

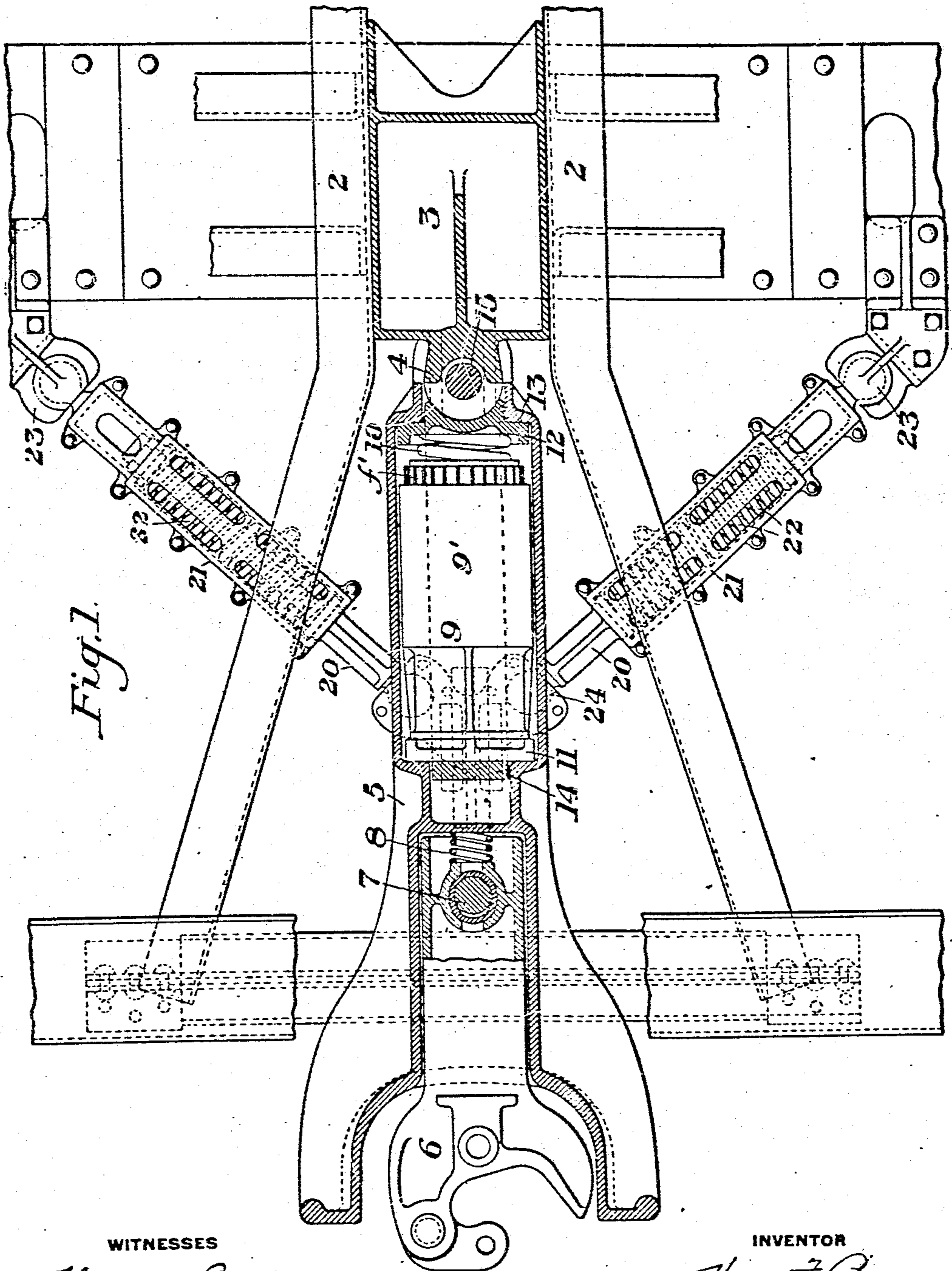
H. F. POPE.  
DRAFT GEAR.

APPLICATION FILED MAY 17, 1906.

947,348.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.



