

H. T. KRAKAU.

DRAFT GEAR.

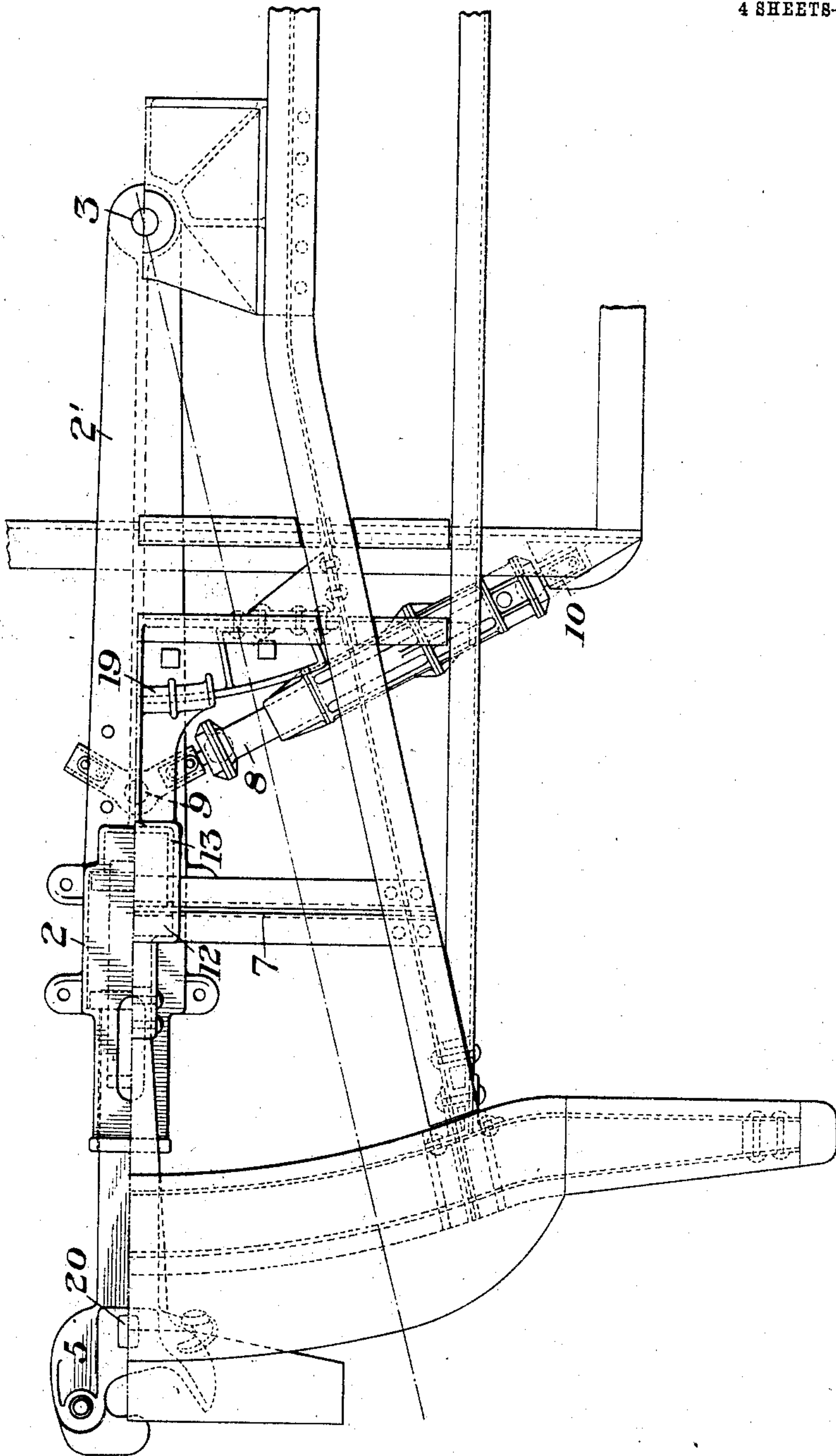
APPLICATION FILED APR. 30, 1907.

907,375.

Patented Dec. 22, 1908.

4 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

R. A. Balderson
W. W. Swartz

INVENTOR

H. T. Krakau
by R. A. Balderson
his atty

907,375.

H. T. KRAKAU.
DRAFT GEAR.
APPLICATION FILED APR. 30, 1907.

Patented Dec. 22, 1908.

4 SHEETS—SHEET 2.

Fig. 2.

