

(No Model.)

2 Sheets—Sheet 1.

G. D. SHULTZ & C. GUDGELL.  
CAR COUPLING.

No. 551,793.

Patented Dec. 24, 1895.

Fig. 1.

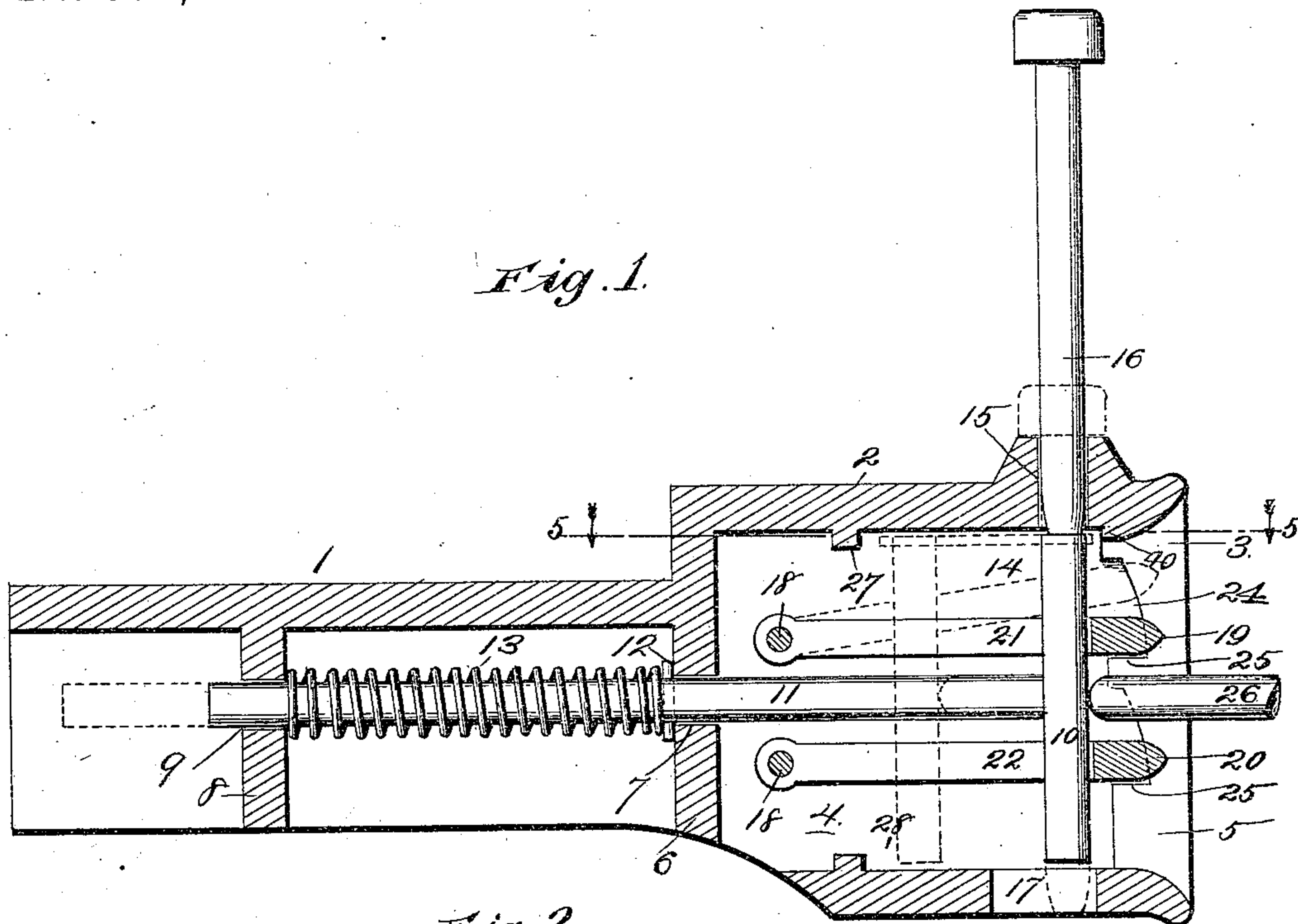


Fig. 2.