WITNESSES

Thomas W. Baxwell  
R. A. Balderson

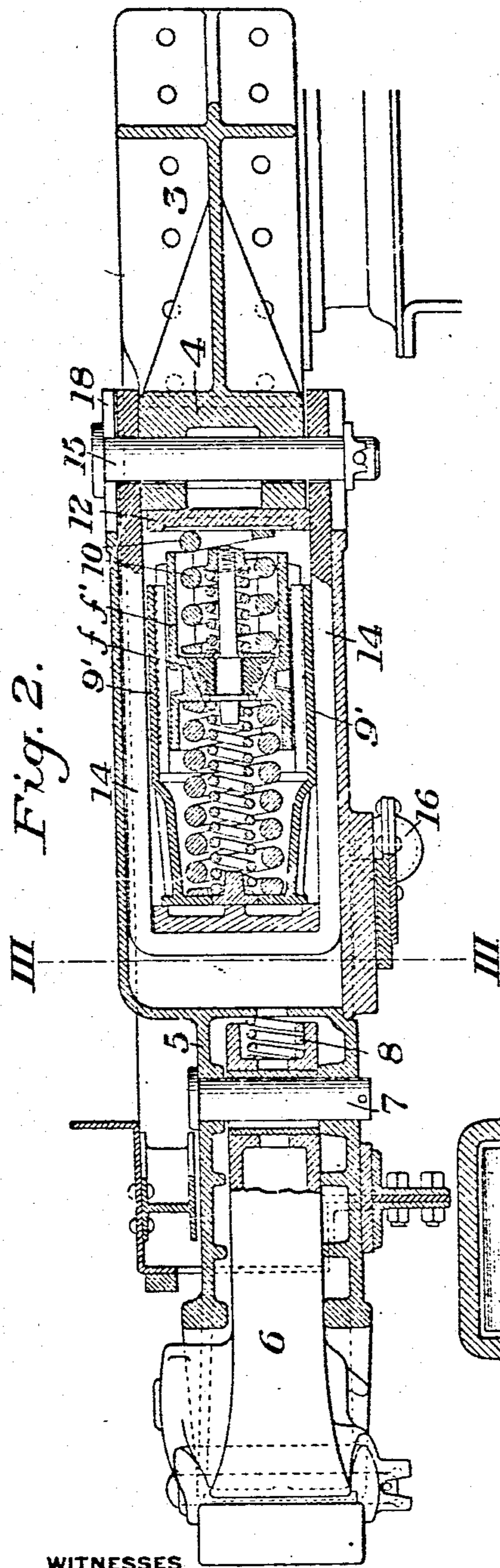
INVENTOR

Henry F. Pope

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3 SHEETS—SHEET 2.



WITNESSES

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Fig. 4.