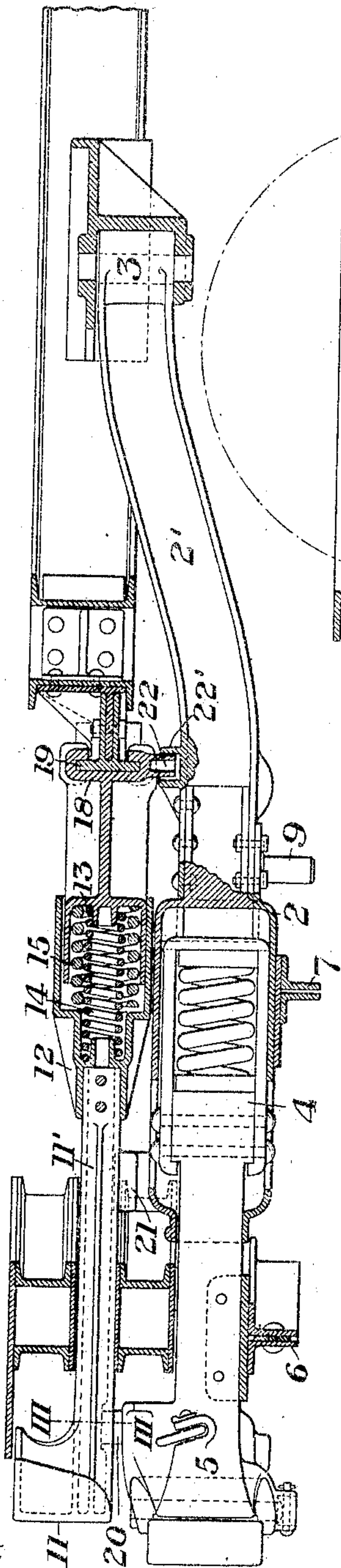
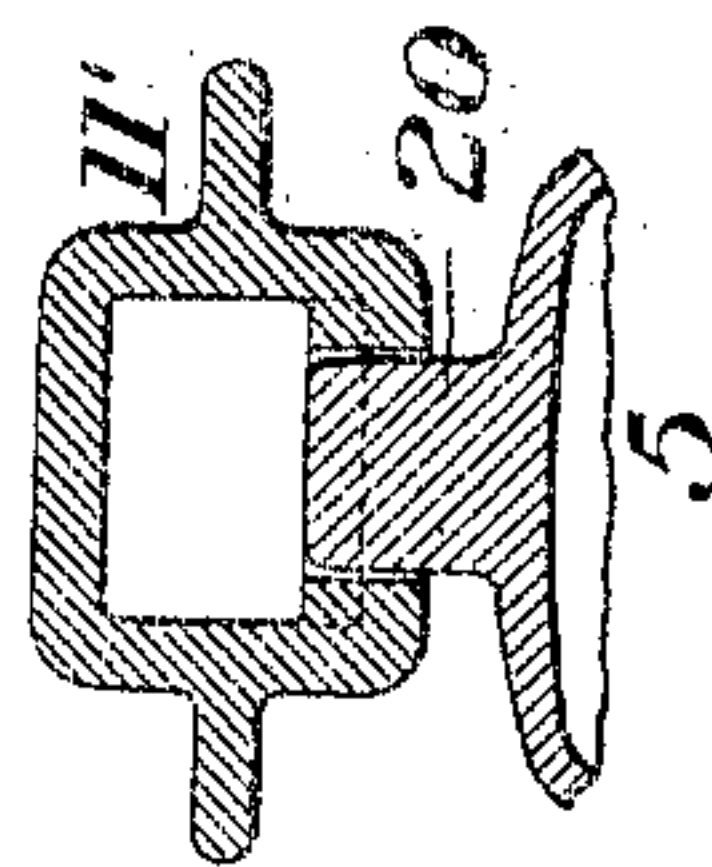


Fig. 3.



