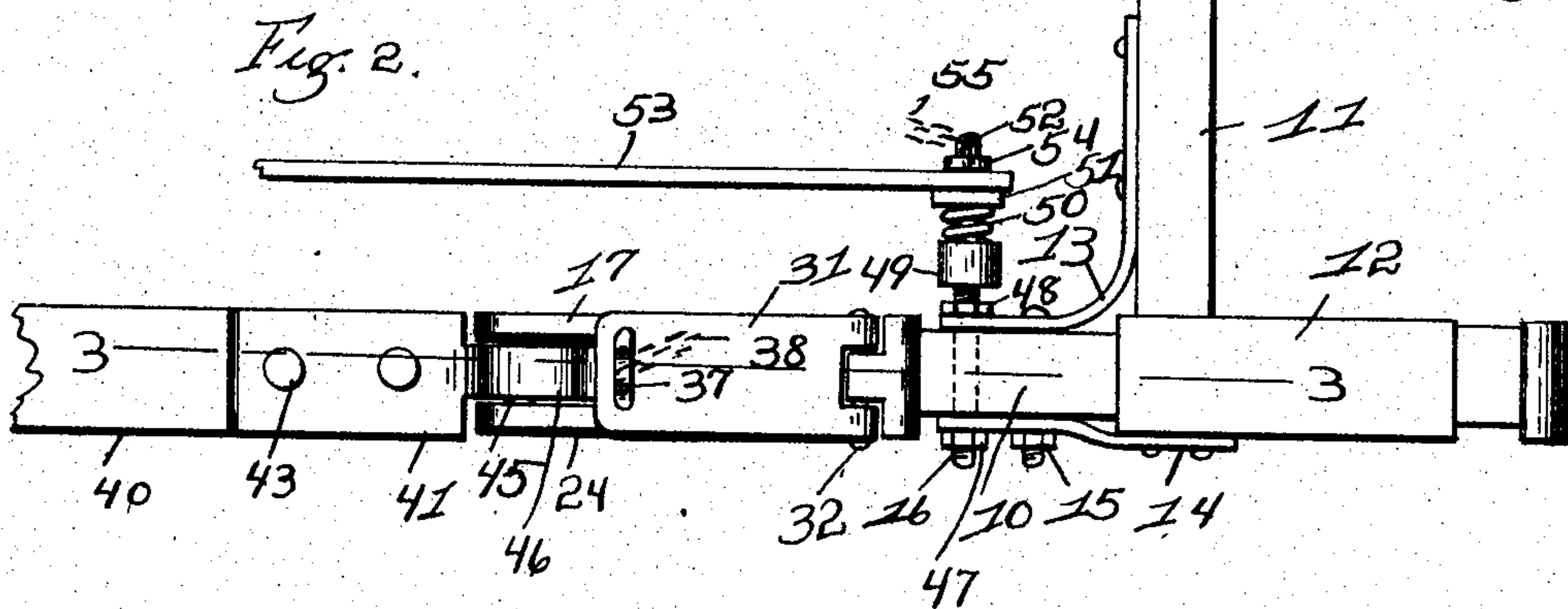
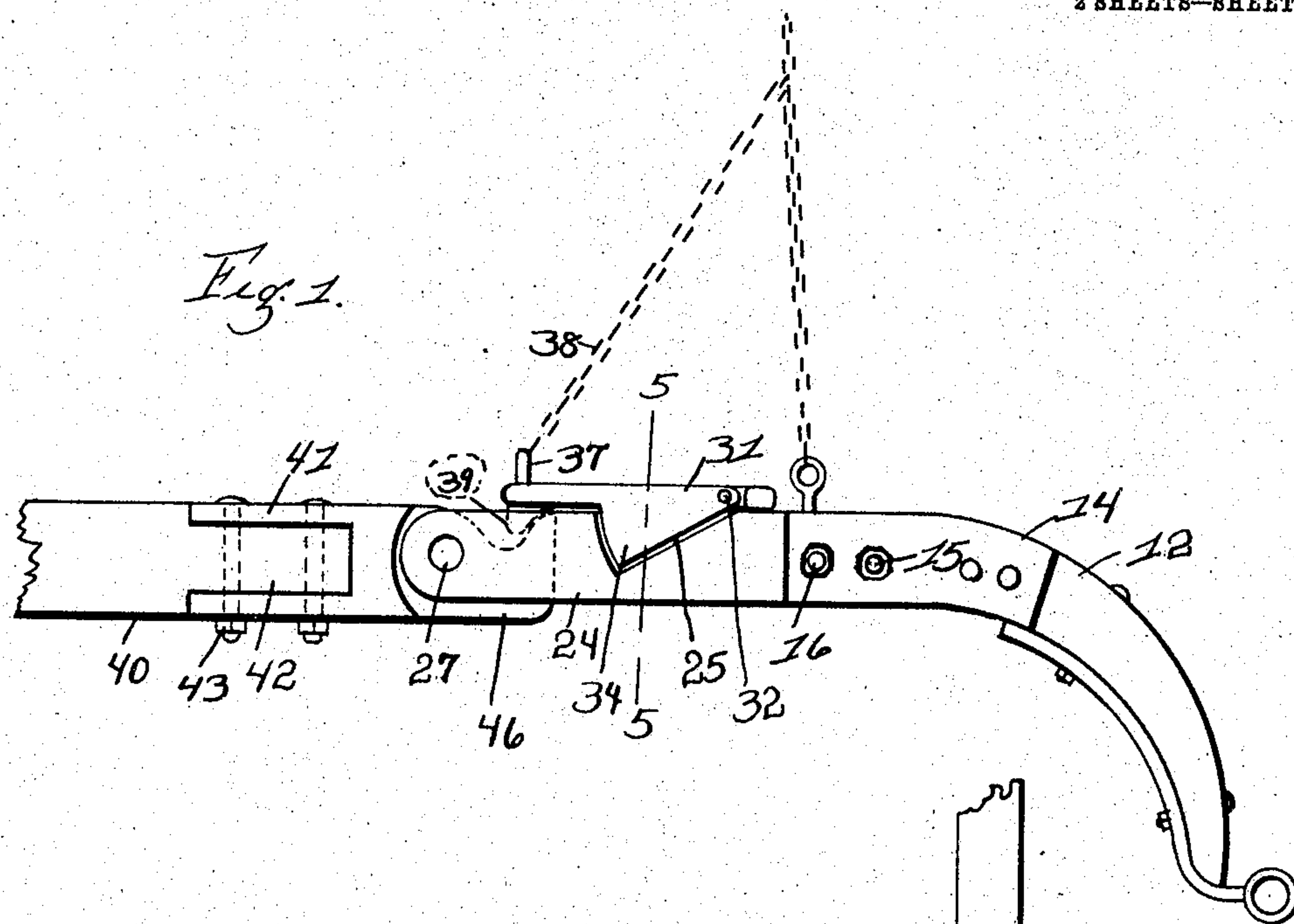
PATENTED JAN. 31, 1905.

