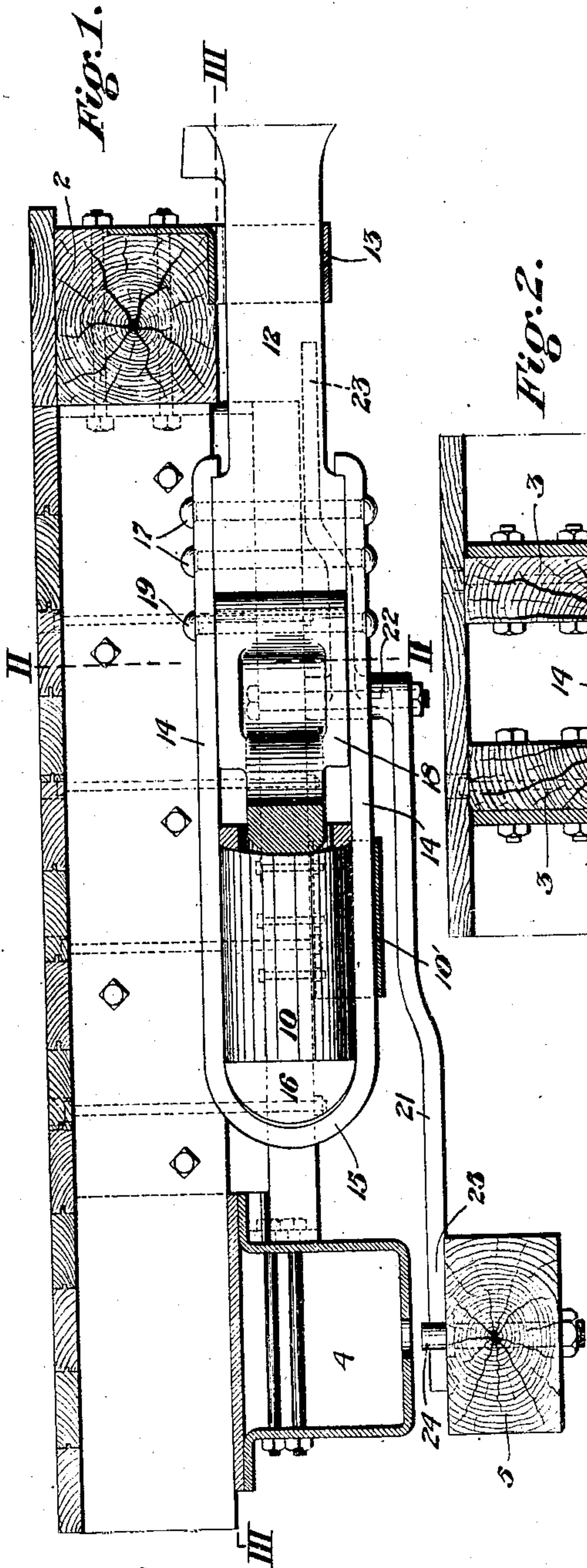


J. F. COURSON.
DRAFT GEARING.
APPLICATION FILED APR. 30, 1909.

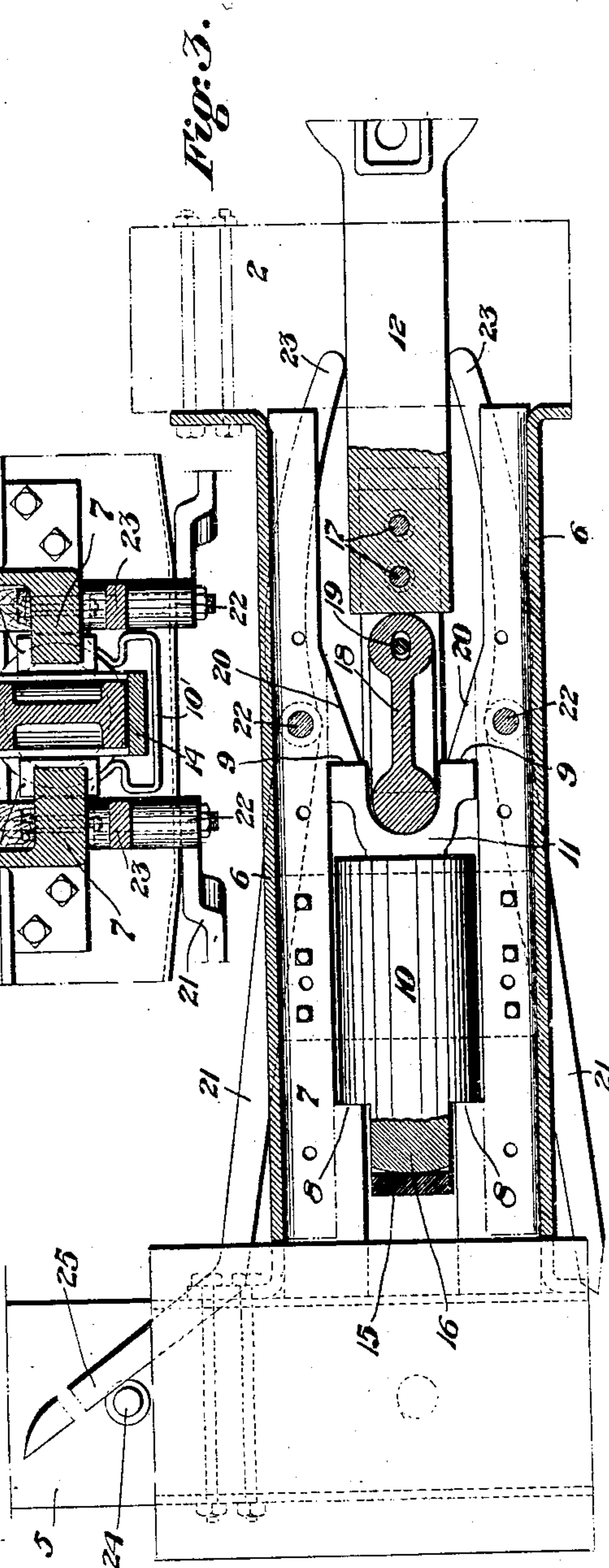
