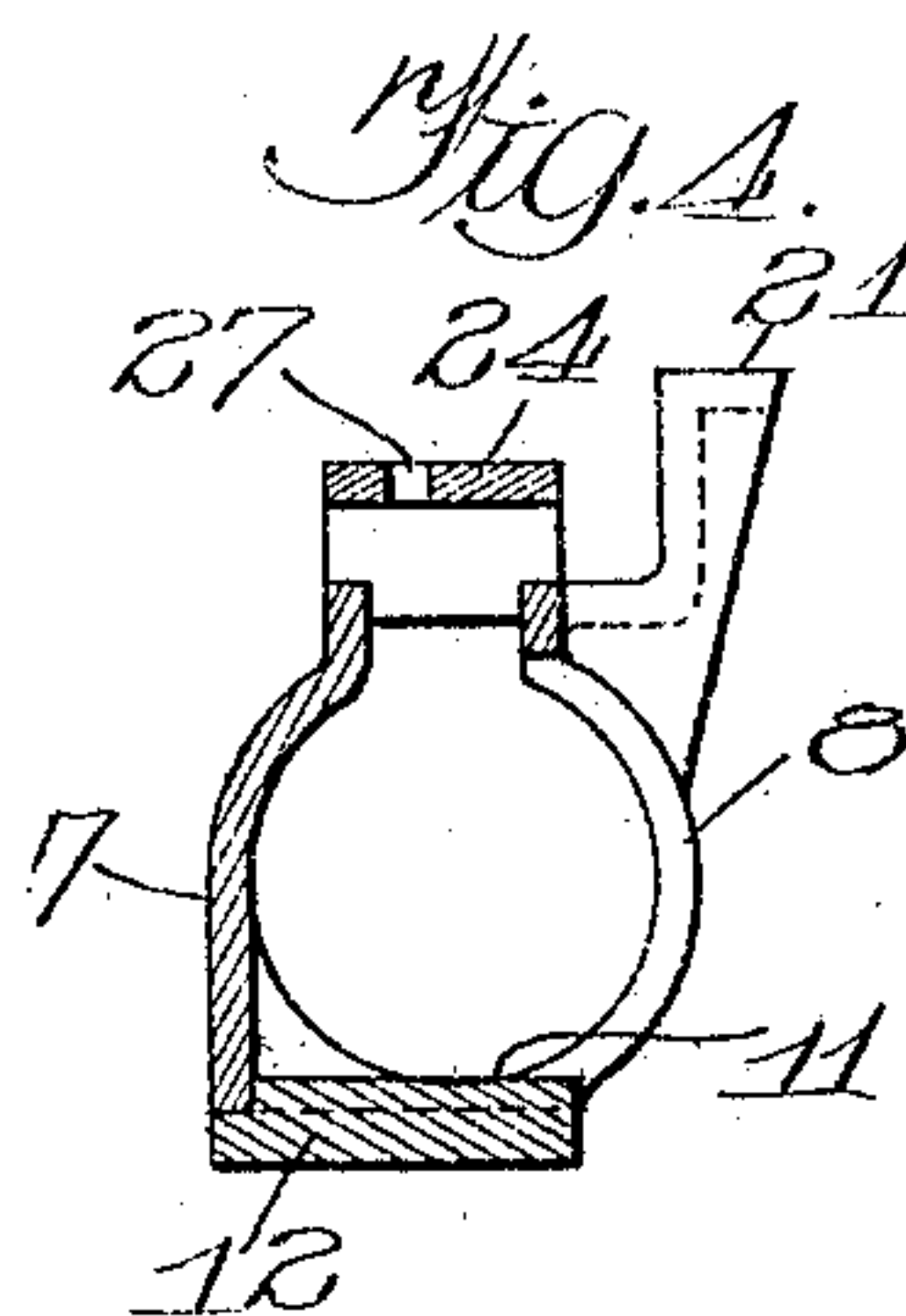