F. QUINTANO & F. DE LA CUESTA.

HORSE DETACHER.

APPLICATION FILED APR. 18, 1904.

2 SHEETS—SHEET 1.



WITNESSES:
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Alfred E. ...

INVENTORS:
Francisco Quintano
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2 SHEETS—SHEET 2.

Fig. 4.

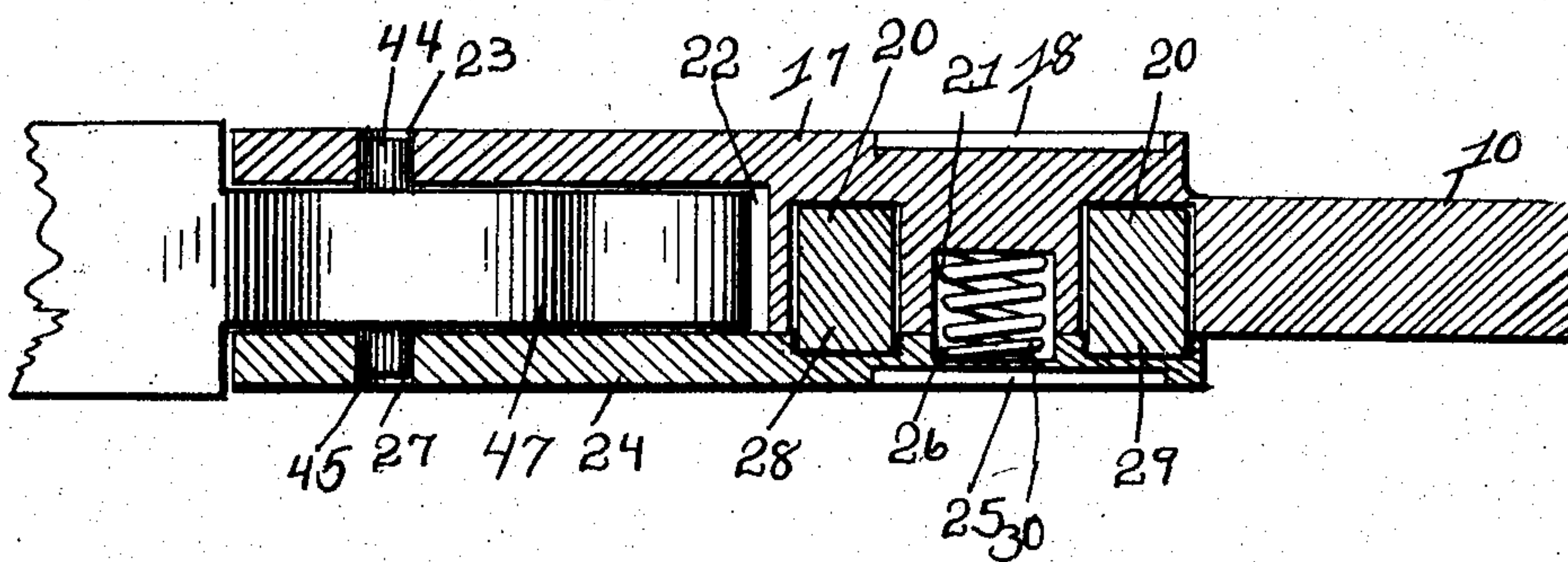


Fig. 6.