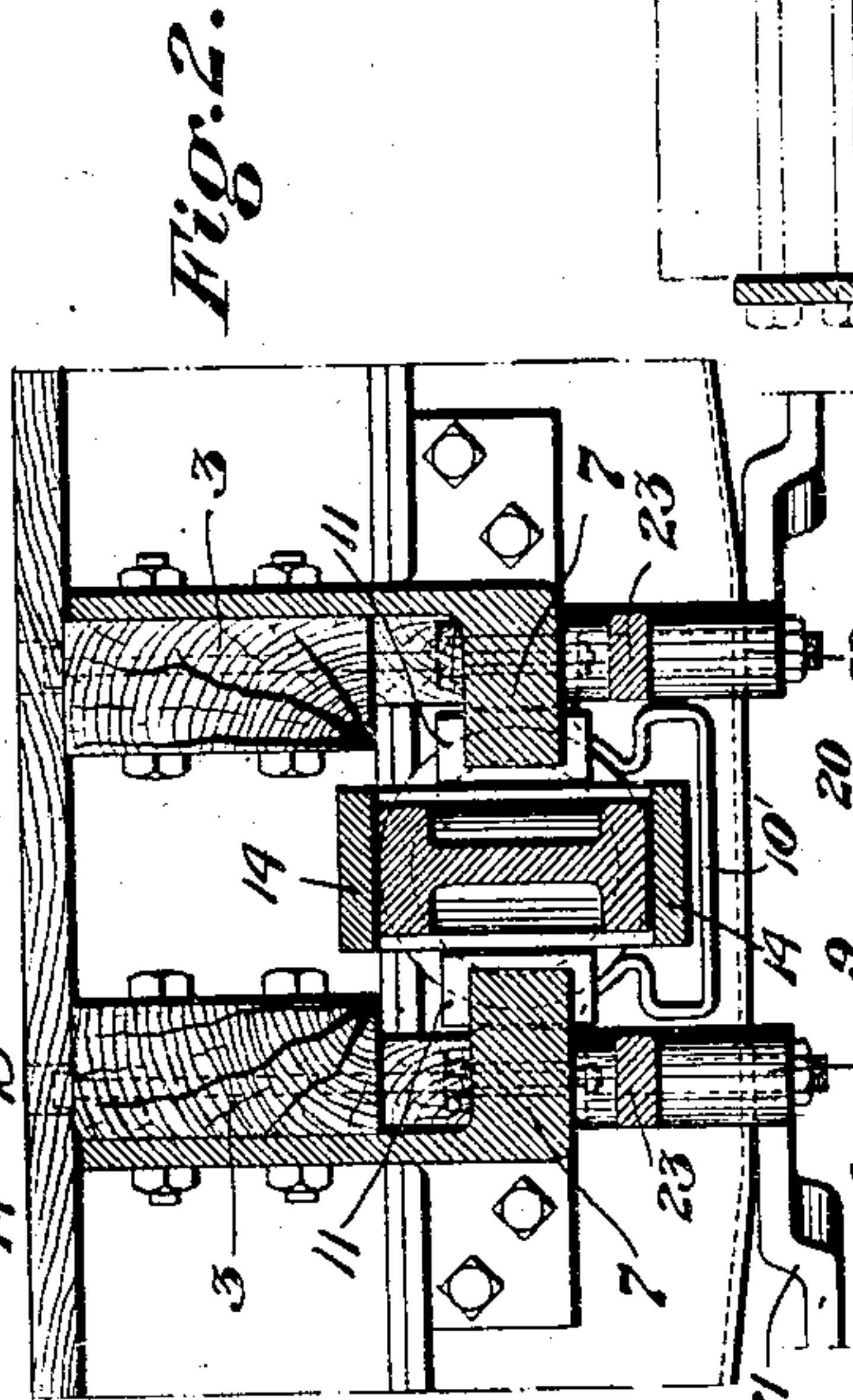
966,656.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.



