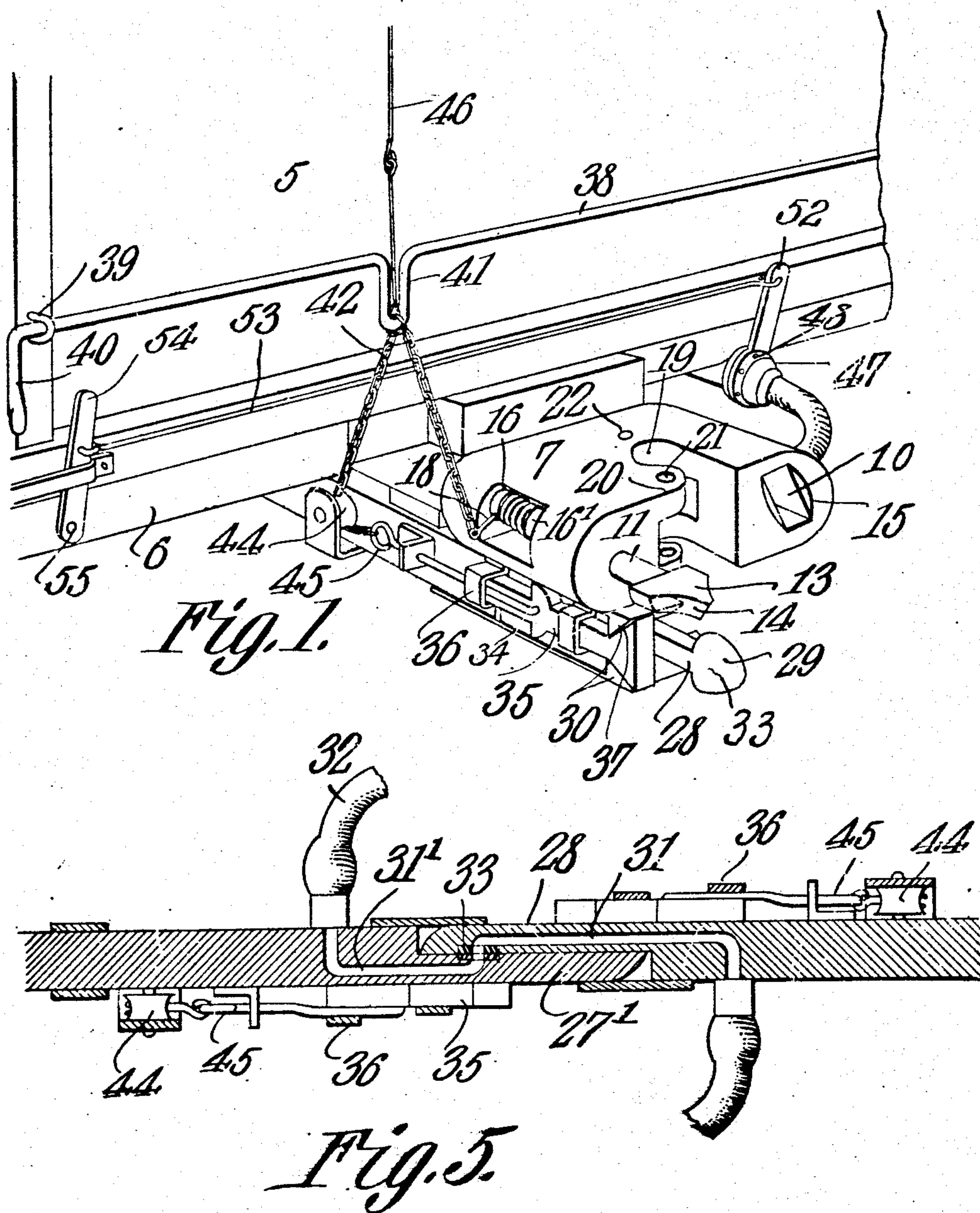


E. MYERS.
CAR AND HOSE COUPLING.
APPLICATION FILED MAR. 23, 1908.

Patented Mar. 30, 1909.
3 SHEETS—SHEET 1.

916,759.