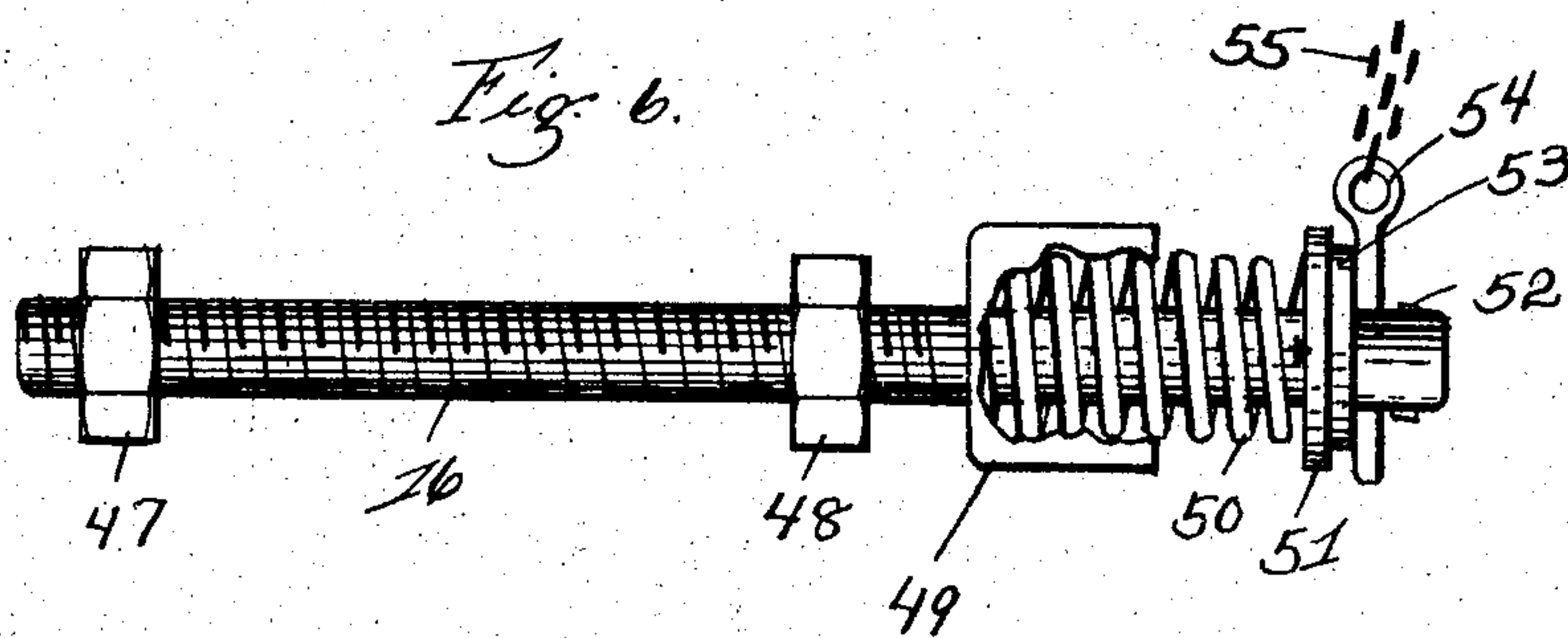