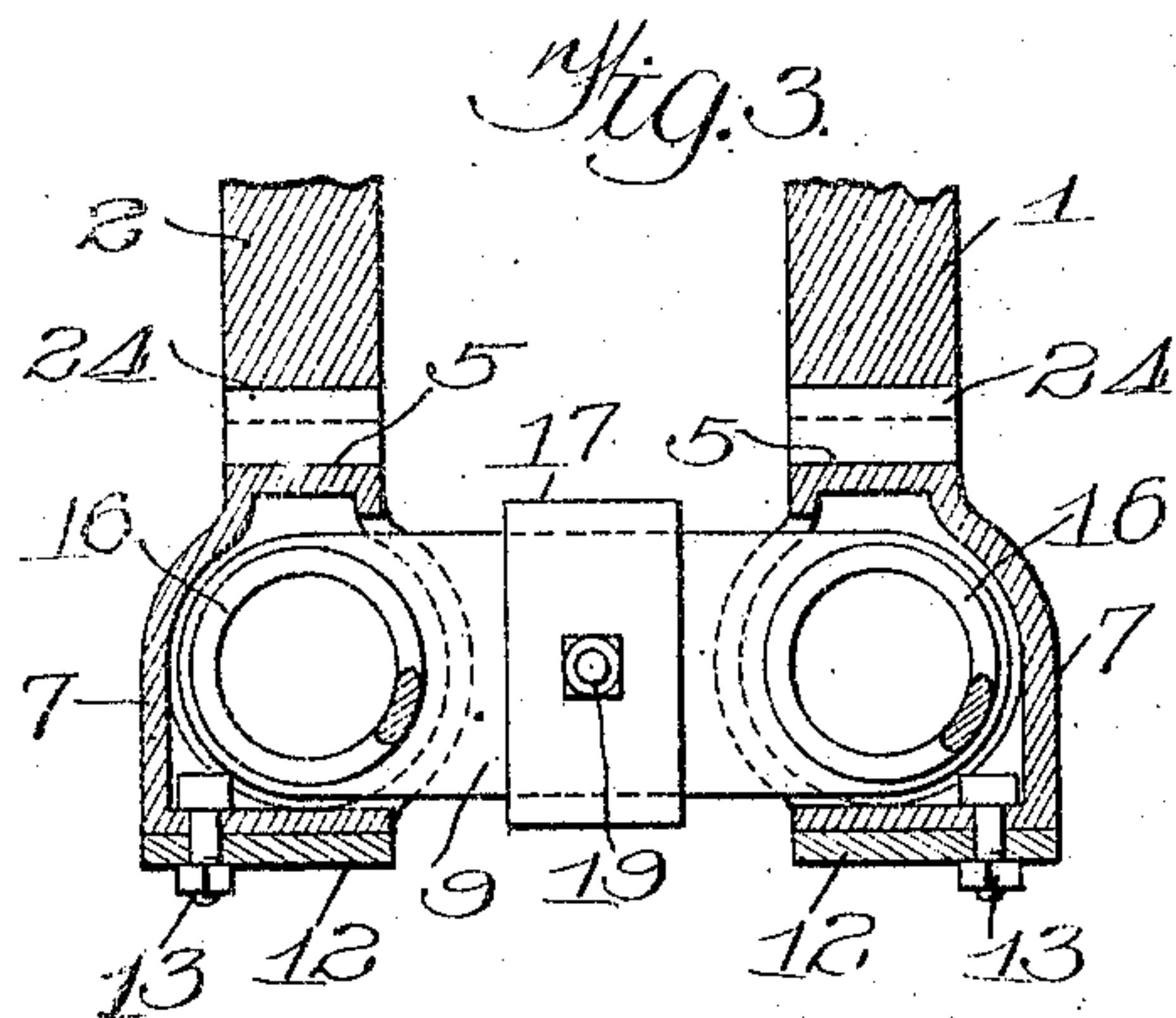