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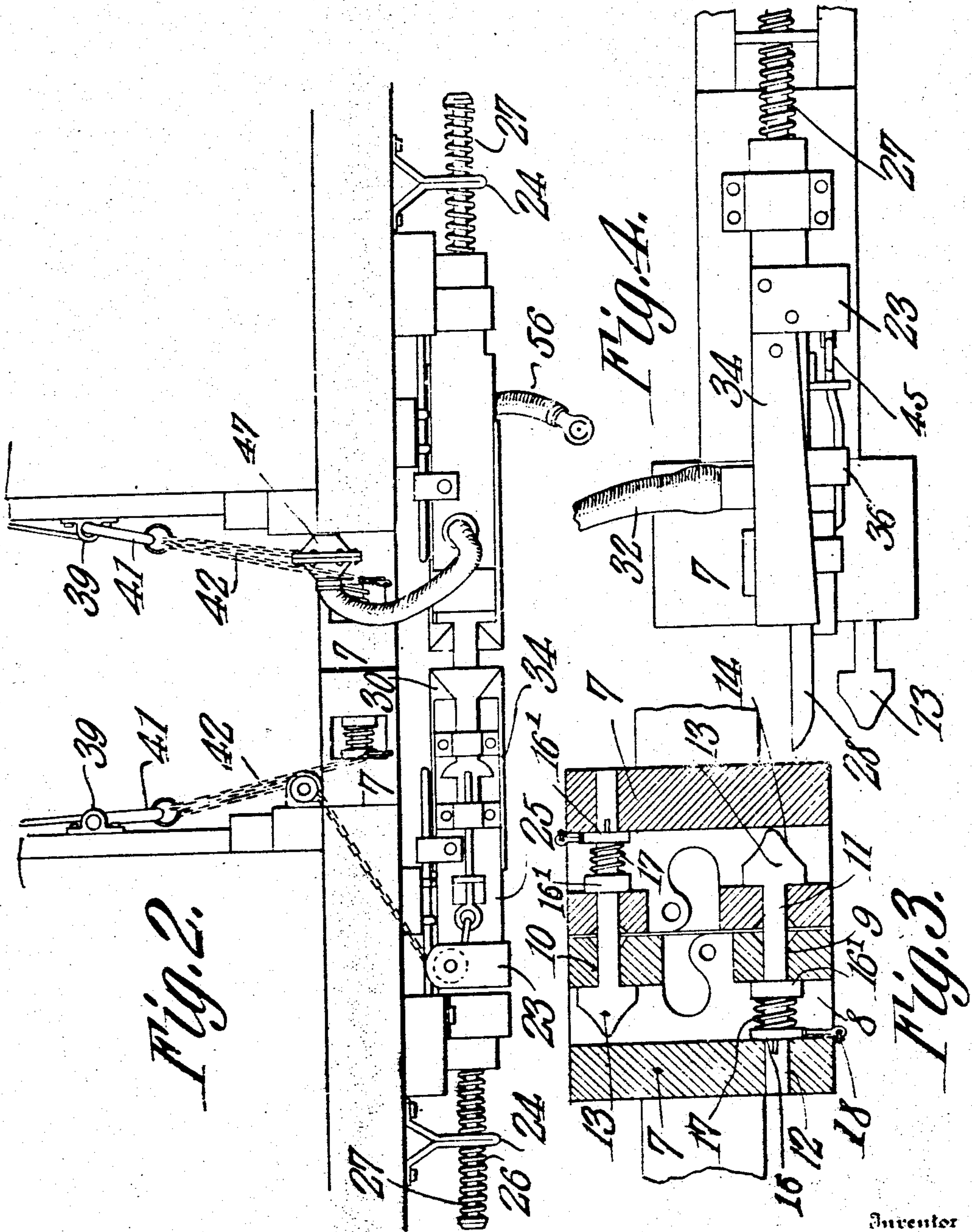