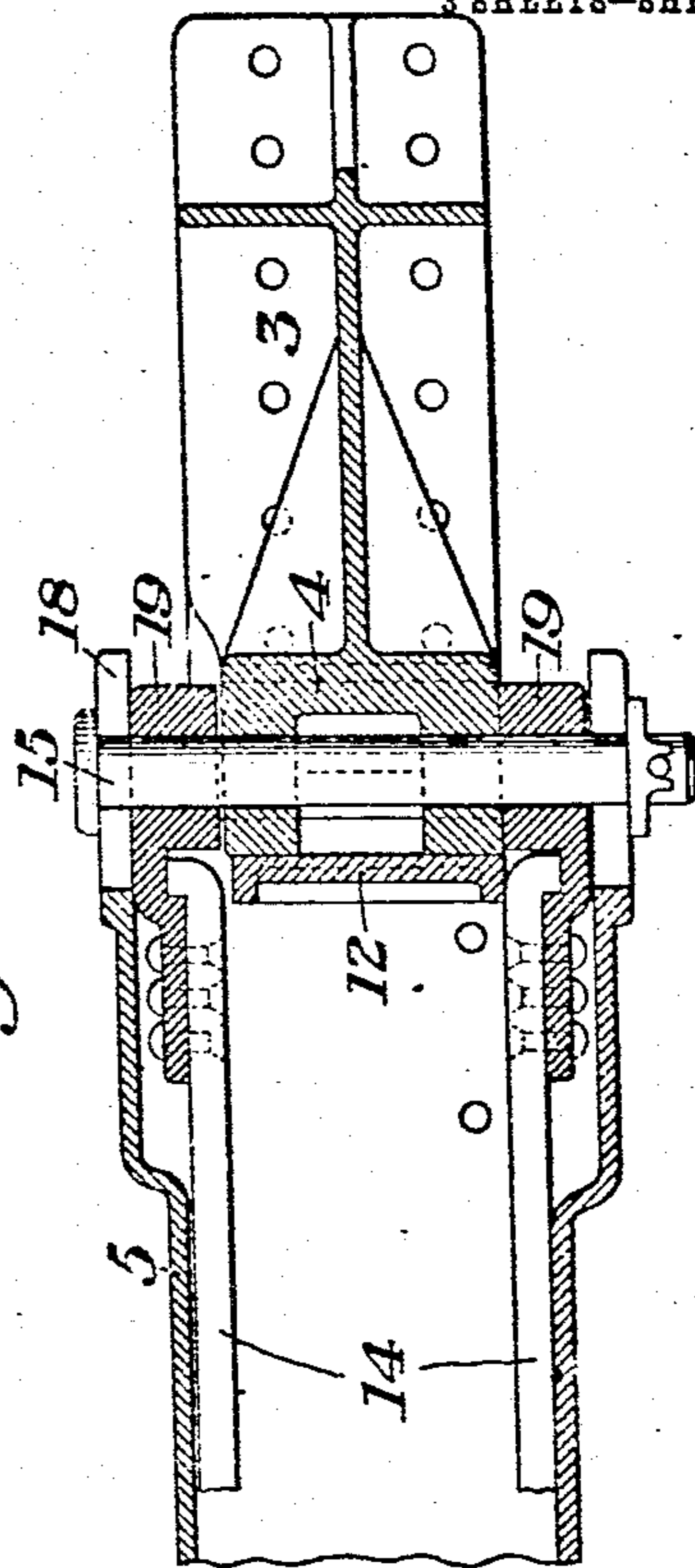
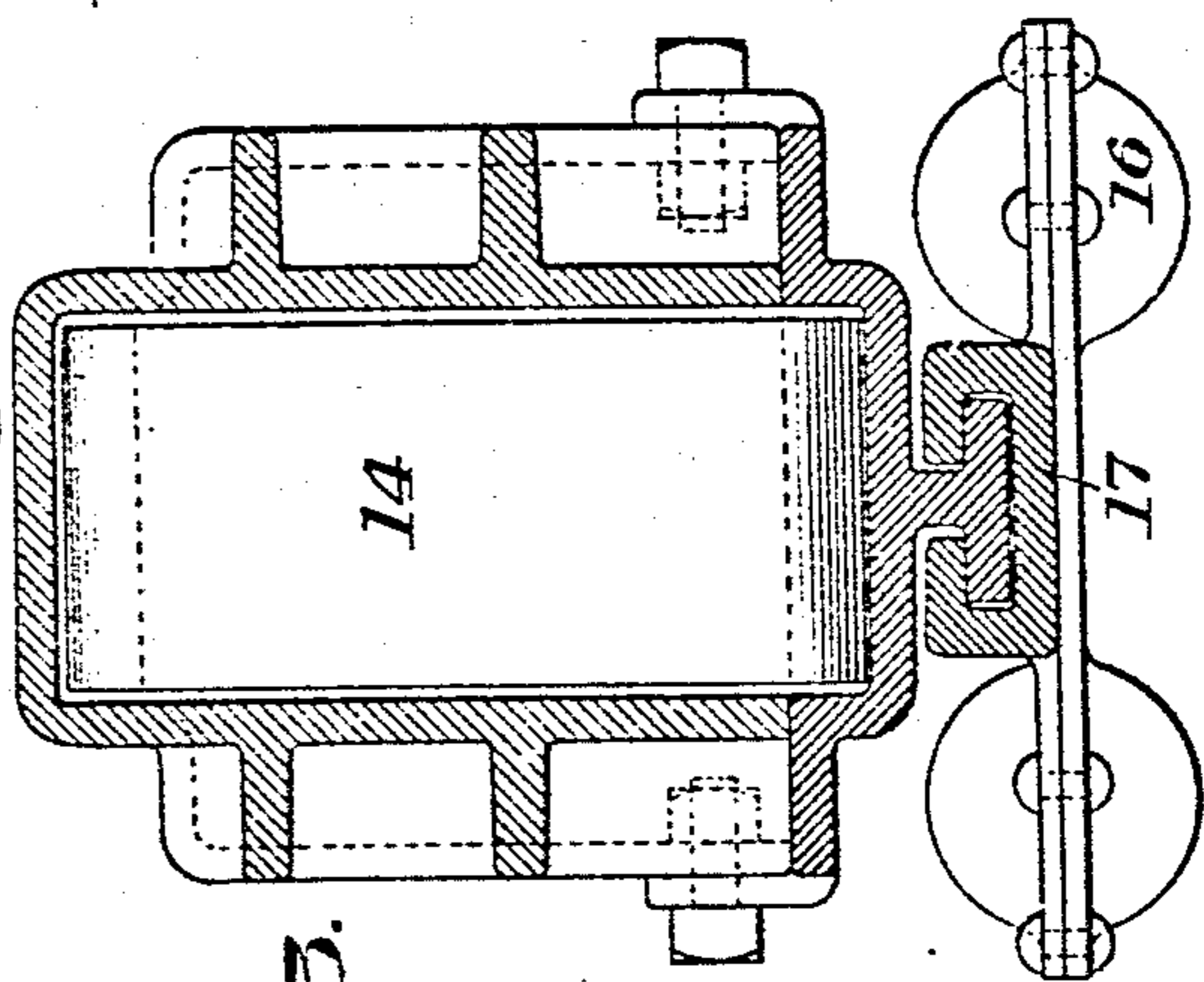