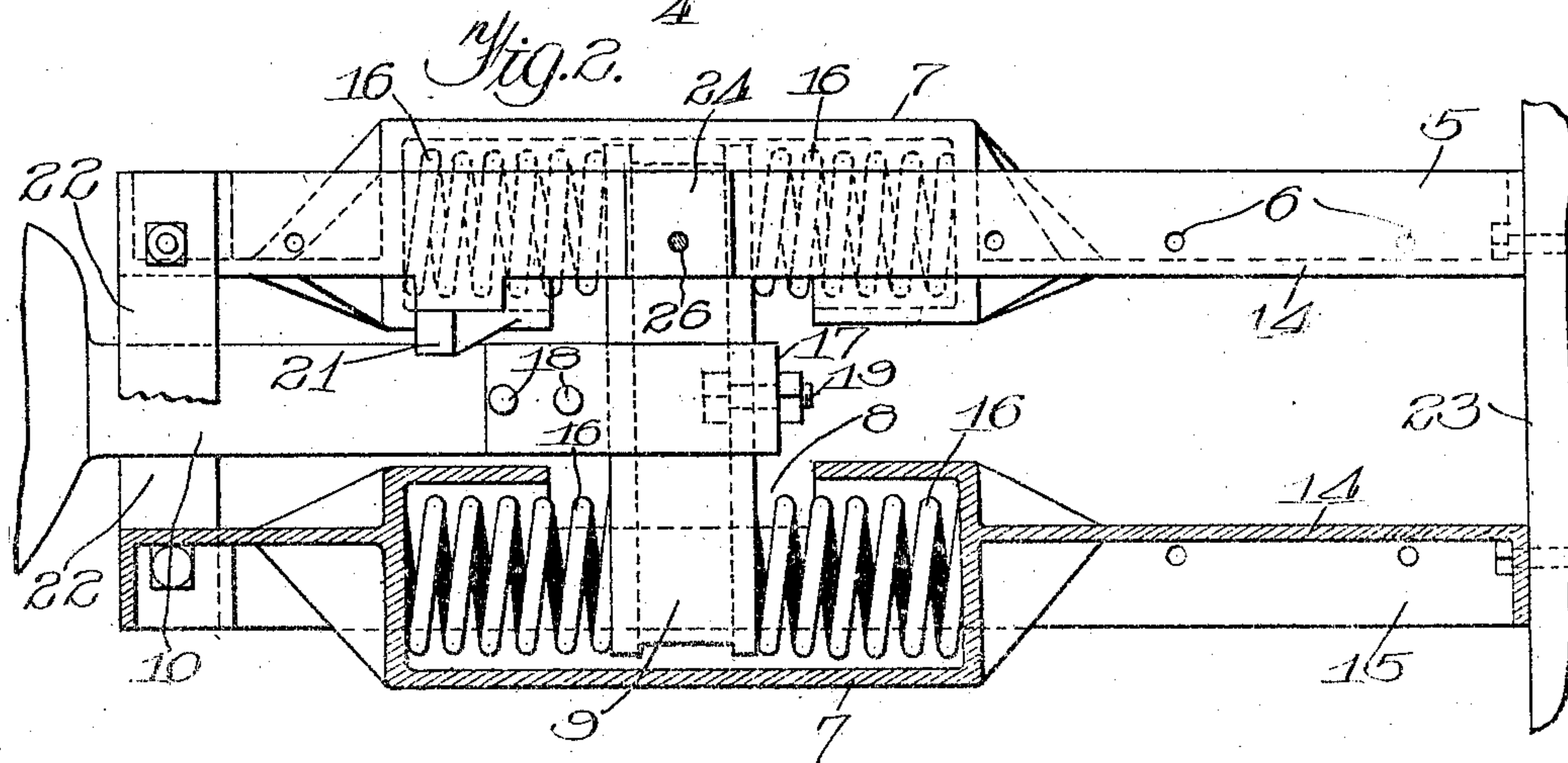