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UNITED STATES PATENT OFFICE.

JOHN F. COURSON, OF PITCAIRN, PENNSYLVANIA.

DRAFT-GEARING.

966,656.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that I, JOHN F. COURSON, a citizen of the United States, residing at Pitcairn, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Draft-Gearing, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to the class of draft gearing or rigging for railway cars, etc., and has for its object to provide a draft gearing of simple construction which can be applied to a car when loaded without moving the lading, is adapted to automatically adjust the draw bar laterally dependent upon the position of the car on curved tracks and to maintain it centrally on straight tracks, and includes means for transmitting the buffing or pulling strains directly to the draft arms or sills and the framing structure, through interposed mechanism, irrespective of whatever position the draw bar may assume, constructed and adapted to operate in the manner hereinafter set forth.

The construction of the present invention is designed and particularly adapted for application to wooden cars and the drawings so illustrate, although it will be understood that it may be suitably modified for use in cars of all metal construction.

In the accompanying drawings:—Figure 1 is a central longitudinal sectional view of the front portion of the car framing showing my apparatus in position, partly broken away. Fig. 2 is a vertical cross sectional view on the line II. II. of Fig. 1. Fig. 3 is a horizontal sectional view indicated by the line III. III. of Fig. 1, showing the draw bar in central position and extended. Fig. 4 is a similar view showing the truck bolster at an angle to the body bolster and the draw bar deflected to one side and depressed backwardly, as in buffing. Fig. 5 is a perspective view of the draft arms or sills assembled in relative position to each other. Fig. 6 is a similar view of the flexibly mounted draw bar extension.

In the drawings, 2 represents the usual end sill extending across the front of the car, having the usual center sills 3, 3, and provided with the customary body bolster 4 of any suitable construction mounted above the truck bolster 5.

6, 6, represent the metallic draft arms or sills secured by bolts or otherwise to the

center sills, end sills, and body bolster; said draft sills having terminal flanges at each end for such purpose and a vertical web or body, bolted to the center sills as shown, while along the lower edges of the draft sills 6 they are provided with inwardly extending reinforced flanges 7, 7. Said flanges are preferably integral as shown, and are provided at their rear portions with abutments or shoulders 8, 8, and at their forward portions with similar abutments 9, 9, and an intervening space adapted to receive the friction or spring draw gear member 10, supported between the draft sills by the hanger 10'. Said draw gear member may be of any suitable construction and is adapted to receive through the follower 11, extending into its front end, the shocks of buffing, imparting them through it to shoulder 8, or to impart through the follower 11 the drawing strains against shoulders 9.

12 represents the draw bar of the usual or any suitable construction, provided with the customary coupling head at its front end, mounted in a suitable carrying iron or yoke 13 and having a backwardly extending yoke 14, embracing the draw gear member 10 above and below, and engaging by its half round rear portion 15 a correspondingly shaped backward extension 16 of the draw gear member. Said extension 16 is laterally rounded as indicated in Figs. 3 and 4 so as to provide for engagement of the yoke terminal 15 against it at varying lateral positions.