Fig. 3.



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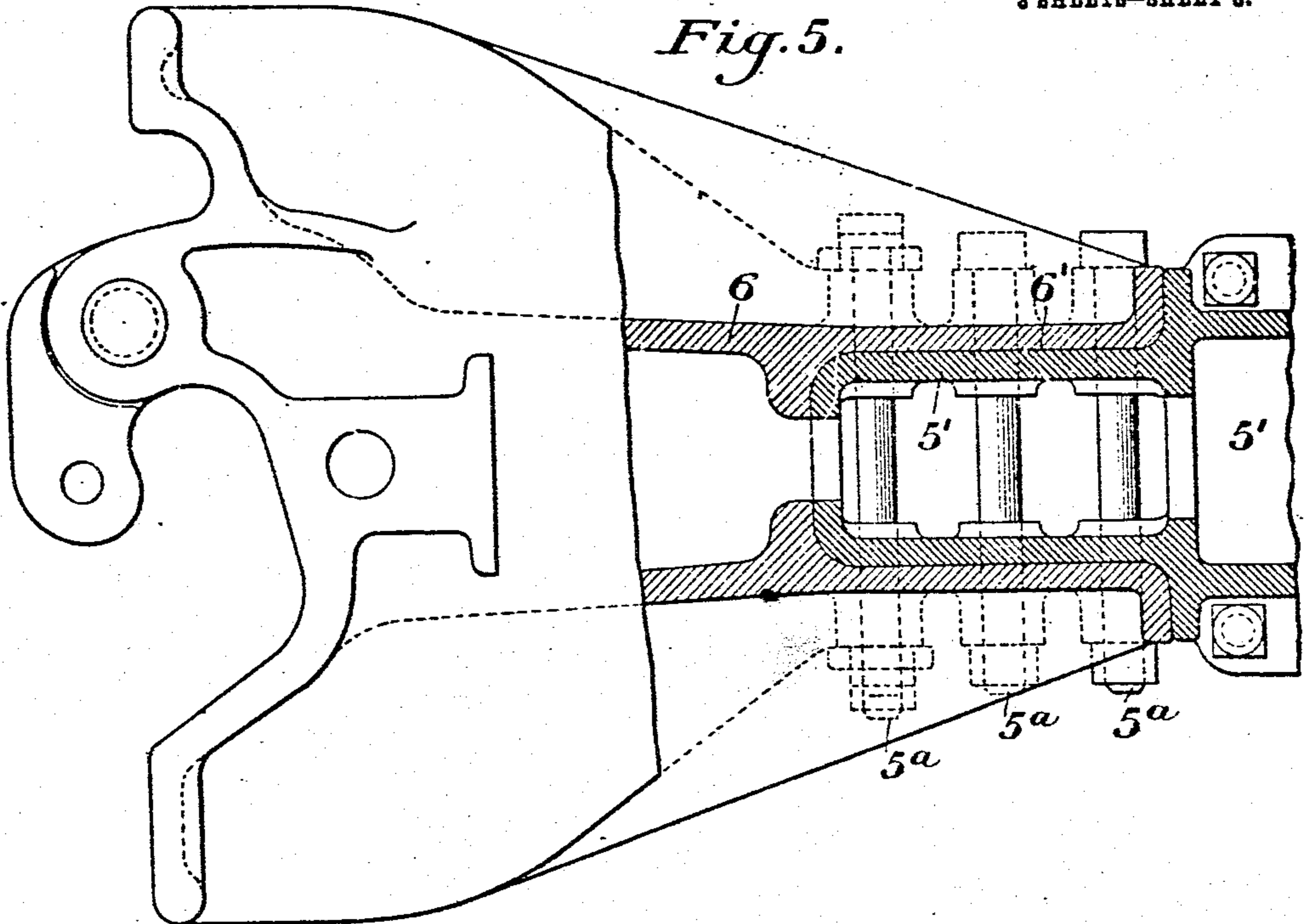