WITNESSES

R. A. Balderson.
W. W. Swartz.

INVENTOR

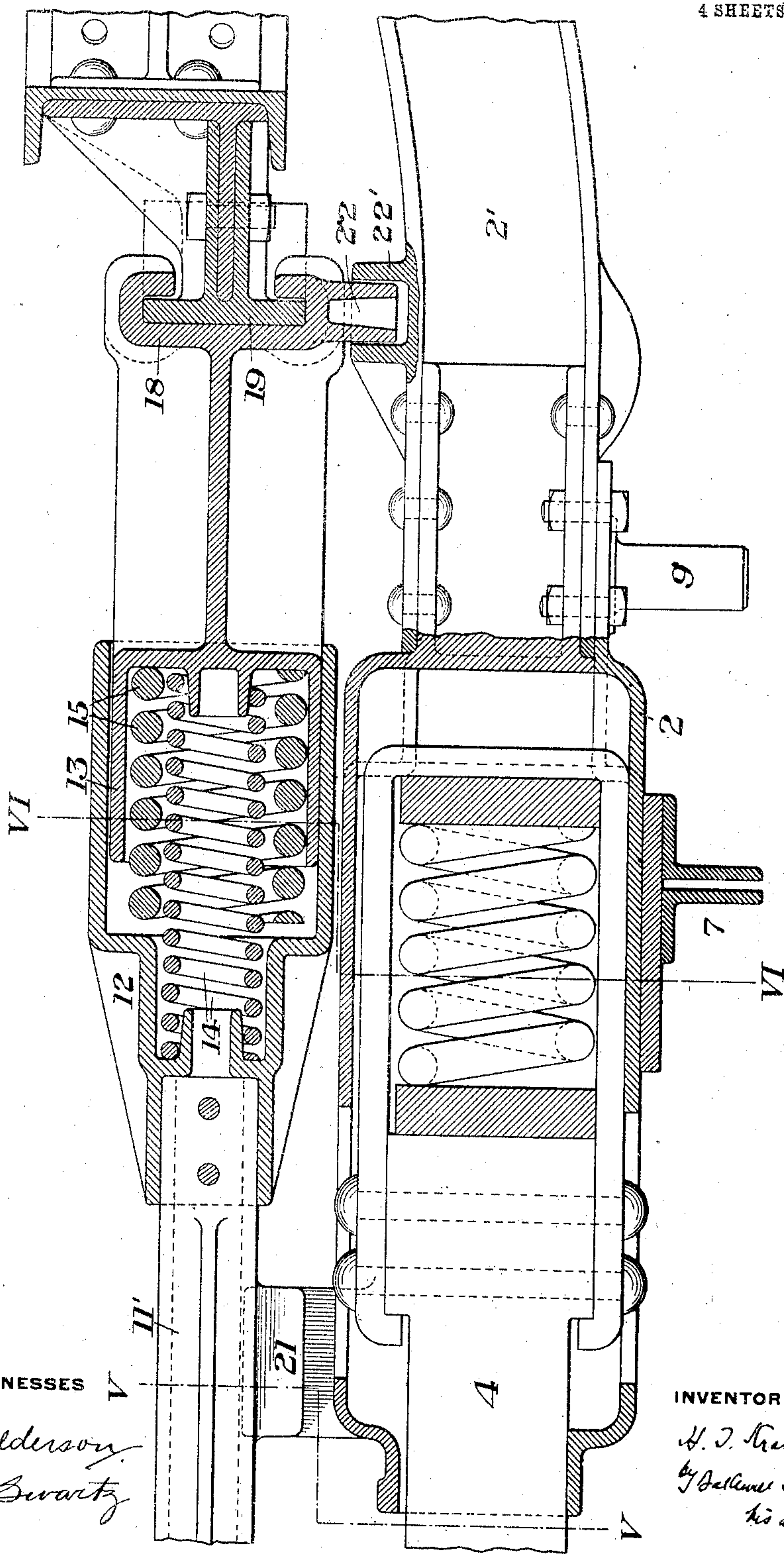
H. T. Krakau
by Balderson & Swartz
his attys

907,375.

Patented Dec. 22, 1908.

4 SHEETS—SHEET 3.

Fig. 4.