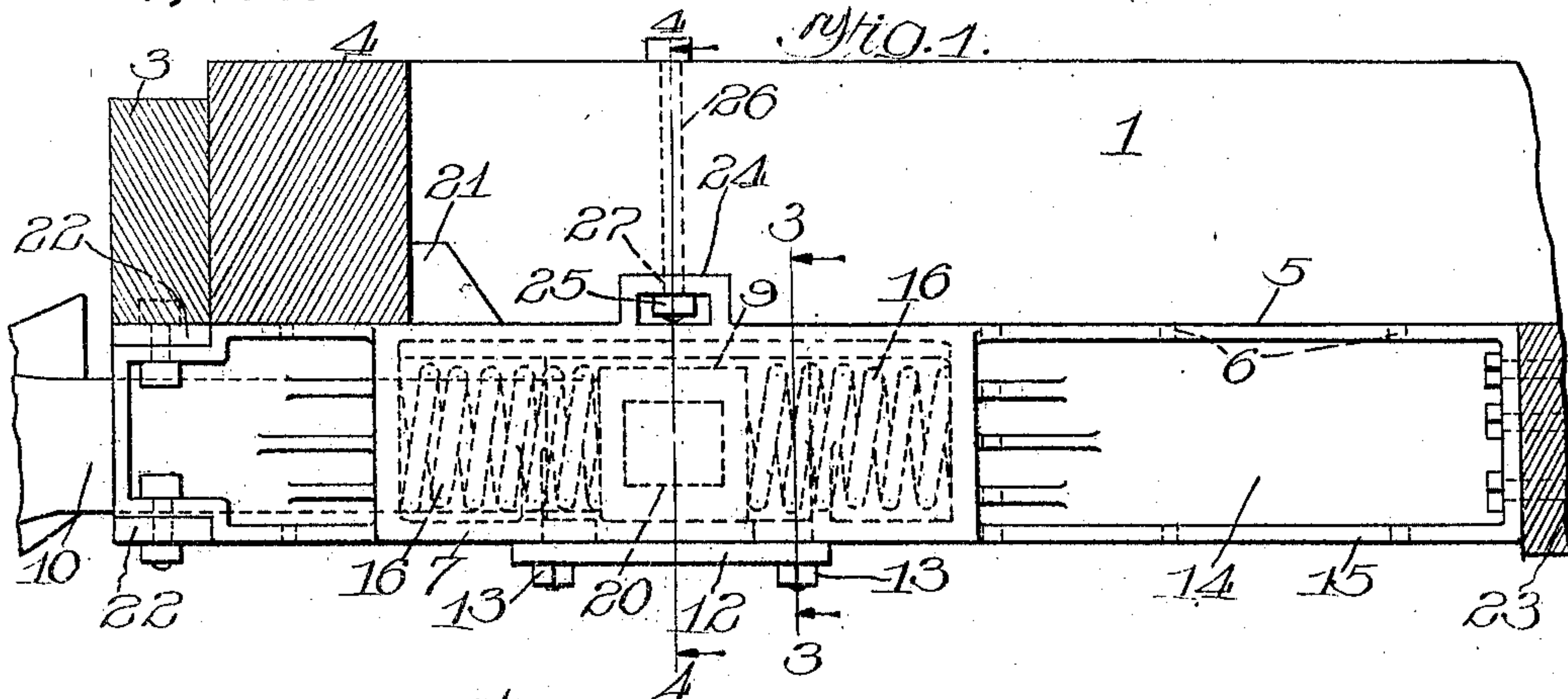