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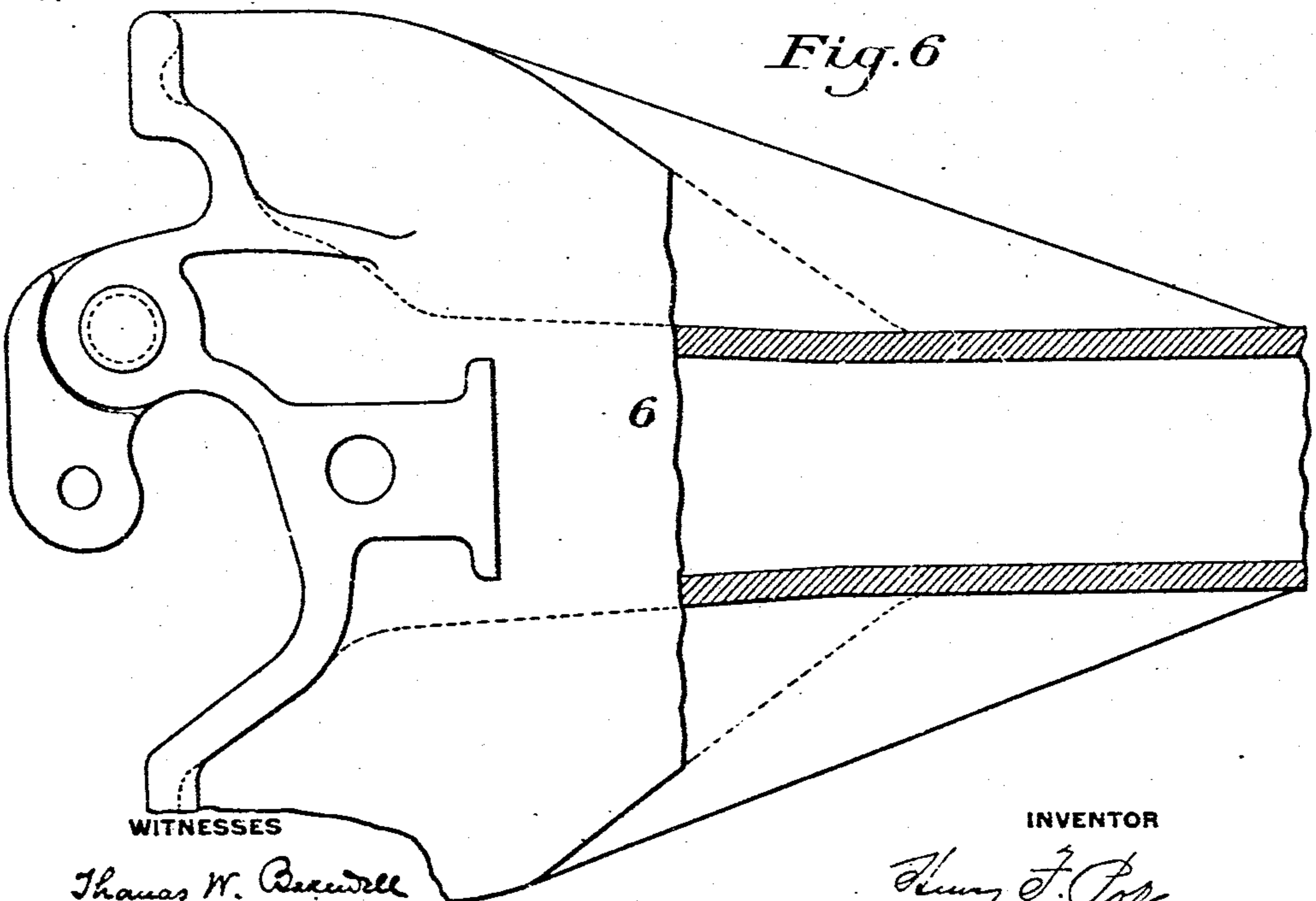
3 SHEETS—SHEET 3.