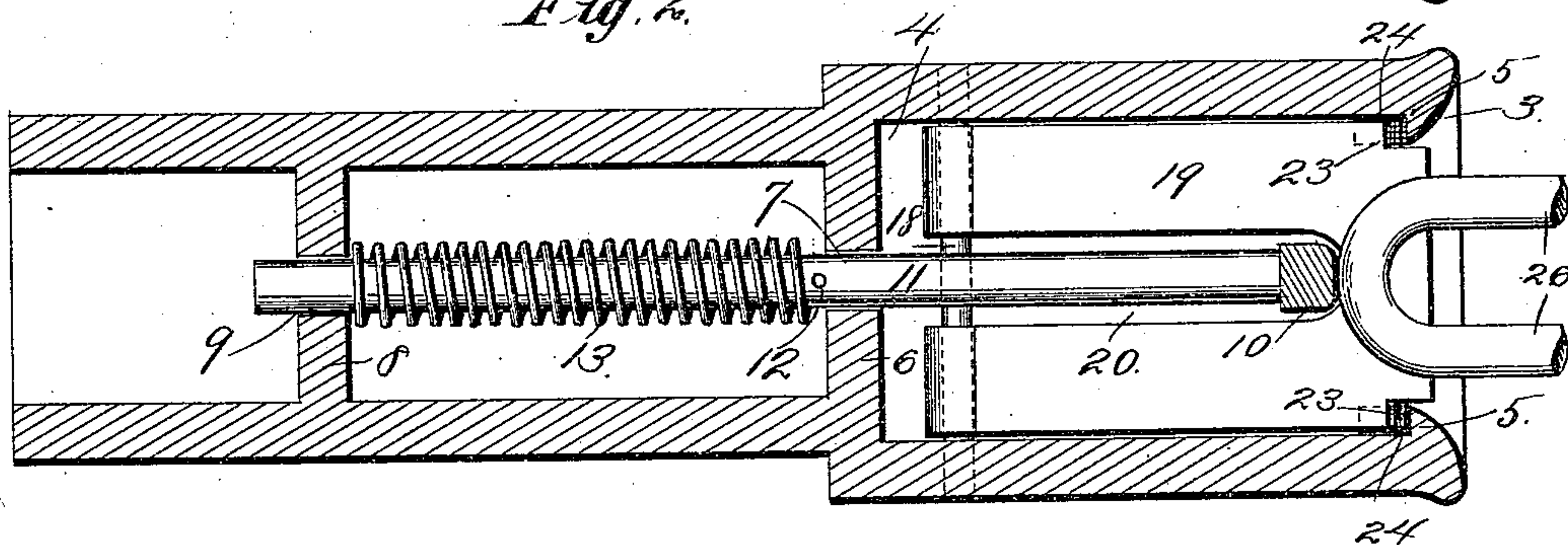
