

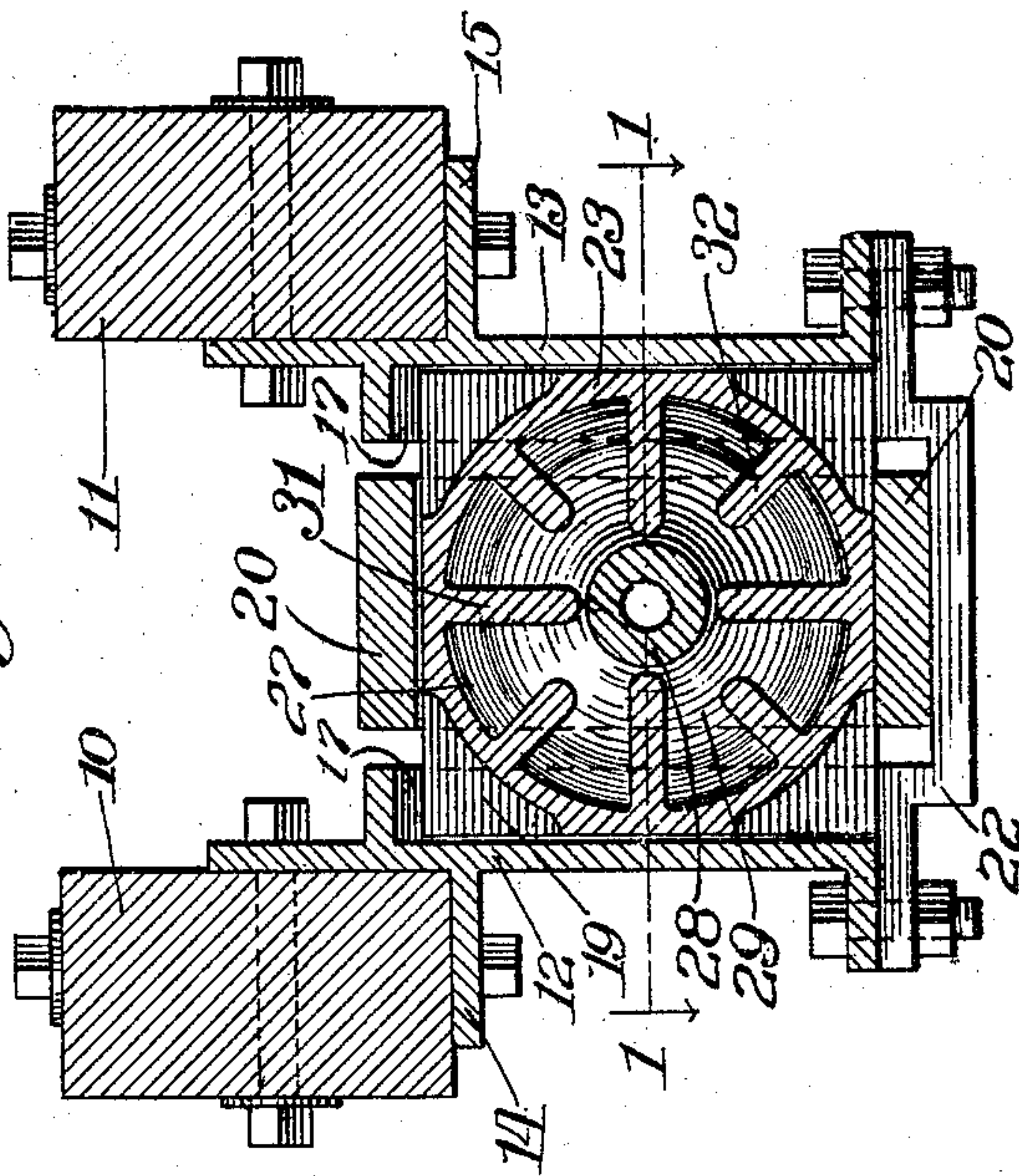
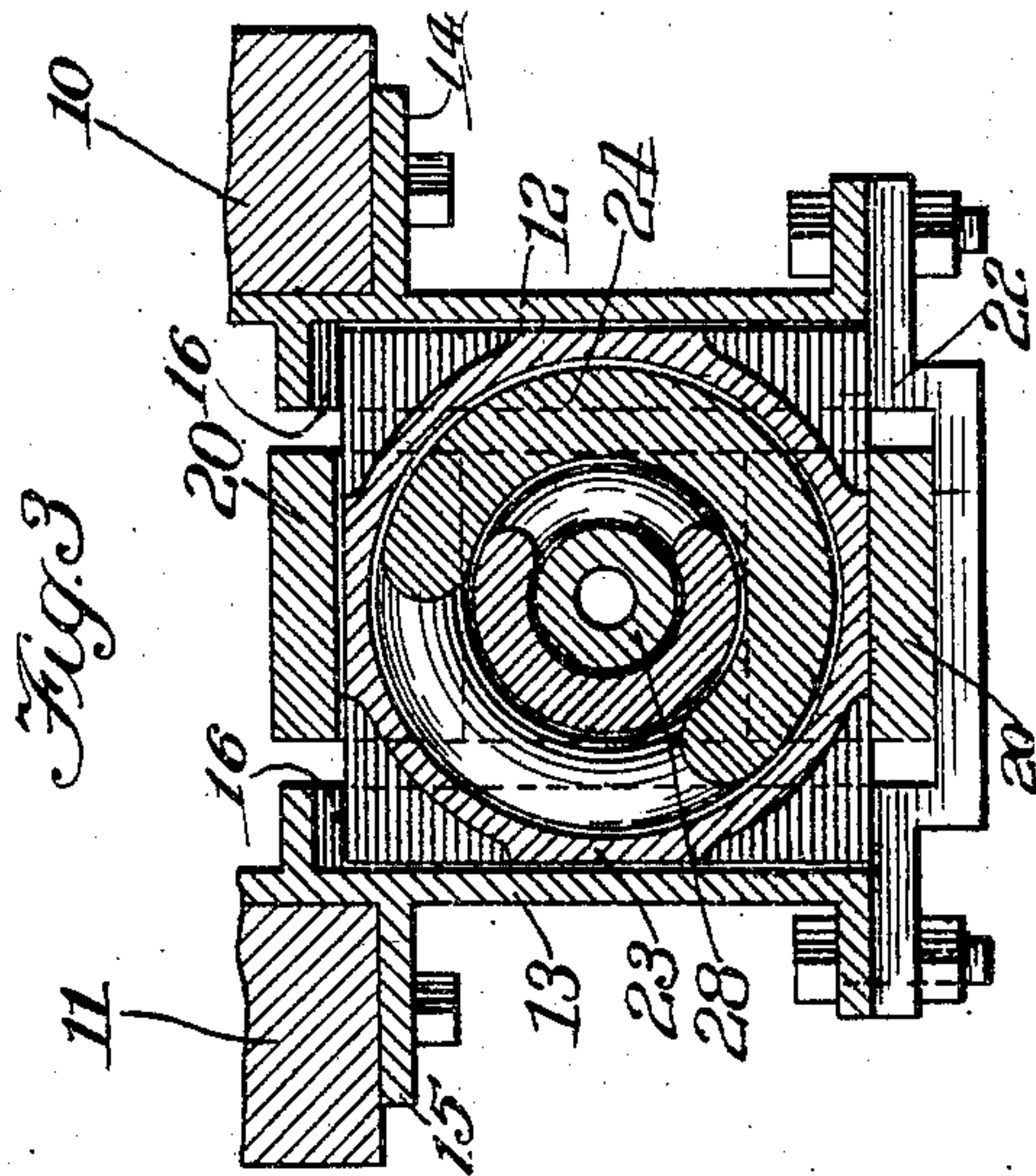