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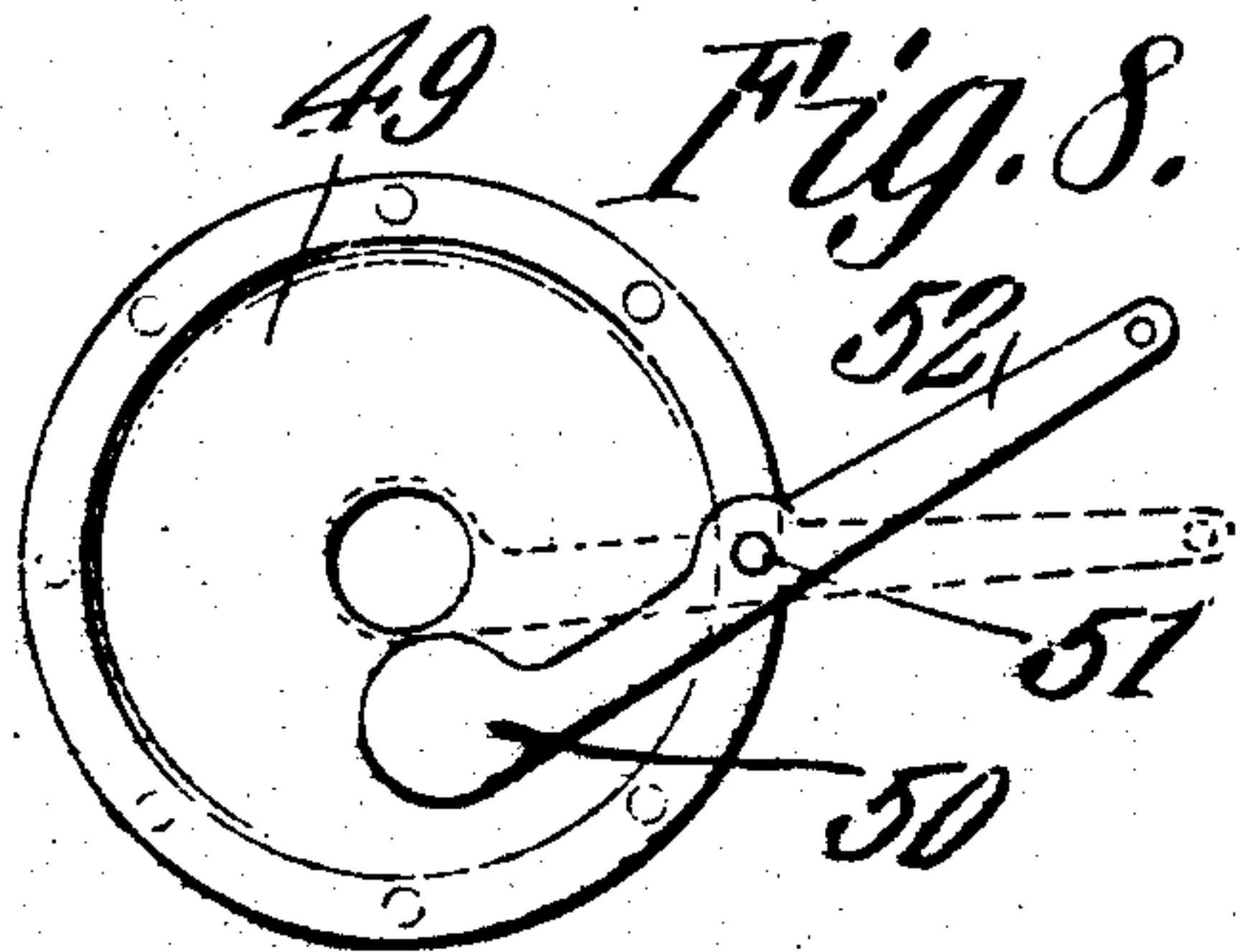