DRAFT GEAR FOR RAILWAY CARS.

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987,166.

Patented Mar. 21, 1911.



Witnesses:
G. D. Tomarus Jr.
A. Knight.

In witness whereof
 A. F. Peterson,
 By Brown & Hoffmann
 Attys

UNITED STATES PATENT OFFICE.

AARON F. PETERSON, OF CHICAGO, ILLINOIS.

DRAFT-GEAR FOR RAILWAY-CARS.

987,166.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed June 10, 1909. Serial No. 501,231.

To all whom it may concern:

Be it known that I, AARON F. PETERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Draft-Gears for Railway-Cars, of which the following is a full, clear, and exact specification.

This invention relates to means for yieldingly holding the draft bar which carries the coupler head, and it has for one of its objects to provide an improved, simple and efficient construction in which the springs and cross head or follower for the draft bar may be readily mounted, and as readily removed when desired.

Another object of the invention is to provide the draft arms with sockets or housings for the draft springs and passages for the introduction of the follower or cross head, which shall be so constructed that each of the draft arms may be formed of an integral casting, and the housings for the springs will reinforce the arm at the point where the passage is formed for the introduction of the springs and the follower or cross head.

Another object of the invention is to provide an improved form of cross head which may be readily assembled with its cooperating parts.

With a view to the attainment of these ends and the accomplishment of certain other objects which will hereinafter appear, the invention consists in the construction, combination and arrangement of the parts which will now be described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings—Figure 1 is a side elevation of a draft gear embodying this invention. Fig. 2 is a plan view thereof with one of the draft arms shown in longitudinal section. Fig. 3 is a transverse section on the line 3—3 of Fig. 1. Fig. 4 is a partial transverse section on the line 4—4 of Fig. 1.

1 and 2 are the longitudinal beams and 3 and 4 the bumper beams or end sill to which the draft gear of a railway car is usually secured. Immediately below the longitudinal beams 1, 2 are situated the two draft arms respectively. As these arms are practically duplicates of one another, a description of one will suffice for both. Each is formed of an integral casting having a longitudinal flange 5 at its upper side which

extends substantially throughout its entire length and is provided at suitable intervals with bolt holes 6 whereby it may be securely fastened to the lower side of the longitudinal beam immediately above it. Cast integrally with each of the draft arms is a cylinder or drum 7, and its intermediate portion at the inner side thereof is cut away to form an aperture 8, the aperture in one of these drums being directly opposed to that in the other, so as to allow for the introduction of the cross head or follower 9 and permit the same to go and come longitudinally of the draft arms with the draft bar 10 to which it is connected in any suitable way. The cross head or follower 9 is introduced into the cylinders or drums 7 from the under side and to that end the under side of each drum is cut away or apertured, as shown at 11, and in order to hold the cross head in place and provide it with an appropriate supporting surface after it is introduced, this aperture 11 is closed by means of a strap 12 secured to the bottom of the drum or cylinder by means of cap screws or bolts 13. Each of the draft arms is formed with a vertical web 14, which is cast integrally with the ends of the cylinders or drums 7, as better indicated in Fig. 2, and at the lower edge of this upright web is formed a lateral flange 15, which is the counterpart of the flange 5 and which lug or flange 15 extends substantially throughout the entire length of the draft arm and is merged with and constitutes the lower side of the drum or cylinder, excepting that at the point 11 it is cut away to form a passage for the introduction of the cross head or follower 9. Each draft arm, therefore, is substantially in the form of a channel bar having a portion of its web removed to permit the end of the cross head follower to be reciprocally mounted on its lower flange and with an integrally formed substantially barrel-shaped housing located in the removed portion of the web and having portions of its side and bottom web removed. By thus providing the draft arms with drums or cylinders and cutting away their intermediate portions at 8 sockets on each of the draft arms are formed for the reception of the springs 16, two of which are usually employed in each draft arm, and which are arranged against opposite faces of the follower so that under normal condi-

tions the follower is held in a position intermediate of these sockets with sufficient space between it and the sockets to allow for the requisite amount of play. In order to remove the springs, it is simply necessary to release the strap 12, which allows the cross head or follower to drop down, whereupon the springs may be removed one at a time from their respective sockets through the side openings 8.

Before the cross head or follower is interposed, it is attached to the draft bar 10 by means of the usual strap 17, which is secured to the draft bar by rivets 18, or other suitable means, and passes around the follower and is held against longitudinal movement on the follower preferably by means of a bolt 19. The follower is preferably made hollow, or provided with a longitudinal passage 20 for the sake of lightness, and for the further purpose of allowing the bolt 19 to be introduced through the wall of the follower and the strap 17. The ends of the follower are rounded so as to substantially fit the walls of the drums or cylinders 7, thereby bringing the ends of the follower into close relation to these walls and holding the follower against undue side play.