WITNESSES

R. A. Balderson
W. W. Swartz

INVENTOR

H. T. Krakau
by Balderson & Swartz
his attys

H. T. KRAKAU.

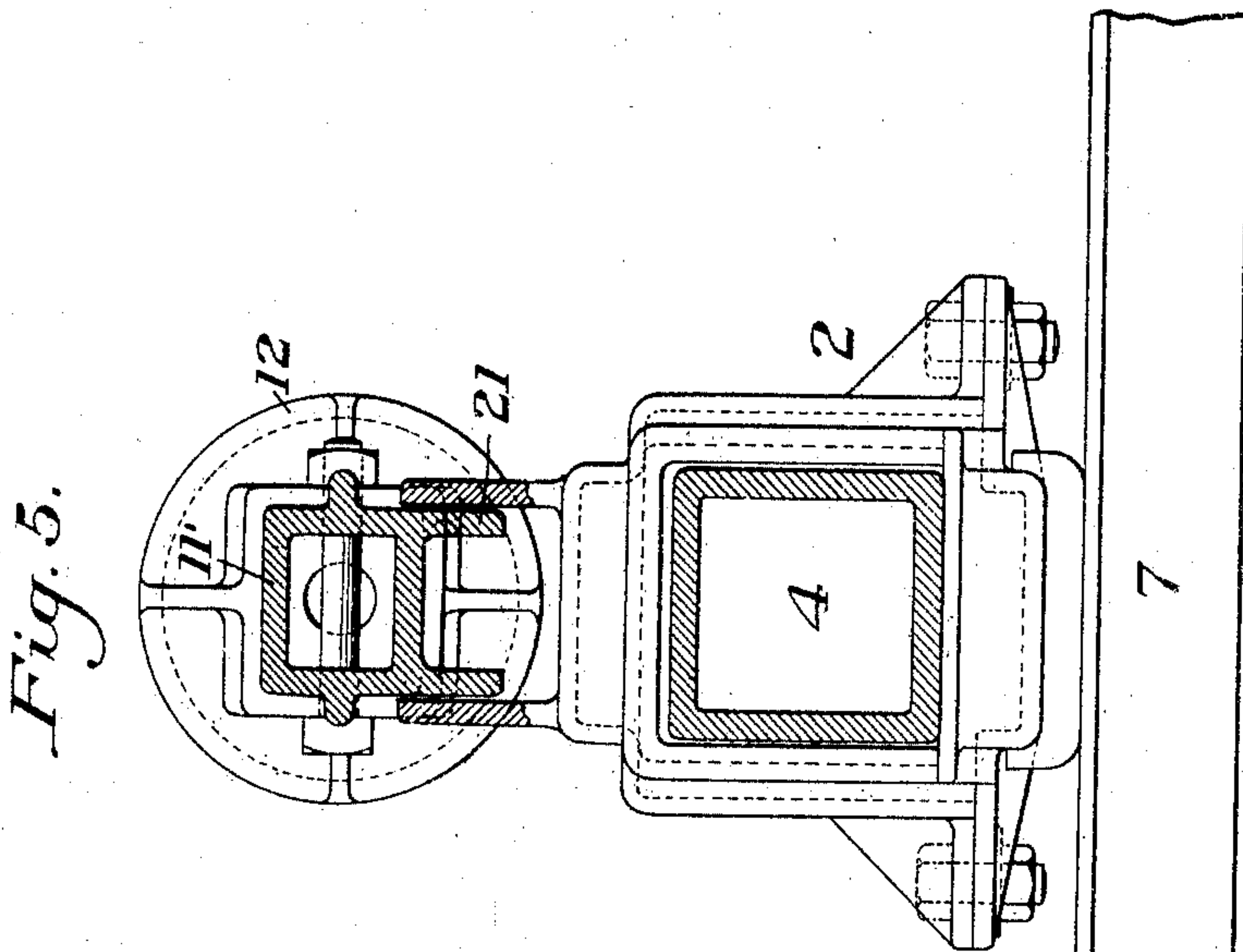
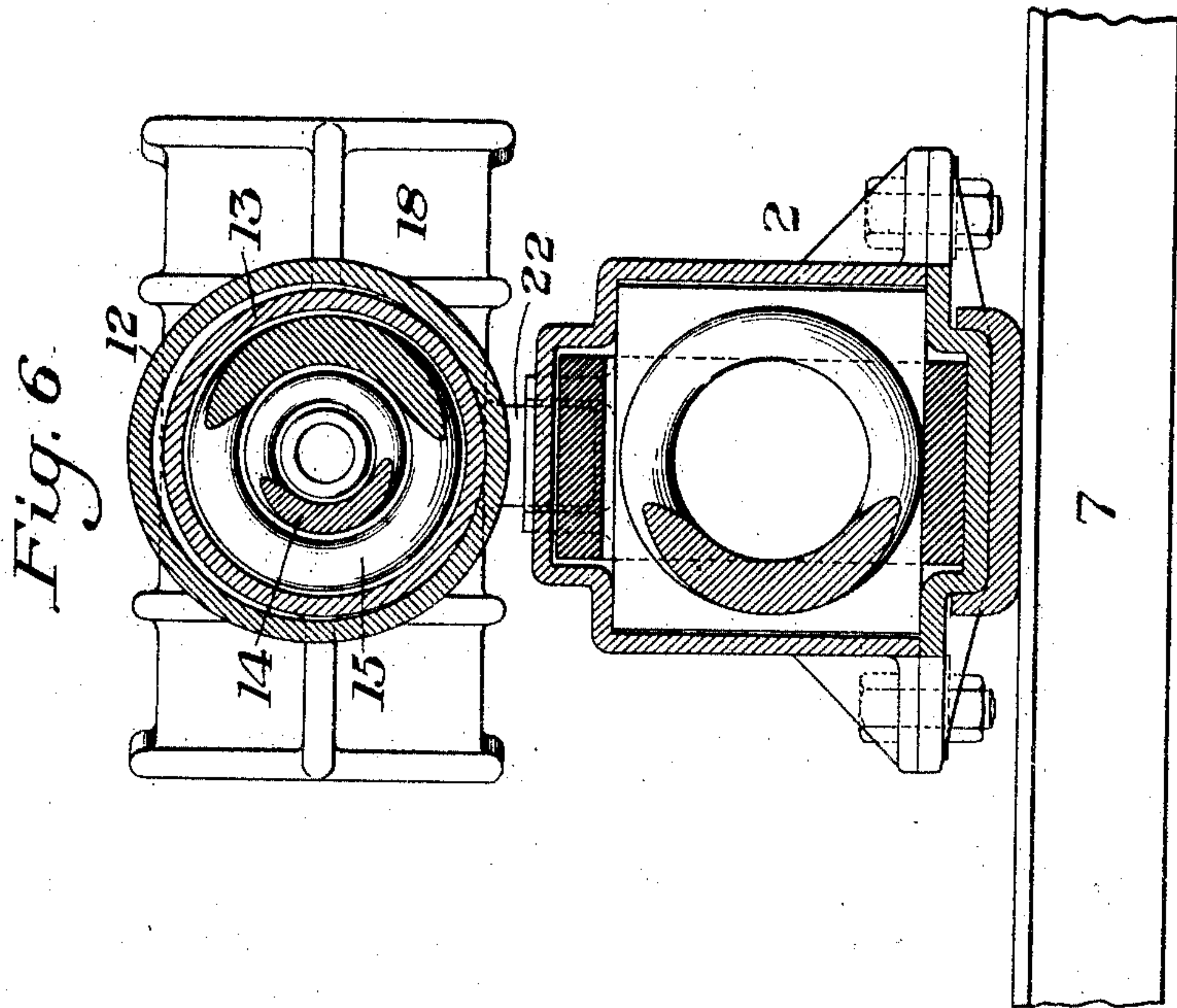
DRAFT GEAR.