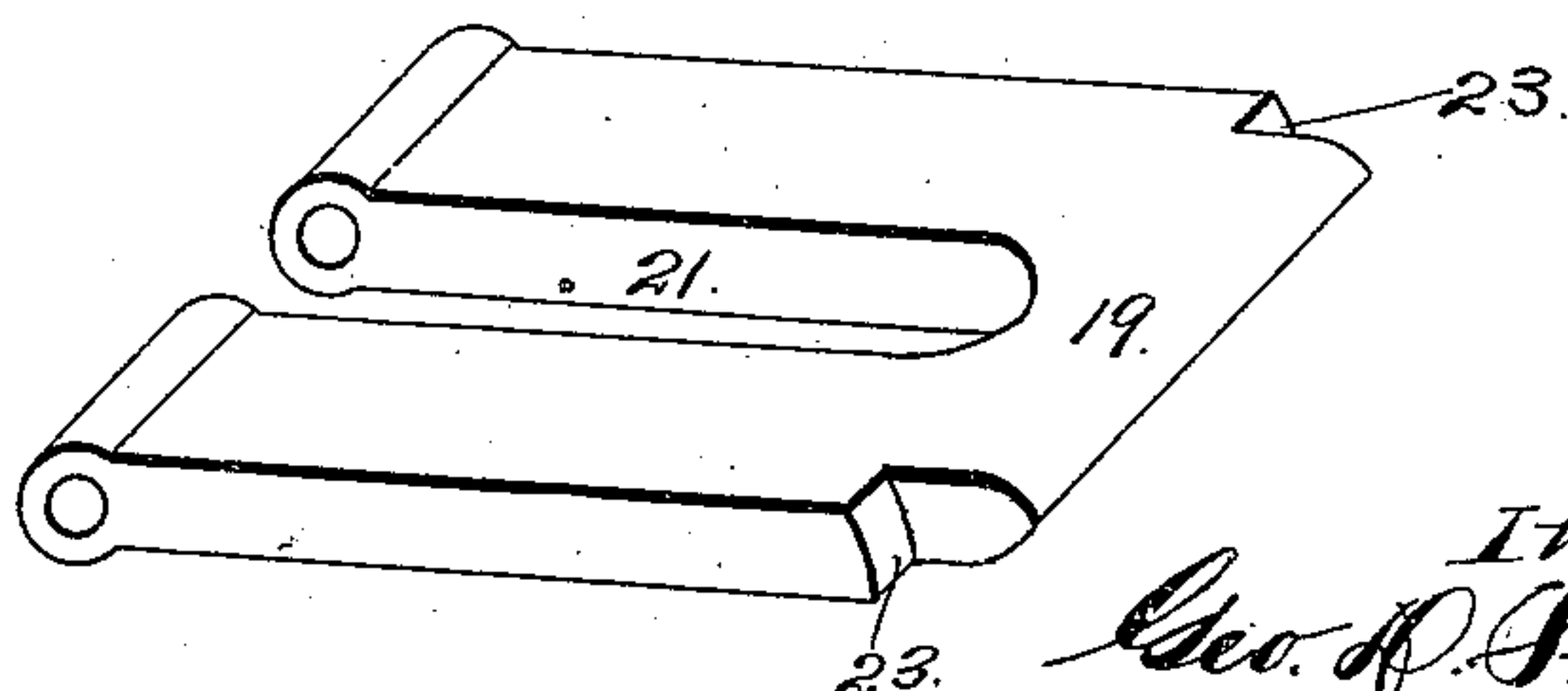