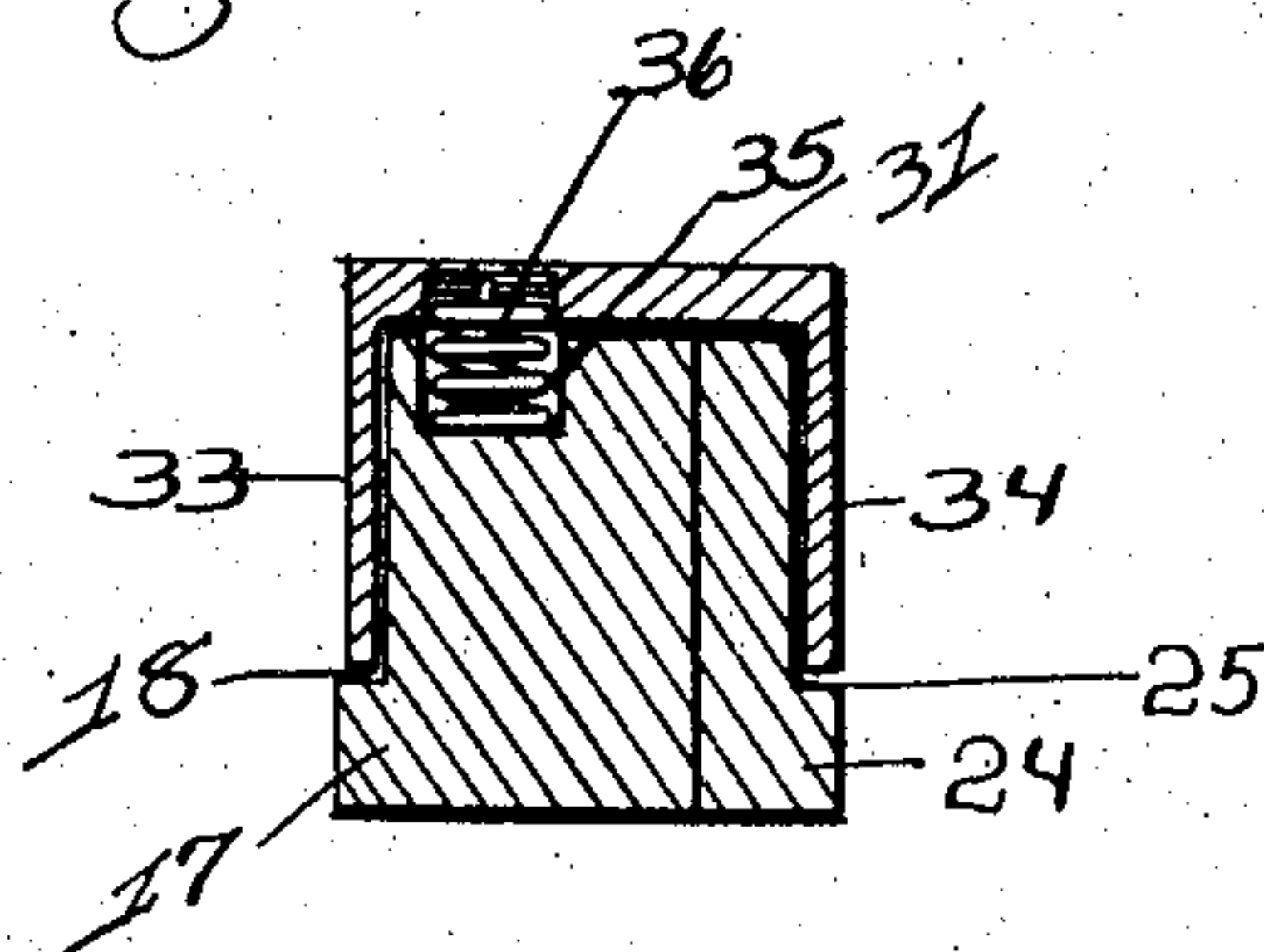