The forward ends of the draft arms are cast with lugs or stops 21, if desired, which come against the cross beam 4, as usual, and resist the tendency of the draft arm to move forwardly with relation to the longitudinal beams. The forward extremities of the draft arms are connected together at top and bottom by the usual straps 22, which support the draft bar 10 while permitting of its lateral motion, and while at the same time tying the draft arms firmly together as usual. The rear ends of the draft arms are connected together by the usual body bolster 23 riveted or otherwise secured thereto. With the draft arm thus constructed it will be seen that the springs and follower or cross head may be readily inserted or removed, and that the presence of the aperture necessary for their insertion or removal does not deprive the draft arm of the requisite amount of strength, because the outer wall of the drum or cylinder virtually constitutes a continuation of the vertical web 14. In order that the presence of this outer wall of the cylinder and its close relation to the upper flange 5 may not interfere with the introduction of the bolts which support the draft arm from the longitudinal beams 1, 2, the upper flange 5 contiguous to the cylinder or drum at the point where it is desired to introduce such bolt is formed with an offset 24, which makes room above the cylinder or drum for the introduction of the nut 25, thereby permitting the bolt 26 to be dropped down through the beam and a bolt hole 27 in the offset 24.

What I claim is:

1. In a device of the character described, the combination with a draft bar provided with a follower, of a pair of draft arms arranged on opposite sides of the draft bar and slidably engaged by the follower, each of said arms being constructed of a structural section having web and flange portions, said web having a portion removed along the path of movement of said follower and provided with a cylindrical housing located within the removed portion of the web, said housing having portions of its side and bottom webs removed, one end of the follower projecting into the opening in the side of the housing, the opening in the bottom web permitting the insertion and removal of the follower, said housing being of a size to extend laterally beyond the planes of both sides of the web, and a closure for the opening in the lower web of the housing.

2. In a draft rigging, the combination with draft arms provided with cover-housings with openings in the bottom walls thereof and closures therefor, of a draft bar follower conforming on its ends with the inner walls of said housings and removable downwardly through said openings, said follower being hollow, a draw bar, and means carried by the draw bar for detachably engaging the wall of said follower, said means being operable through the hollow in said follower.

3. A pair of draft arms, each provided with a housing embodying a pair of oppositely disposed spring sockets, springs in said sockets, the housing being provided with openings in the walls adjacent each other, said openings being centrally disposed and of sufficient size to permit the introduction and withdrawal of said springs, a follower having its extremities slidably mounted in said housings between the springs therein, a draft bar detachably secured to said follower, said housings being further provided with slots in the bottom walls thereof, said slots being of approximately the width of the follower and intersecting the said openings to permit the follower to be introduced and removed laterally from the housings, and closures for said openings.

4. In a draft rigging, the combination of a pair of draft arms each provided with a housing, the wall of each housing being provided with an aperture adjacent the other housing, a pair of springs in each housing disposed on opposite sides of said aperture, a draft bar, a cross head follower detachably connected to said draft bar and having its ends projecting through said apertures in the housings, said housings being provided with recesses in the bottom walls thereof, and closures for said openings, said recesses being of a size less than the length of each spring to prevent accidental displacement

of the springs therethrough but sufficiently large to permit the downward removal of said follower.

5 In a draft rigging, the combination of a pair of spaced draft arms of channel bar formation, a portion of the web of each bar being removed and a housing formed in the opening in the web, each of said housings being provided with an opening at one side, a cross head follower with its ends projecting through the openings in said housings reciprocally mounted on the lower flanges of the channels, said lower flanges being provided with recesses through which said follower may be dropped, and removable closures for said recesses.

6. In a draft rigging, the combination of two draft arms, each having a spring housing provided with a centrally disposed opening in the bottom wall thereof and a closure for said opening, a pair of springs in each housing disposed on opposite sides of said opening, a hollow cross head follower movable into and out of position in said housings through said openings, a draft bar of uniform cross section abutting at its inner end against said follower, and a strap extending around and releasably connected

with said cross head, the ends of said strap being secured to said draft bar.

7. In a draft rigging, the combination of a pair of spaced draft arms of channel bar formation disposed with their webs vertical and adjacent each other, a portion of the web of each bar being removed and a housing of substantially barrel-shape formation substituted therefor said housing having portions of its side and bottom web removed, a cross head follower reciprocally mounted within the side openings in said housings and on the lower flanges of the channels, said lower flanges being provided with recesses communicating with the openings in the housings for permitting the downward removal of said follower, and closures for said recesses, said closures being adapted to complete the bearing surfaces of said flanges.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 7th day of June A. D. 1909.

AARON F. PETERSON.

Witnesses:

FRANCIS A. HOPKINS,
M. W. CANTWELL.