Fig. 3.



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By Higdon & Higdon.

Attys.

(No Model.)

2 Sheets—Sheet 2.

G. D. SHULTZ & C. GUDGELL.  
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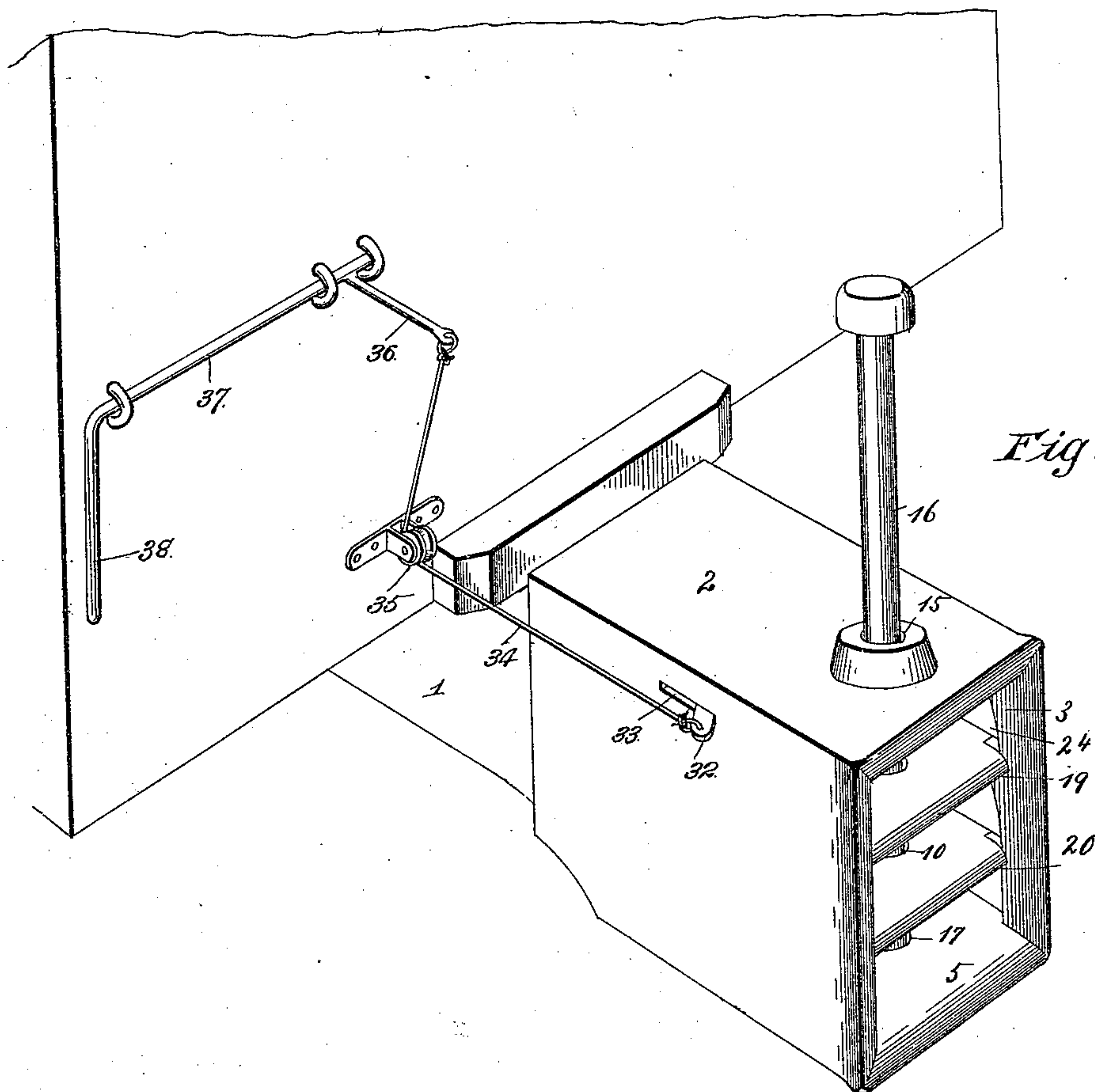


Fig. 4.