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*Fig. 5.*



*Fig. 6*



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# UNITED STATES PATENT OFFICE.

HENRY F. POPE, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## DRAFT-GEAR.

947,348.

Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed May 17, 1906. Serial No. 317,362.

*To all whom it may concern:*

Be it known that I, HENRY F. POPE, 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 shows in horizontal section a draft gear embodying my invention; Fig. 2 is a longitudinal section thereof; Fig. 3 is a vertical section, on the line III—III of Fig. 2; and Fig. 4 is a sectional view illustrating a modification; Figs. 5 and 6 are horizontal sectional views, illustrating modifications of the invention.

In the drawings, 2, 2 are the center sills of the car-frame having an intervening block or casting 3, with a curved head 4, on which the draft-gear can swing radially. This block has a hole for the pivot pin 15, and has lateral sliding bearing faces for guiding the rear end of the sliding member of the draft gear.

5 is a frame which as shown in the drawing has the form and functions of a coupler pocket, but this is not essential, for the frame may be otherwise constructed, its functions, so far as the present invention is concerned, being to swing radially with the coupler and to connect the coupler with the followers of the draft-rigging. Therefore, within the scope of my invention the frame may be made of very different form and if desired may be integral with, or may be attached to, or form part of, the coupler-shank. This construction is shown, for example, in Figs. 5 and 6, hereinafter described.

6 is the coupler, which is mounted within the pocket, preferably by a pin 7 passing through a slot in the coupler-shank, which may be backed by a spring 8. The yielding draft-rigging proper 9 may be of any suitable construction having springs with or without friction elements.

The draft-rigging which I illustrate in

Fig. 1 is set telescopically within the hollow rear portion of the frame 5, and is of the Westinghouse type which is a well known type of friction draft gear, and has a spring 10, a front follower 11, and a rear follower 12, the rear face of which is curved and bears against the head 4, so that it may turn thereon.

The rear end of the frame or pocket 5 is connected to the follower 12, preferably by shoulders 13 on the frame, and the draft-rigging is provided with a U-shape yoke 14, held at its open rear end to the head 4 by a pivot-pin 15, and extending around the front follower 11 of the draft-rigging.

The friction elements above described are shown in Fig. 2, *f* being wedge blocks which are moved within one another during buffing and draft, and *f'* are intercalated plates which act frictionally upon the surrounding box or case 9'.

The draft gear is connected to the truck by guiding connections shown in Fig. 1. These consist preferably of telescopically intercalated parts 20 and 21, having interposed spring mechanism 22, these parts extending diagonally from the draft gear to the truck frame and being pivotally connected at the ends, as shown at 23 and 24, these connections being preferably constituted of ball-and-socket joints. These spring connections serve to guide the draft gear conformably to the motion of the truck.

When the car to which my invention is applied is passing around curves the frame or pocket 5 will swing freely on the axis 15. When the coupler is subjected to buffing stress, the frame 5 will move rearwardly, and by bearing against the follower 11, will compress the draft-rigging 9 whose rear follower 12 is held from rearward movement by its abutment against the head 4. During draft the forward motion of the coupler drawing with it the frame or pocket 5, will by means of the shoulders 13 move the rear follower 12 forwardly so as to compress the springs of the draft-rigging which is then

held by the front follower abutting against the yoke 14, connected as above stated to the pin 15.

The rear end of the frame is preferably 5 slotted, as at 18, so that it may fit around the pin 15 and be guided thereby.

At the front end of the frame 5 are lateral stop projections which prevent buckling when two couplers are coupled together. 10 Like devices integral with the coupler head are shown in Figs. 5 and 6.

In the modification shown in Fig. 4, I strengthen the connections of the yoke with the pin 15 by providing the ends of the yoke 15 with journal-pieces or castings 19, through which the pin passes.

In the modification shown in Fig. 5, the coupler shank 6 is formed with a pocket 6' at its rear end, into which the front end of the coupler frame 5' is fitted and to which 20 it is secured rigidly by bolts 5<sup>2</sup>.