APPLICATION FILED APR. 30, 1907.

907,375.

Patented Dec. 22, 1908.

4 SHEETS—SHEET 4.



WITNESSES

R. A. Balderson
W. W. Swartz

INVENTOR

H. T. Krakau
by Oakes & Dymos
his attys.

UNITED STATES PATENT OFFICE.

HARRY T. KRAKAU, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

DRAFT-GEAR.

No. 907,375.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed April 30, 1907. Serial No. 371,042.

To all whom it may concern:

Be it known that I, HARRY T. KRAKAU, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Draft-Gear, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a partial plan view of my draft gear; Fig. 2 is a longitudinal central section thereof, partly in elevation; Fig. 3 is a vertical section on the line III—III of Fig. 2; Fig. 4 is a sectional view on a larger scale, showing a part of the device; Figs. 5 and 6 are vertical sections on the lines V—V and VI—VI of Fig. 4.

My invention provides a draft-gear in which the coupler is capable of swinging laterally through a wide range and is connected to the truck so as to be guided thereby positively into proper position. The device can be used with success on passenger cars, and can also be applied to draft-gears in a manner which will adapt them for use not only with passenger cars, but also with much greater efficiency than heretofore on freight car equipments. The advantages of such laterally-swinging draft gears are, that they relieve the cars from the great strain to which they are subjected when provided with laterally-fixed draft-gears, and also remove strain from the wheels, axles, and track, and thus increase the durability of the cars and effect a very considerable economy in the power required to move the trains.

The drawings show the preferred embodiment of my invention but it will be understood by those skilled in the art that the parts and their arrangement may be modified in many ways and that some of the parts of the apparatus may be applied to use without the others.