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCISCO QUINTANO, OF HAVANA, AND FRANCISCO DE LA CUESTA, OF
GUANABACOA, CUBA.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 781,302, dated January 31, 1905.

Application filed April 18, 1904. Serial No. 203,820.

To all whom it may concern:

Be it known that we, FRANCISCO QUINTANO, residing at Havana, and FRANCISCO DE LA CUESTA, residing at Guanabacoa, Cuba, citizens of the Republic of Cuba, have invented certain new and useful Improvements in Horse-Detachers, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to horse-detachers; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a side elevation showing our improved horse-detacher in position for use. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a longitudinal sectional detail, upon an enlarged scale, on the line 3 3 of Fig. 2, the shaft being omitted. Fig. 4 is a horizontal section on the line 4 4 of Fig. 3. Fig. 5 is a cross-section on the lines 5 5 of Figs. 1 and 3. Fig. 6 is an enlarged plan of one of the trace-fasteners.

Referring to the drawings in detail, the shank 10 is secured to the cross-bar 11 and to the attaching-arm 12 by the brackets 13 and 14, said brackets being secured to the parts 11 and 12 by suitable bolts or rivets and there being bolts 15 and 16 passing through the brackets and through the shank. The rigid clamping-plate 17 extends forwardly from the shank 10, there being a recess 18 in its inner face, and there being guide-openings 19 and 20 formed horizontally from the face opposite to the recess 18, and there being a spring-seat recess 21 between the recesses 19 and 20, there being a cut-away portion 22 at the outer side of the forward half of the head, there being a pivot-opening 23 at the extreme forward end of the head. The removable clamping-plate 24 is mounted in opposition to the rigid clamping-plate 17, there being a recess 25 in the outer face matching the recess 18, there being a spring-seat recess 26 in its inner face matching the spring-seat recess 21, there being a pivot-opening 27 in its extreme forward end in a line with the opening 23. Guides 28 and 29 are rigidly attached to the inner face of the plate 24 and extend into the

recesses 19 and 20. An expansive coil-spring 30 is inserted between the rigid clamping-plate 17 and the removable clamping-plate 24, the ends of said spring engaging the spring-seat recesses 21 and 26 and the tension of said spring being exerted to throw the removable clamping-plate away from the rigid clamping-plate when unlatched.

The latching-plate 31 is pivotally connected to the rigid clamping-plate 17 by the pin 32, and the latching-teeth 33 and 34 extend downwardly from the sides of the plate 31 into the recesses 18 and 25, so that when the plate 31 is down in its normal position upon the upper face of the clamping-plate 17 the teeth 33 and 34 hold the removable clamping-plate 24 in position relative to the rigid clamping-plate, and when the plate 31 is elevated to remove the teeth 33 and 34 out of the recesses 18 and 25 the plate 24 is free to be thrown outwardly under the tension of the spring 30. A spring-seat recess 35 is formed in the upper face of the rigid clamping-plate 17, and the retractile coil-spring 36 is attached to the lower face of the plate 31 and attached to the spring-seat 35, the tension of said spring being exerted to pull the plate 31 down upon the plate 17, as shown in Fig. 5. An eye 37 extends upwardly from the forward end of the plate 31, and an operating-chain 38 is attached to said eye. An operating-cam 39 extends downwardly from the forward end of the plate 31 between the plates 17 and 24. The shaft 40 is provided with a hinge member 41 upon its rear end, there being a horizontal bifurcation 42 in the forward end of said hinge member to receive the end of the shaft, there being bolts 43 inserted vertically through the hinge member and through the shaft, and the rear end of said hinge member being reduced in width to fit between the forward ends of the plates 17 and 24, and there being trunnions 44 and 45 extending laterally from the hinge member into the openings 23 and 27 in the forward ends of the plates 17 and 24, so as to form a hinge connection between the shaft 40 and the attaching-arms 12 when the parts are in position and so that when the plate 31 is elevated and