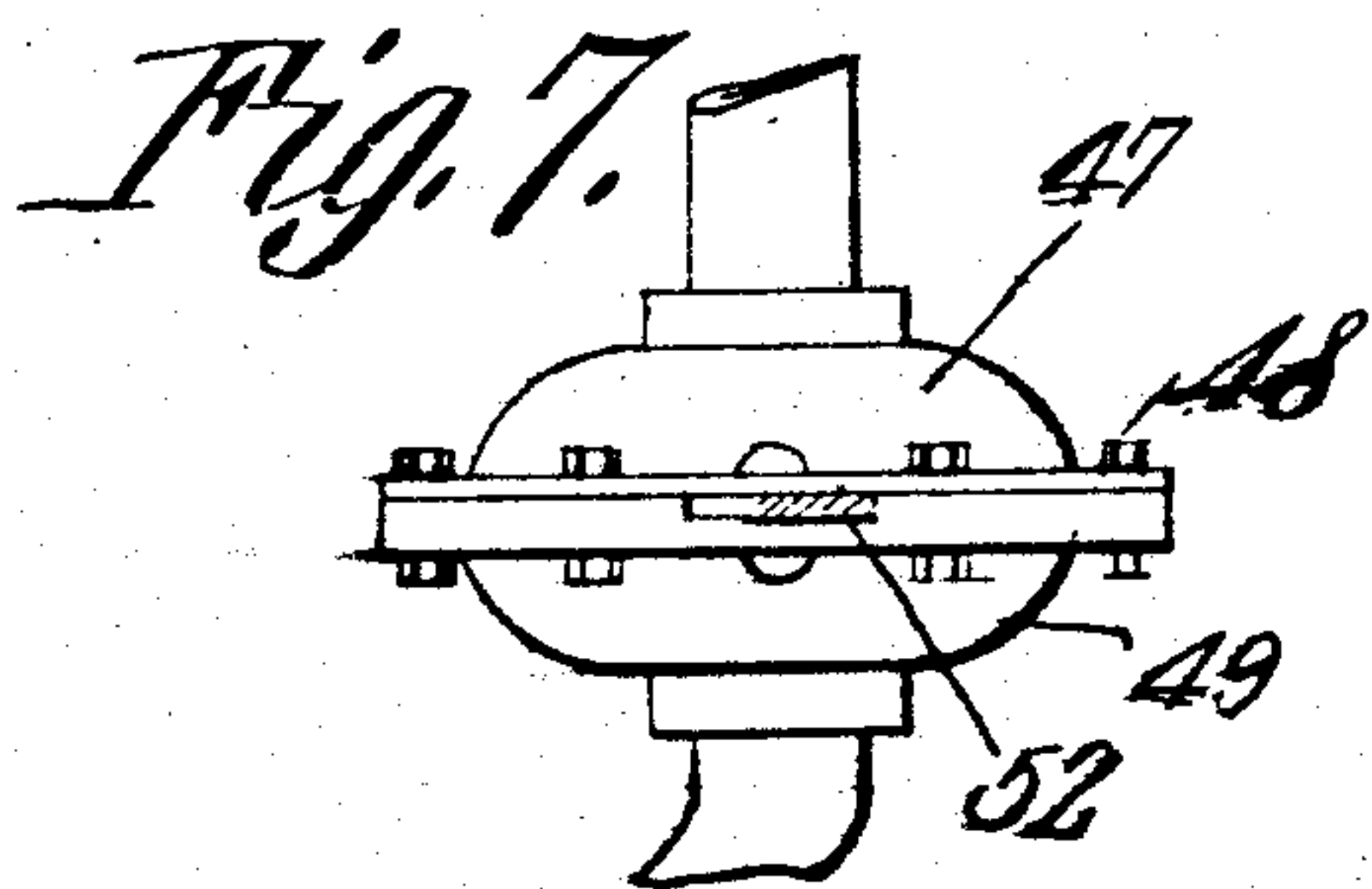
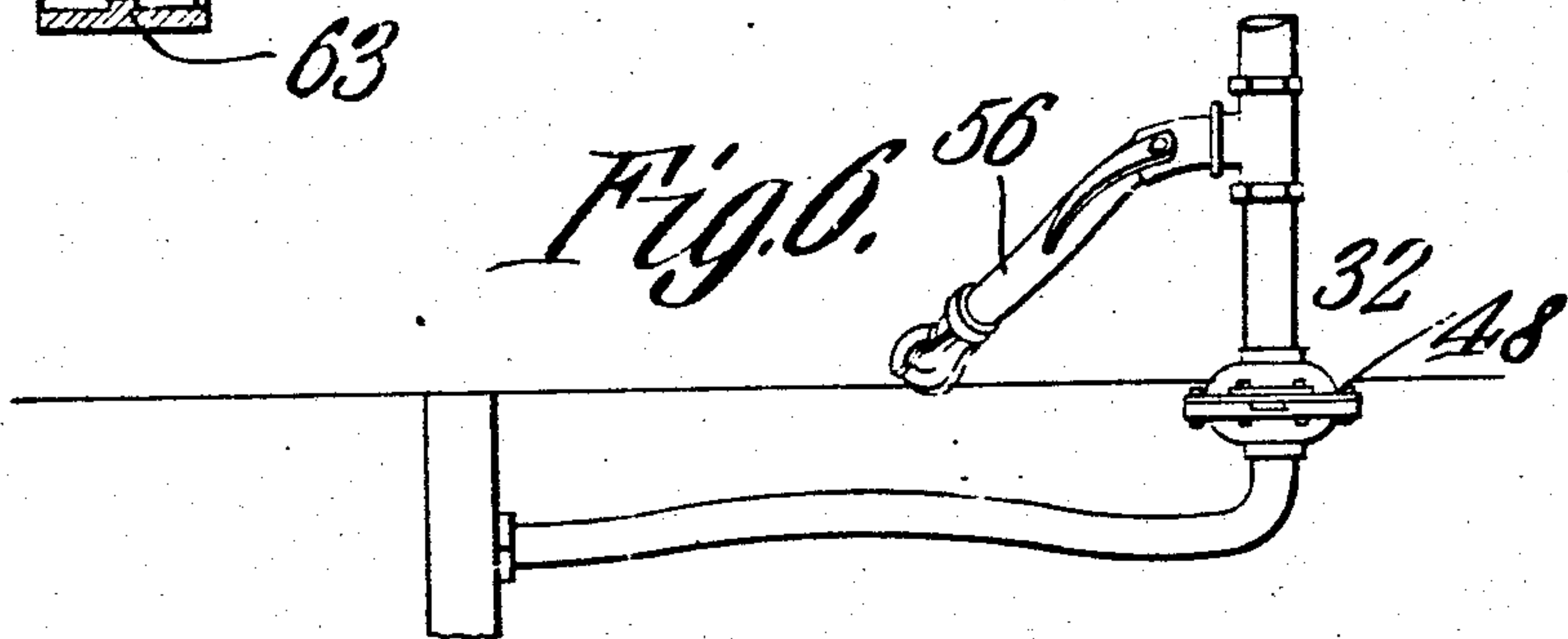
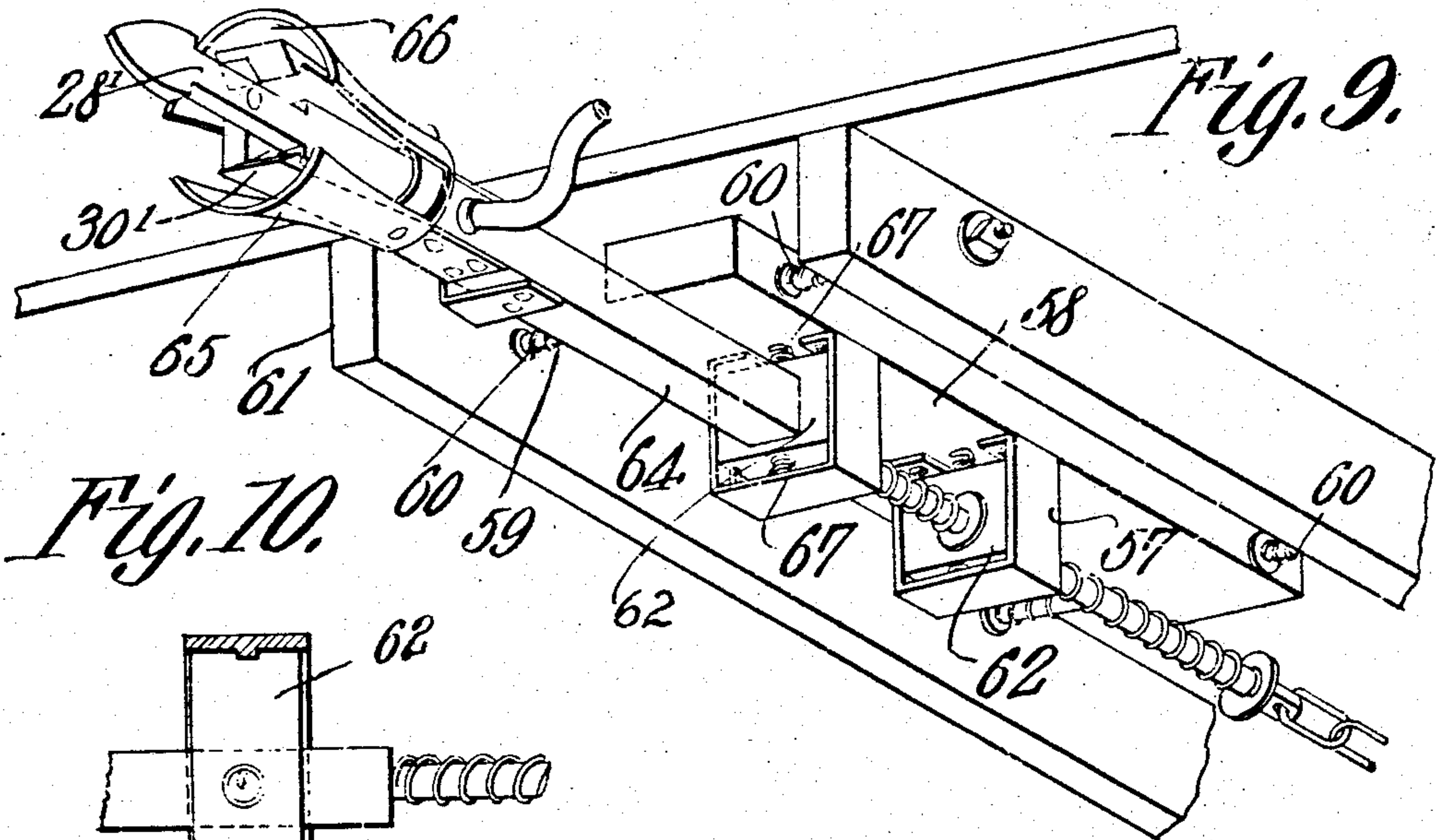
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UNITED STATES PATENT OFFICE.