In the drawings, 2 represents a swinging frame, having a rearwardly extending beam 2', which is pivoted to the car frame at 3 and carries a draft-rigging 4 and coupler 5 in the manner described in prior patents issued to me, so that the coupler with the draft-rigging, will swing radially on the axis 3 as the car passes around curves. The coupler and the frame are supported by carry-irons 6, 7, and the frame has telescopic spring guiding-connections 8, extending from a pin 9 on the frame to points 10 on the car-truck. The platform buffer, which constitutes one of the

elements of my invention, has a forward part or face-piece 11 with a straight face and a rearwardly projecting shank 11' secured to a front buffer spring-case 12, which constitutes the second member of the platform-buffer and is fitted telescopically over a rear buffer spring-case 13, which constitutes the third member of the device. Springs 14 and 15 set in the spring-cases force the face of the buffer forwardly and keep it in close contact with the buffer of an adjoining car. The rear spring-case 13 has a curved and flanged end portion 18, which fits on a correspondingly curved segment 19, whose curvature is such that its center is substantially coincident with the axis 3.

The buffer is engaged with the coupler-shank in such manner as to permit an independent relative longitudinal motion of these parts to a limited extent, and so as to cause them to move laterally together. This engagement is made by pins or projections on one of these parts, fitting within longitudinally slotted or elongated sockets on the other part, and also by a pin or projection on one of the parts fitting an un-slotted socket on the other part, back of the buffer and preferably as near the guiding segment as possible. The buffer being thus engaged at its rear and forward points with the coupler, constitutes in effect a floating member which has its rear bearing on a curved and extended surface at the end-sill of the car-frame and transmits the stresses of buffing to the end sill in a straight line in every position in which it may be carried by the coupler. The strains are thus distributed on the car-frame in a most advantageous manner. The buffer by bearing at its rear end against the end sill of the car-frame, instead of near the forward end of the buffer on the front of platform, creates a minimum of friction on its bearing to be overcome in its lateral movement.

The engaging members of the buffer and coupler which I show in the drawing consist of pins or lugs 20 and 21 on the coupler-head and buffer-shank fitting elongated sockets on the buffer-shank and frame 2 respectively; and the rear engagement is constituted by a pin or projection 22 on the head 18, fitting in a socket 22' in the frame. When two cars thus equipped are brought into coupling engagement the couplers engage one with the other and the buffing faces 11 also engage, each buffing face being held rigidly at right

angles to the longitudinal axis of its own shank and to the shank of the coupler. So long as the two buffers are in contact, their shanks cannot get out of line with each other, and as the cars move on varying curvature of the track, the buffers will be forced laterally on their respective car bodies, and will thus maintain their shanks on the same line. As each buffer engages its coupler and moves laterally therewith, the buffers will serve to hold the couplers in line, and prevent them from buckling.

Within the scope of my invention as defined in the claims the apparatus may be modified in many ways, since—

What I claim is:—

1. A car having a swinging frame carrying a draft-rigging and coupler, and a buffer mounted independently of the draft gear and adapted to swing radially relatively to a central point, the buffer being engaged with the draft gear and adapted to move therewith laterally.

2. A car having a swinging frame carrying a draft rigging and coupler and a buffer mounted upon the car independently of the draft gear and engaged with said parts by a sliding engagement and means whereby the transverse member of the buffer is held at right angles to the longitudinal line of the draft gear.

3. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer mounted upon the car independently of the draft-gear and having a shank fixed rigidly to the transverse member of the buffer, said buffer and shank being adapted to move laterally with the draft-gear.

4. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer engaged with said parts and adapted to move therewith laterally, said buffer having a rearwardly-extending shank at its middle portion, and a spring therefor.

5. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer engaged by a sliding engagement with said parts, and adapted to move therewith laterally, and having also a non-sliding engagement at the rear of the spring portion of the buffer.

6. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer engaged with said parts and adapted to move therewith laterally, said buffer having its spring back of its middle portion, and said frame having a guiding connection with the car-truck.

7. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer engaged with said parts and adapted to move therewith laterally, and means whereby the transverse member of the buffer is held at right angles to the longitudinal line of the draft gear.

8. A car having a swinging frame carrying a draft-rigging and coupler, and a floating buffer engaged with said parts and adapted to move therewith laterally, said frame having a guiding connection with the car-truck.

In testimony whereof, I have hereunto set my hand.

HARRY T. KRAKAU.

Witnesses:

CHARLES E. POPE,
HARRY E. ORR.