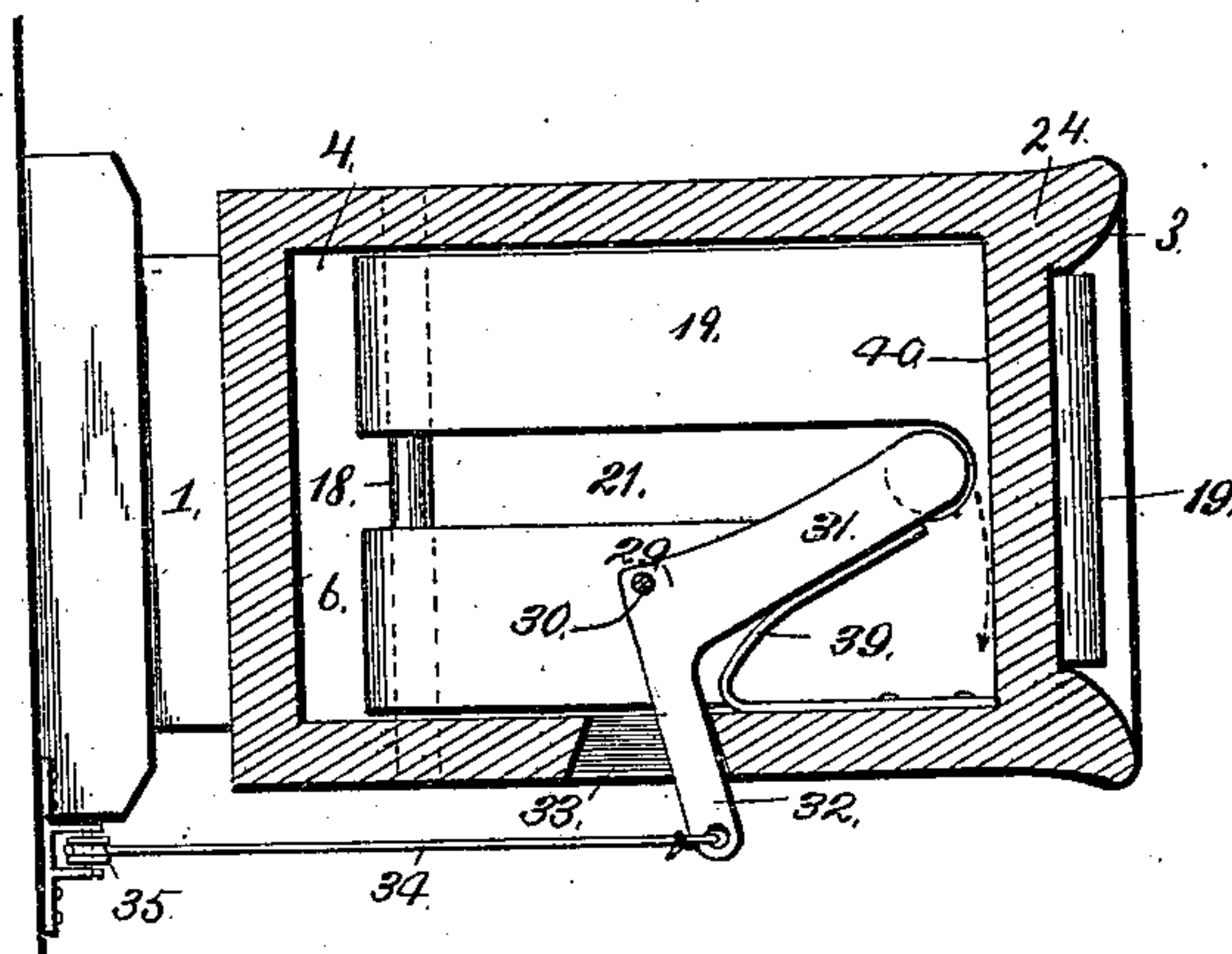


Fig. 5.

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F. G. Fischer

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# UNITED STATES PATENT OFFICE.

GEORGE D. SHULTZ AND CHARLES GUDGELL, OF INDEPENDENCE, MISSOURI.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 551,793, dated December 24, 1895.

Application filed April 25, 1895. Serial No. 547,204. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE D. SHULTZ and CHARLES GUDGELL, of Independence, Jackson county, Missouri, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

Our invention relates to car-coupling devices; and our object is to provide an automatic coupling device of this character which is provided with a plural number of chambers to receive coupling-links carried by the couplers of cars of varying heights, whereby the pin is provided with bearing-surfaces intermediate of as well as at its ends, to better resist the pulling-strain of the link, and therefore provide a more reliable connection between the cars, wherein, after two cars have become coupled, the pin of either of them, if both are constructed in accordance with our invention, may be supported in its inoperative position so that the cars may be again moved apart, wherein, after the pin has been thus lifted to its inoperative position after the cars have become coupled, it may be permitted to again assume its operative position without necessitating the presence of an operator between the cars. Therefore, in case two cars are uncoupled by mistake, and it is discovered before they are pulled apart, the mistake may be immediately rectified.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section of a car-coupler embodying our invention, with the coupling-pin in operative position to be coupled when the link of an opposing coupler enters the draw-head. Fig. 2 represents a horizontal section of the same in a plane about midway its height. Fig. 3 represents a detail perspective view of one of the swinging tongues or partitions. Fig. 4 represents a perspective view of the coupler as applied to a car, and showing the pin of said

coupler supported in such position that it cannot accidentally descend. Fig. 5 represents a horizontal section taken on the line 5 5 of Fig. 1.