the plate 24 thrown outwardly by the action of the spring 30 the shaft 40 will be disconnected from the attaching-arm. A cam-operating arm 46 extends backwardly from the hinge member 41 between the plates 17 and 24 and upwardly under the back of the operating-cam 39, so that when the shaft 40 is tipped downwardly, as by the falling of the horse, the arm 46 will engage the cam 39 and throw the plate 31 upwardly, so as to disconnect the shaft from the vehicle. Of course each one of the pair of shafts is to be connected to the vehicle in a similar manner.

The bolt 16 has nuts 47 and 48 to engage the brackets 14 and 13 and draw them to the shank 10. The bolt extends inwardly a considerable distance beyond the nut 48, and a rigid spring-seat is fixed upon the bolt inside of the nut 48. An expansive spring 50 is placed upon the bolt inside of the rigid spring-seat 49, and the movable spring-seat washer 51 is slidingly mounted upon the inner end of the bolt against the inner end of the spring, there being a stop-pin 52 through the extreme inner end of the bolt to prevent the washer 51 from slipping off the end of the bolt under the tension of the expansive spring 50.

The trace 53 is forced onto the inner end of the bolt 16, over the stop-pin 52, against the washer 51, and against the tension of the spring 50, and a pin 54 is inserted through the inner end of the bolt adjacent to the stop-pin 52, said pin being long enough to hold the trace in position, and a chain 55 extends upwardly from the pin. The chains 38 and 55 are to extend upwardly to a position convenient for the driver or occupant of the carriage, so that the pin 54 may be removed from the bolt 16 by pulling the chain 55, thus allowing the spring 50 to force the trace off from the end of the bolt and unhitch the horse. When the pin 54 is pulled, the spring will force the trace over the stop-pin 52; but said stop-pin will catch the washer 51. It is obvious that the chains 38 and 55 should be pulled at substantially the same time, so that the shafts will be disconnected at the same time that the traces are unhooked.

We claim—

1. In a horse-detacher: a rigid clamping-plate; a removable clamping-plate; means of latching the removable clamping-plate to the

rigid clamping-plate; and means of pivoting the shaft between said clamping-plates, so that when the removable clamping-plate is unlatched, the shaft will be disconnected; substantially as specified.

2. In a horse-detacher: a rigid clamping-plate; a removable clamping-plate slidingly mounted relative to the rigid clamping-plate and spring-actuated outwardly; means of latching the removable clamping-plate to the rigid clamping-plate; and a pivoted connection between said clamping-plates and the shaft, so that when the latch is operated, the removable clamping-plate will be thrown outwardly under the tension of the spring and release the shaft; substantially as specified.

3. In a horse-detacher: a rigid clamping-plate; a removable clamping-plate latched to the rigid clamping-plate; means of pivoting the shaft to the clamping-plates; and means carried by the shaft for operating the latch, so that when the shaft falls, the latch will be operated to release the removable clamping-plate and disconnect the shaft; substantially as specified.

4. In a horse-detacher: a bolt extending inwardly from the shaft; a spring mounted upon the bolt; the inner end of said bolt being adapted to receive the trace against the tension of the spring; and a removable pin to hold the trace in position, so that when the pin is removed, the spring will throw the trace off the bolt; substantially as specified.

5. In a horse-detacher: a bolt extending inwardly from the shaft; a rigid spring-seat upon the bolt; a spring upon the bolt against the rigid spring-seat; a sliding spring-seat upon the bolt against the inner end of the spring; a stop upon the inner end of the bolt to hold the sliding spring-seat from flying off the bolt; the inner end of the bolt being adapted to receive the trace over said stop against the tension of the spring; and means of holding the trace releasably in position; substantially as specified.

In testimony whereof we have signed our names to this specification in presence of two subscribing witnesses.

FRANCISCO QUINTANO.

FRANCISCO DE LA CUESTA.

Witnesses:

JAMES A. SPRINGER,
JAMES H. SPRINGER.