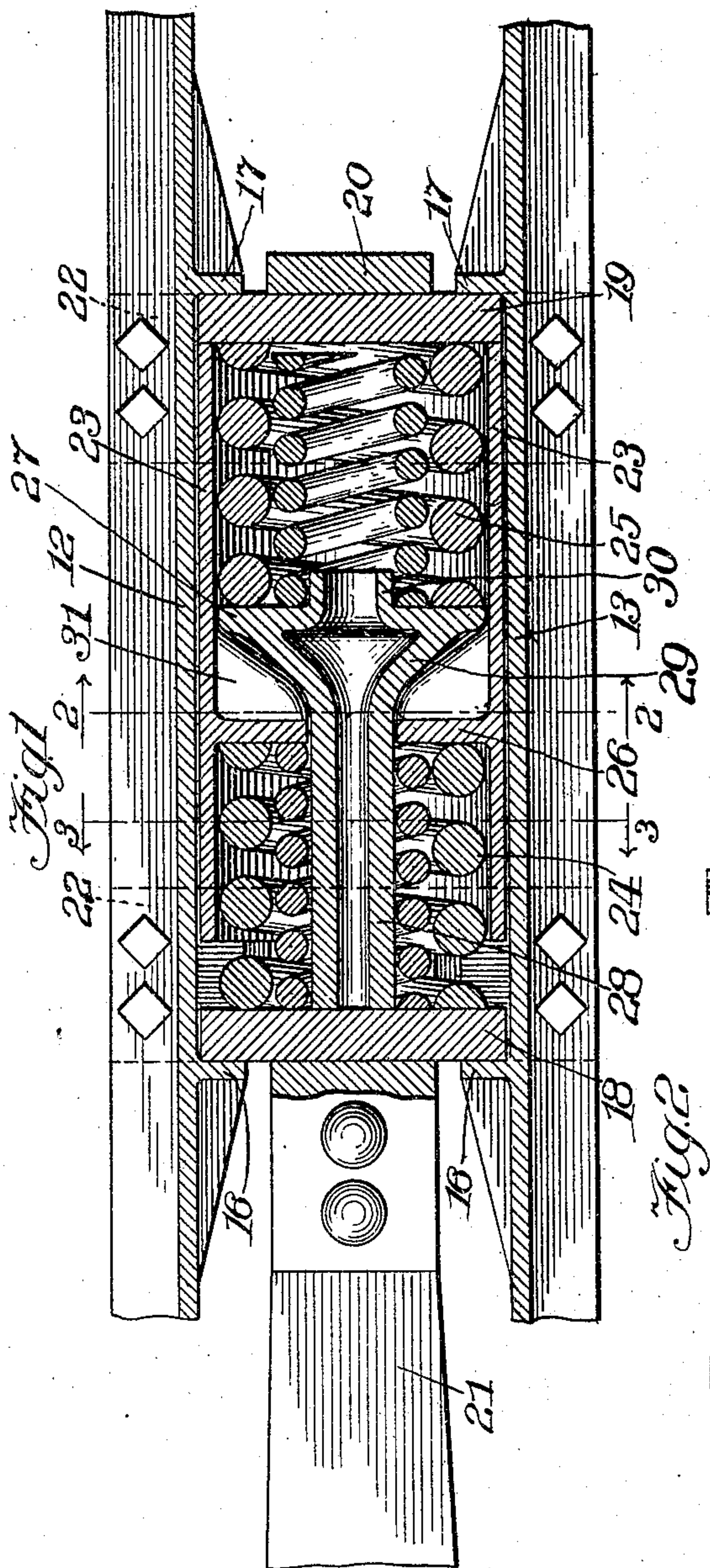
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H. C. WILLIAMSON & H. PRIES.