In the said drawings, 1 designates a draw-bar, which is secured to and below the end of a car in the usual or any preferred manner, and 2 designates the draw-head thereof, which is provided with the usual flaring mouth and coupling-chamber 4. A suitable distance inward of the front end of the draw-head said chamber 4 is laterally widened, so as to form the inwardly-projecting flanges or shoulders 5. (See Figs. 1 and 2.) The rear wall of the draw-head is provided centrally with an aperture 7, and the wall or partition 8 of the draw-bar, which is hollow, is provided with a longitudinally-aligned aperture 9.

A T-shaped sliding frame, which acts alternately as a support and as a buffer, comprises the head 10, which is arranged vertically, and the longitudinally-extending stem 11, which projects through the aligned apertures 7 and 9. A cross-pin 12, or equivalent device, is carried by said stem and normally is held by the action of the buffer or expansion-spring 13, which spirally encircles said stem between the walls 6 and 8, against said wall 6, so that the head 10 is in alignment with the aperture 15 extending through the upper wall of the draw-head and the boss or flange 14, projecting upwardly therefrom, and with an elongated aperture or slot 17 in the lower wall thereof.

When connection is to be made between two cars, the coupling-pin 16 rests at its lower end upon the upper end of the head 10, as shown clearly in Fig. 1.

Near the wall 6 of the draw-head, and arranged horizontally and transversely thereof, are the pivot-rods 18, one above and the other below the stem 11 of the T-frame, and preferably at a distance apart equal to the distance between either of said rods and the contiguous horizontal wall of the draw-head, and pivotally mounted upon said rods are the tongues or partitions 19 and 20, respectively, bifurcated at 21 and 22, and extending through said bifurcations at their front ends is the head 10 of the said T-frame. Each of said pivoted or swinging tongues or partitions is cut away at its front corners, so as



to form the shoulders 23, which swing in a plane corresponding approximately to the curved notches 24 in the strips or flanges 5, hereinbefore referred to, and rest normally in a horizontal position upon the shoulders 25 at the lower end of said notches, as shown in Figs. 1 and 2. The front ends of said tongues, or that portion which projects forward of said shoulders, is beveled to a point, so that if the coupling-link 26 of an opposing draw-head comes in contact with either of said tongues or partitions it will be deflected into one or the other of the sub-chambers formed by said tongues or partitions, and will come squarely in contact with the head of the sliding T-frame, and will cause the same to cease supporting the pin 16 and to act as a buffer for the link 26. Immediately said frame has been pressed sufficiently to the rear the coupling-pin, by gravity, will descend through the link and will occupy the position shown in dotted lines, Fig. 1. The rearward movement of the T-frame is limited by the lugs 27 and 28, projecting from the top and lower walls of the draw-head. It will also be noticed that should the coupling-link strike either of said pivoted tongues or partitions from below, said tongue or partition will yield to the pressure applied and will swing up out of the way to permit the coupling-link to enter more easily, as shown in dotted lines, Fig. 1.

When the coupler is in its inoperative position—that is, when it is not connected to a coupler of another car and its sliding frame is not repressed—its coupling-pin rests upon the upper end of the head of the said frame, as shown clearly in Fig. 1, and will drop through the link carried by an opposing coupler immediately said link strikes and forces rearwardly said frame, and assume the position shown in dotted lines, Fig. 1.

To support the pin in its inoperative position until the cars are pulled apart, and incidentally to rectify mistakes in coupling the wrong cars after they have once been brought together, we provide the following mechanism: 29 designates a plate, which may be in the form of a slide, but preferably in the form of a bell-crank lever, which is pivoted at 30 to the inner side of the top wall of the draw-head at a suitable point, and has one arm 31 projecting forwardly and its other arm 32 projecting through a slot 33 in the contiguous side wall of the draw-head. The arm 32 is connected by a chain or cable 34, guided around a pulley 35, suitably supported at the end of a car to the arm 36 of a rock-shaft 37, which is journaled rotatably in suitable bearings and is provided at one end with an arm 38. A weak spring 39 is secured internally of the draw-head and causes the arm 31 of the bell-crank lever to bear against the side of the coupling-pin when it occupies its operative or coupled position, and in case it is necessary to uncouple the cars the pin of one of them is raised by any suitable means (not