EBENEZER MYERS, OF TAYLORSVILLE, NORTH CAROLINA.

CAR AND HOSE COUPLING.

No. 916,759.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EBENEZER MYERS, a citizen of the United States, residing at Taylorsville, in the county of Alexander and State of North Carolina, have invented a new and useful Car and Hose Coupler, of which the following is a specification.

This invention relates to a combined coupler and hose connection for cars and other railway rolling stock and has for its object to provide improved means for automatically coupling adjacent cars, and means for simultaneously effecting the union of the train pipe connections of said cars.

A further object of the invention is to provide an operating lever having a flexible connection with the coupling tongues of the car and hose couplers, respectively, whereby said tongues may be moved to released position to permit uncoupling of the cars without the necessity of the brakeman or other operator going between said cars.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in the form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification:—Figure 1 is a perspective view of a combined car coupler and hose connection constructed in accordance with my invention. Fig. 2 is a side elevation showing the cars in coupled position. Fig. 3 is a transverse sectional view showing the heads in coupled position. Fig. 4 is a bottom plan view of one of the couplers. Fig. 5 is a longitudinal sectional view of the train pipe connections showing the same in coupled position. Fig. 6 is a top plan view of a portion of the train pipe showing the valve casing attached thereto and the usual form of hose coupling connected therewith. Fig. 7 is a plan view of the valve casing detached. Fig. 8 is a top plan view of one of the casing sections showing the interior construction of the valve. Fig. 9 is a perspective view illustrating a modified form of the invention, the car coupling being omitted for sake of clearness. Fig. 10 is a transverse

horizontal sectional view of one of the hangers shown in Fig. 9.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The combined coupler forming the subject matter of the present invention is principally designed for attachment to passenger or freight cars, and by way of illustration is shown in connection with a freight car of the ordinary construction, in which 5 designates the body of the car and 6 the rear transverse beam.

Secured to the car below the beam 6 is a coupling head 7, preferably elongated in shape, as shown, and provided with a transverse opening 8, there being guiding recesses 9 and 10 formed in the head on each side of the center of the latter and communicating with the opening 8.

Mounted for rotation in the guiding recess 9 is a coupling tongue 11 having its rear end extended transversely through the opening 8 and seated in a similar guiding recess 12. The forward end of the coupling tongue 11 terminates in an arrow head 13 adapted to enter the guiding recess 10 in the adjacent coupling head when two of said cars are coupled.

The side walls of the recess 10 are preferably disposed at an angle or inclination to the vertical axis of the coupling head 7 while the arrow head 13 is normally and yieldably supported in a horizontal plane, so that when the arrow head of an adjacent coupler is inserted in the recess 10 and the cars coupled, the walls of the recess will register with said head and partially rotate the coupling tongue, thereby causing the head 13 to enter the opening 8 with the shoulders on said head bearing against the adjacent wall of said opening and thus lock the cars in coupled position. The opposite sides of the head 13 are inclined or beveled in opposite directions, as indicated at 14, the walls of the recess 10 being correspondingly beveled at 15, thereby to assist in guiding the head into the recess and imparting a turning movement to the tongue when the cars are brought together.

Secured to the tongue 11 are relatively fixed and loose collars 16 and 16' and interposed between said collars is a coiled spring 17 which serves to normally and yieldably

support the head 13 of the tongue in a horizontal plane. The collar 16 is keyed to the tongue 11 and is provided with a laterally extending stop pin 18 adapted to engage the car coupling head 7 for limiting the oscillating movement of the coupling tongue. The intermediate portion of the coupling head 7 is provided with a vertically disposed slot 19 adapted to receive the lip of an ordinary Miller or Janney type of coupling head when the present coupling is used in connection with either of said styles of coupler, there being spaced ears or lugs 20 formed in the coupling head and having perforations 21 therein for the reception of the pivot pin of the jaw. Vertically aligned openings 22 are also preferably formed in the head 7 whereby the present coupling may be used in connection with cars equipped with the ordinary pin and link coupling.