DRAFT RIGGING.

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UNITED STATES PATENT OFFICE.

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DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 785,345, dated March 21, 1905.

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To all whom it may concern:

Be it known that we, HENRY C. WILLIAMSON and HERMAN PRIES, citizens of the United States, and residents of Michigan City, county of Laporte, and State of Indiana, have invented certain new and useful Improvements in Draft-Rigging, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to that type of draft-rigging in which tandem springs are used, both sets of springs being in action in both the pulling and buffing strains.

The object of the invention is to simplify and strengthen devices of this kind; and it consists in the structure hereinafter described and which is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan section on the line 1 1 of Fig. 2; and Figs. 2 and 3 are transverse sections on the lines 2 2 and 3 3, respectively, of Fig. 1.

A pair of draft-sills for a railway-car are represented at 10 11, and to these sills are securely bolted the draft-plates 12 13, in this instance shown as extending downwardly from the sills and being provided with lateral flanges 14 15, which lie against and are secured to the bottom faces of the sills. These draft-plates are provided with the usual draft-shoulders 16 17 to sustain, respectively, the pulling and buffing strains, and between the plates and adapted to bear against the draft-shoulders are located the front and rear follower-plates 18 19, which are inclosed by the tail strap or loop 20 of the draw-bar 21. The usual tie-plates 22 unite the lower edges of the draft-plates 12 13 and serve as ways for the tail-strap 20 and supports for the entire draft-rigging.