shown) to the position shown in full lines, and immediately it assumes this position the spring 49 forces the arm 31 of the bell-crank lever to the position shown in Fig. 5 below the end of the coupling-pin to support the same in its raised or inoperative position. If the cars be now pulled apart, the spring 13 forces the sliding frame forward and the head of the same comes in contact with the arm 31 of the bell-crank lever, and forcing it aside in turn supports the coupling-pin. If, however, before the cars are moved apart it is discovered that the wrong coupling-pin has been raised, the mistake may be rectified by manipulating the rock-shaft 37 to move the bell-crank lever to one side and permit the coupling-pin to descend again to its inoperative position and connect the cars reliably together, as will be understood.

In order that the bell-crank lever may be protected from the coupling-link should it enter the chamber above the tongue or partition 19, it is arranged snugly against the top wall of the draw-head and rearward of the depending shoulder 40.

From the above description it is apparent that we have produced a car-coupler which will successfully accomplish the objects enumerated in the statement of invention, and it is to be understood that while we have described specifically the form and arrangement of the various parts, changes in the form, arrangement, and detail construction of the coupler which fairly fall within the scope of our invention may be resorted to.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A car-coupler, comprising a draw-head provided with a flaring mouth and with pin-holes or apertures in its upper and lower walls, a tongue pivoted in said draw-head at its rear end and having its front end beveled or pointed, and bifurcated at its rear end, and a spring-actuated frame, comprising a horizontal stem, and a vertical head, which, when in its inoperative position, is in vertical alignment with the pin-holes of the draw-head and supports the pin in its elevated or inoperative position, substantially as set forth.

2. A car coupler, comprising a draw-head having a flaring mouth and internal shoulders near its front end, a spring actuated sliding-frame comprising a horizontal stem, and a vertical head which normally supports the coupling-pin in its elevated or inoperative position, a pair of tongues or partitions pivoted within said draw-head at their rear ends and above and below the horizontal portion of said frame, and bifurcated at their rear ends to receive the head or vertical portion of said spring-actuated frame, and provided with beveled or pointed ends, and with shoulders at their front corners, which are adapted to limit the downward movement of said pivoted tongues or partitions to approximately horizontal position by coming in contact with



the shoulders of the draw-head, substantially as set forth.

3. A car-coupler, comprising a draw-head provided with the usual flaring mouth and pin-holes, a spring-actuated frame therein which receives the thrust or impact of the entering link when two cars come together for coupling purposes, and normally supports the coupling-pin in its elevated or inoperative position, a spring-actuated plate carried at the under side of the top-wall of the draw-head, and a spring engaging the same, substantially as and for the purpose set forth.

4. A car-coupler, comprising a draw-head provided with the usual flaring mouth and pin-holes, a spring-actuated frame therein which receives the thrust or impact of the entering link when two cars come together for coupling purposes, and consists of a horizontal stem and a vertical head which normally supports the coupling-pin in its elevated or inoperative position, a lever pivoted against the under side of the top-wall of the draw-head, a spring engaging the same, and holding it yieldingly under the coupling-pin to support the same when elevated and when the spring-actuated frame is repressed, and means to operate said lever against the resistance of its spring and permit the coupling-

pin to descend or assume its operative position, substantially as set forth.

5. A car-coupler, comprising a draw-head provided with the usual flaring mouth and pin-holes, and with a depending shoulder in advance of said pin-holes, a spring-actuated frame therein which receives the thrust or impact of the entering link when two cars come together for coupling purposes, and consists of a horizontal stem and a vertical head which normally supports the coupling-pin in its elevated or inoperative position, a lever pivoted against the under side of the top-wall of the draw-head, a spring engaging the same, and holding it yieldingly under the coupling-pin to support the same when elevated and when the spring-actuated frame is repressed, a rock-shaft and a guide-pulley carried by the car, and a flexible connection between said rock-shaft and said lever, which is guided upon said pulley, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE D. SHULTZ.  
CHAS. GUDGELL.

Witnesses:

M. R. REMLEY,  
S. B. FALOR.