Disposed beneath the car coupling head 7 and slidably mounted in suitable hangers 23 and 24 is the pipe coupling head 25 of the hose connection, the latter being provided rearwardly with a reduced extension 26 having coiled springs 27 surrounding the same and bearing against the adjacent bracket or hanger 24 for normally and yieldably supporting the pipe coupling head in extended or operative position. The forward end of the draw head 25 is reduced to form a coupling tongue or jaw 28 terminating in an arrow shaped head 29 for engagement with the spring clamping jaws 30 of the pipe coupling head of an adjacent car when said cars are coupled.

The reduced extension or tongue 28 of the pipe coupling member 25 is provided with a longitudinal channel 31 which registers with a corresponding channel 31' in the adjacent coupling tongue or jaw 27', thus forming a source of communication between the train pipe 32 of one car and the train pipe of an adjacent car when said cars are united. A suitable gasket or packing 33 surrounds the walls of the passages 31 and 31' at the mouths thereof so as to prevent leakage.

The jaws 30 are carried by spring plates 33 secured to the upper and lower faces of the adjacent pipe coupling head and are movable to open position to release the terminal head 29 of an adjacent hose connection by means of a key 35. The key 35 is mounted for sliding movement in suitable guides or clips 36 fastened to one side of the pipe coupling head, the said key being provided with an enlarged head having inclined or beveled faces 37 adapted to bear against the adjacent jaws 30, thereby to move the latter out of engagement with the head 29 to permit uncoupling of the cars.

As a means for simultaneously moving the tongues 11 and 29 to released position there is provided a lever 38 mounted in suitable bearings 39 on one end of the car and pro-

vided with a terminal operating handle 40, there being a crank arm 41 extending from the intermediate portion of the horizontal lever 38, as shown. Secured to the crank arm 41 is a chain or cable 42 having one end thereof secured to an eye in the end of the stop pin 18 and its opposite end passing over a roller 44 on the adjacent draw bar and secured to the terminal eye 45 of the adjacent key 35. Thus it will be seen that by moving the handle 40 the tongue 11 will be partially rotated and at the same time the key 35 will be moved longitudinally of the draw bar, thus releasing the tongue 11 from engagement with the coupling head of an adjacent car and the head 29 from engagement with the spring jaws 30 on said mating car. If desired, however, a cable 46 may be connected with the crank arm 41 and extended to the top of the car so as to permit the brakeman to operate both coupling devices without the necessity of going between the cars.

The train pipe 32 is provided with a valve casing or housing 47 preferably formed of two sections detachably secured together by bolts or similar fastening devices 48 to produce an intermediate chamber 49 for the reception of a valve 50. The valve 50 is pivotally mounted at 51 between the sections of the valve casing, one end of the valve being extended through a slot in the adjacent section to form a lever 52. Secured to the end of the lever 52 is one end of a rod 53, the opposite end of which is secured to a hand operated lever 54 pivotally mounted at 55 on the transverse beam 6, and by means of which the operator may actuate the valve to control the flow of fluid through the train pipe from either side of the car. The pipe 32 is preferably provided with a branch pipe or section 56 to which may be secured a hose coupling of any approved type, so that the present device may be used in connection with cars equipped with the ordinary form of hose coupling.

In coupling the cars, the latter are brought together in the usual manner which causes the head 13 of one of the car coupling members 7 to enter the recess in the head of the mating coupling, the head 29 at the same time forcing the jaws 30 of the adjacent car laterally, so as to permit the passages 31 and 31' to register with each other. As the heads 13 are introduced within the guiding recesses 10 said heads, by engagement with the walls of the recesses, will be partially rotated against the tension of the spring 17. When the head 13 reaches the opening 8 the spring will return the head to horizontal position in engagement with the walls of the opening 8, thus securely locking the cars in coupled position.

In order to uncouple the cars, it is merely necessary to partially rotate the handle 40 or exert an upward pressure on the cable 46

when the tongue 11 will be partially rotated, so as to permit the head 13 to be withdrawn from the recess 10 and at the same time the key 35 will be moved longitudinally of the adjacent pipe coupling member, so as to expand the jaws 30 and thereby release the head 29 of the coupling tongue from engagement with said jaws.