Between the draft-plates 12 and 13 and between and in line with the followers 18 19 is located a hollow cylinder 23, within which are housed the two sets of springs 24 25, this cylinder normally abutting against one of the followers, as 19, and falling short of reaching to the other follower, 18, a distance at least equal to the range of longitudinal movement of the draw-bar. The cylinder 23 is provided

with an annular instanding flange 26 intermediate of its ends, which serves as the abutment for the spring or set of springs, as 24, which coöperates directly with the follower against which the cylinder does not abut. An intermediate follower 27 is seated upon the inner end of the other spring or set of springs and is provided with a stem 28, projecting through the central aperture of the flange 26 and bearing against the follower 18.

The parts being assembled, as shown in the drawings, pulling strains move the follower 19 and cylinder 23 forwardly, together compressing the rearward springs 25 against the intermediate follower 27, the load being transmitted from this follower through its stem 28 to the follower 18 and compressing the forward spring 24 directly against the follower 18, the load being transmitted to the draft-timbers through the shoulders 16. Buffing strains move the forward follower 18 inwardly, and with it the intermediate follower 27, compressing the forward set of springs against the flange 26, the load being transmitted therefrom to the rear follower 19 through the walls of the cylinder 23 and compressing the rearward springs between the intermediate follower 27 and the follower 19, the entire load being transmitted to the draft-timbers through the lug 17.

The rearward face of the intermediate follower 27—that is to say, the face which does not take a bearing against the spring 25—is conical in form, as shown at 29, and the follower and its stem may be centrally apertured, as shown. From the front or bearing face of this follower there projects a central stem 30, serving as a guide for the inner spring when, as is usual, each set of springs is composed of two springs concentrically arranged.

The rearward face of the flange 26—that is to say, the face opposite to the one against which the springs 24 bear—is reinforced by radial ribs 31 32, extending backwardly along and integral with the walls of the cylinder 23. The ribs 31 32 alternate circumferentially and are of different radial lengths, the longer ribs strengthening the flange to its central aperture and the shorter ribs reinforcing it only

at its circumference and supplying the added strength necessary to resist the pressure transmitted through the outer of the two concentric springs.

5 The cylinder 23 not only serves as a housing and guide for both sets of springs, but being a continuous housing for both springs and carrying as an integral part of itself an intermediate follower—to wit, the flange 26—
 10 the whole rigging is stiffened and strengthened and much of the wear due to chafing of separate but abutting parts is avoided. All of these considerations are of importance in this vital element in car construction, and particularly in view of the prevailing practice of
 15 building cars of great size and carrying capacity, and thus imposing loads upon the draft-rigging which render the problem of providing means for sustaining these loads an exceedingly serious and difficult one.

We claim as our invention—

1. In a draft-rigging, in combination, a cylinder having an instanding annular flange intermediate of its ends; springs housed within
 25 the cylinder at opposite sides of the flange, one of such springs projecting beyond the cylinder; followers engaging the outer ends of the springs; and an intermediate follower located between the annular flange and one of
 30 the springs and having a central stem projecting through the flange and bearing against an end follower.

2. In a draft-rigging, in combination, a cylinder having an instanding annular flange;
 35 ribs extending between one face of the flange

and the cylinder-wall; an end follower; and a spring interposed between the end follower and the plain face of the flange.

3. In a draft-rigging, in combination, a pair of end followers; a cylindrical spring-housing
 40 of uniform diameter located between the end followers and provided with an instanding annular flange intermediate of its ends for bearing against one of the springs, such flange being reinforced at its rear face by radial flanges
 45 having their outer faces oblique to the flange; an intermediate follower located between the reinforced face of such flange and one of the end followers and having a conical face directed toward such flange and a stem leading
 50 therethrough to the opposite end follower; and springs interposed between the end followers and the said flange and intermediate follower, respectively.

4. In a draft-rigging, in combination, a pair
 55 of end followers; a cylindrical spring-housing abutting against one of the end followers and terminating at the other end approximately at the limit of movement of the other end follower; tandem springs housed within the cyl-
 60 inder; an intermediate annular follower integral with the cylinder; and a second intermediate follower having a stem projecting through the annular follower and abutting against the adjacent end follower.

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