Many other changes may be made in the construction of the parts without departing from my invention. I do not claim herein 25 the broad invention relating to a radially swinging draft member in connection with the stops at the outer sides of the coupler head, the same being claimed in another co-pending application, Serial No. 367,170.

30 I claim:

1. The combination with a draft rigging including a yoke pivoted to the car and yieldable draft and buffing resisting means embraced within the yoke, of a coupler 35 longitudinally movable with respect to the yoke and associated with the resisting means to compress the same during pulling and buffing, said coupler having a rigid extension extending back to the pivot.

40 2. A radially swinging draft gear having a yielding draft-rigging pivotally connected to the car body, and a coupler frame carrying a coupler and arranged to swing radially therewith, said frame connecting the coupler 45 with the followers of the draft rigging, and having a longitudinal movement, together with guiding connections for said frame.

3. A draft gear having a coupler, a coupler-frame movable longitudinally therewith 50 and carrying the follower-stops of the draft-rigging, a yielding draft-rigging, and a yoke with arms extending around the draft-rigging above and below the same and pivotally connected to the car frame on a bearing in- 55 terposed between the ends of the yoke.

4. A coupler pocket having a forwardly-opening recess in its front end for the reception of a coupler, and a rearwardly-opening recess at the rear end for the reception of a 60 draft rigging, the front end of the coupler pocket constituting a stop for engagement with the corresponding end of an opposing pocket to maintain the pockets in alinement.

5. The combination with a draft-rigging 65 including a yoke pivoted to the car and

yieldable draft and buffing resisting means contained within the yoke, of a coupler longitudinally movable with respect to the yoke and associated with the resisting means to compress the same during the pulling and 70 buffing, and a sliding connection between the coupler and the truck of the car.

6. A draft gear having a coupler, a draft-rigging, and a longitudinally movable coupler-carrying frame extending rearwardly 75 from the coupler and having top and bottom and side members telescopically inclosing the draft rigging, and carrying the front and rear shoulders for the followers of the draft rigging. 80

7. A car coupler extension having at its rear end a longitudinally extending cavity adapted to receive the yoke and springs of a draft rigging and provided with shoulders for the draft rigging followers and having 85 bearing faces at its rear end adapted to slide on the car frame.

8. A pivot member for a radial draft gear having a pivotal bearing for the draft gear and a sliding bearing for a sliding member 90 of the draft gear.

9. A radially movable draft gear having a pivoted draft rigging and a coupler having an extension extending rigidly from the coupler to the pivot of the draft rigging and 95 movable longitudinally over the draft rigging.

10. The combination with a draft rigging having front and rear followers, and yieldable draft and buffing resisting means, a 100 yoke attached to the car-frame and embracing the front follower, the front follower bearing against the yoke and the rear follower bearing against a stationary portion of the car frame, and a coupler longitu- 105 dinally movable with respect to the yoke and associated with the resisting means.

11. The combination with a draft rigging having front and rear followers, and yieldable draft and buffing resisting means, a 110 yoke attached to the car-frame and embracing the front follower, the front follower bearing against the yoke and the rear follower bearing against a stationary portion of the car frame between separated arms of 115 the yoke, and a coupler longitudinally movable with respect to the yoke and associated with the resisting means.

12. The combination with a draft rigging having front and rear followers, and yield- 120 able draft and buffing resisting means, a yoke pivoted to the car frame and embracing the front follower, the front follower bearing against the yoke and the rear follower bearing against a fixed portion of the 125 car frame at which the yoke is pivoted, and a coupler longitudinally movable with respect to the yoke and associated with the resisting means.

13. A radially swinging draft-gear hav- 130

ing a yielding draft-rigging with front and rear followers, a stop on the car-body on which the rear follower has a rocking bearing, and a longitudinally movable coupler-  
5 frame connected to the draft-rigging.

14. A radially swinging draft-gear having a yielding draft-rigging with front and rear followers, a stop on the car-body on which the rear follower has a rocking bearing,  
10 ing, and a longitudinally movable coupler-

frame connected to the draft-rigging, said draft-rigging having a yoke pivotally connected to the car body.

In testimony whereof I have hereunto set my hand.

HENRY F. POPE.

Witnesses:

HARRY E. ORR,

JEANNETTE SACHEROFF.