In Fig. 9 of the drawings there is illustrated a modified form of the invention designed for coupling cars of different heights, that is to say where the coupler or couplers on one car are higher or lower than the coupler or couplers of an adjacent car. In this form of the device suitable hangers 57 are secured to a longitudinal beam 58 disposed beneath the platform of the car and mounted for lateral movement on the transverse supporting rods 59, there being coiled springs 60 interposed between the rods 59 and the adjacent longitudinal sills 61 of the car for normally centering the beam 58. Slidably mounted in the hangers 57 are suitable blocks 62 having oppositely disposed grooves formed therein for the reception of vertical guide ribs 63 preferably formed integral with the hangers, as shown, said blocks being provided with horizontally aligned openings for the reception of the shank of the pipe coupling member 64, carrying the headed pin or tongue. Secured in any suitable manner to the pipe coupling member 64 are spaced segmental plates 65 having their free ends flared laterally, as indicated at 66, for guiding the head of the coupling tongue on a mating car between the spring clamping jaws 30' when the coupling tongues on the cars are out of alinement with each other. As a means for normally and yieldably supporting the pipe coupling member 64 in horizontal position, suitable coiled springs 67 are disposed on opposite sides of said blocks with one end of each spring bearing against the block, the opposite ends of the springs engaging the hangers and beam, respectively. Thus it will be seen that the pipe coupling member 64 is free to move laterally when the car is passing around curves and is also free to move in a vertical plane to adjust itself to the height of the coupler on the mating car. This form of hose coupler is designed for use in connection with the car coupling shown in Fig. 1 of the drawings, said car coupling and its associated parts being omitted in Fig. 9 of the drawings in order to more clearly illustrate the several parts comprising the hose coupling.

Having thus described my invention, what is claimed is:—

1. The combination with a car having a pipe coupling member provided with a fluid passage adapted to register with the passage of an adjacent pipe coupling member when the cars are coupled, a coupling tongue carried by the pipe coupling member, spring

jaws spaced from the tongue and adapted to engage the tongue of the pipe coupling member of an adjacent car when the cars are coupled, and a key for separating the jaws to permit uncoupling of the cars.

2. The combination with a car including a train pipe, of a pipe coupling member having a longitudinal fluid passage forming a source of communication between the train pipes of adjacent cars when two of said cars are coupled, a coupling tongue secured to the pipe coupling member, spring jaws spaced from the coupling tongue and adapted to engage the coupling tongue of an adjacent pipe coupling member, means for expanding the jaws to release the coupling tongue, and a valve for cutting off communication between the train pipe and the passage in the adjacent pipe coupling member.

3. The combination with a car including a train pipe, of a pipe coupling member having a fluid passage forming a source of communication between the train pipes of adjacent cars when said cars are coupled, a tongue secured to the pipe coupling member, spring clamping jaws spaced from the tongue and adapted to engage the tongue of an adjacent pipe coupling member, and a key slidably mounted on the pipe coupling member and provided with an inclined face for releasing the clamping jaws.

4. The combination with a car including a train pipe, of a pipe coupling member having a longitudinal passage forming a source of communication between the train pipes of adjacent cars when the said cars are coupled, a tongue secured to the pipe coupling member and provided with an enlarged head, clamping jaws spaced from the tongue and adapted to engage the head of the tongue on an adjacent pipe coupling member, a key slidably mounted on the pipe coupling member for releasing the jaws, an operating lever, and a flexible connection between the operating lever and key for moving said key to release the jaws.

5. The combination with a car including a train pipe, of a pipe coupling member having a longitudinal passage forming a source of communication between the train pipes of adjacent cars when said cars are coupled, a tongue secured to the pipe coupling member and provided with an enlarged head, clamping jaws spaced from the tongue and adapted to engage the head of the tongue of an adjacent pipe coupling member, a key slidably mounted on the pipe coupling member for releasing the jaws, an operating lever, a flexible connection between the operating lever and key for moving said key to released position, and a valve connected in the train pipe for controlling the flow of fluid from one train pipe to another.

6. The combination with a car including a train pipe, of a pipe coupling member having

a longitudinal passage forming a source of communication between the train pipes of adjacent cars when said cars are coupled, a tongue secured to the pipe coupling member, 5 clamping jaws spaced from the tongue and adapted to engage the tongue on an adjacent pipe coupling member, a valve for cutting off the flow of fluid through the train pipe, a key slidably mounted on the pipe coupling 10 member for releasing the jaws, an operating

lever, and a flexible connection between the operating lever and key for moving said key to release the jaws.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 15 in the presence of two witnesses.

EBENEZER MYERS.

Witnesses:

J. P. MATHESON,
JOHN W. CAMPBELL.