Yoke 14 is secured by rivets 17 to the draw bar 12 in the usual way, and between the upper and lower longitudinal yoke members is loosely mounted the draw bar extension 18. Said element is rounded at each end to provide a bearing against the rear end of the draw bar 12 and against the recessed or concaved front portion of follower 11 in buffing, as clearly shown. It is secured in place by a vertical bolt 19 and as thus mounted constitutes a flexibly connected pressure link for imparting buffing strains to the draw gear member, at whatever position the draw bar may assume, the link being free to shift to one side or the other in operation.

In order to always centralize the link and to insure its engagement with the recess of the follower 11, either in assembling or after excessive pulling strains, the inner edges of flanges 7 in advance of shoulders 9 are tapered forwardly and outwardly as indicated at 20, allowing ample clearance in

front for the swinging of the draw bar and a sufficient opening between the shoulders 9 for the end of link 18 to pass backwardly to engage the follower.

5 For the purpose of shifting the draw bar to the right or left of the car to proper coupling position when the car is standing on a curve, I provide the levers 21, 21, pivoted at 22 to the lower portions of draft sills 6, 10 said levers having forwardly extending portions 23 adapted to embrace between them the draw bar at all positions, as they are shifted, in conformity with the shifting movement of the truck bolster. For such 15 purpose, the truck bolster is provided with pins or abutments 24, 24, at each side of its center, while the rear terminals 25 of levers 21 are deflected outwardly to provide sliding cam-like bearings therefor.

20 By this construction, when the car is on a straight track and the truck bolster located normally at right angles across its longitudinal center, pins 24 will maintain the draw bar 21 in central alinement for coupling, as in Fig. 2, but upon the shifting of 25 the truck bolster on a curved track as in Fig. 4, one of the pins 24 will thrust the rear end of its adjacent lever 21 outwardly and its inner end 23 inwardly, thrusting the draw 30 bar 12 laterally, the other lever 21 being pressed outwardly, due to the pressure of the draw bar and the clearance for its other terminal by the shifting of the other pin 24.

35 The operation will be the same for either side, and it will be seen that by such means the draw bar will be located at the desired position automatically dependent upon the position of the truck bolster.

40 The operation of the invention will be readily understood from the foregoing description. In buffing, the strain is transmitted backwardly from the draw bar 12 and link 18 against follower 11, through draw gear member 10 and through draft sills 6, 45 the rear end of the yoke 14 passing backwardly from engagement with the terminal 16; while in pulling the terminal 15 of yoke 14 engaging said terminal 16 imparts the strain through draw gear member 10, fol- 50 lower 11, and pressure link 18, bearing by its front end against the rear end of draw bar 12. The flexible connection between the draw bar and pressure link 18 permits of the transmission of force in either direction 55 without binding or lateral strain, while the tapered faces 20 insure the link against displacement or failure to seat against the follower under any possible conditions.

60 The advantages of the invention arise from its simple construction, its capacity for imparting strains and its adaptability to incorporation with wooden cars already built and loaded while being equally applicable to other constructions.

65 The arrangement, design, or proportions

of the different parts or elements may be variously changed or modified by the skilled mechanic, but all such changes are to be considered as within the scope of the following claims. 70

What I claim is:—

1. In draft rigging for cars, the combination with the truck bolster and draw bar, of a plurality of levers operable by the movement of the truck bolster to engage the draw 75 bar and shift it.

2. The combination with the truck bolster provided with abutments, and the draw bar; of a lever pivoted at each side of the draw bar, engaging it by its forward end, and extending backwardly and having a portion 80 adapted to be engaged by one of said abutments, substantially as set forth.

3. In draft rigging, the combination with the draft sills, the truck bolster having abutments, and the laterally movable draw bar; of a longitudinally arranged lever pivoted at each side of the draw bar to the draft sills, extending forwardly and engaging the draw bar and extending backwardly and engaging 90 one of said abutments, substantially as set forth.

4. In draft rigging, the combination with the draft sills, the truck bolster having abutments, and the laterally movable draw bar; of a longitudinally arranged lever pivoted at each side of the draw bar to the draft sills extending forwardly and engaging the draw bar and provided with a laterally deflected terminal engaging one of said abutments, 100 substantially as set forth.

5. In draft rigging, the combination with fixed framing members and a co-acting engaging element, of a laterally movable draw bar member having a flexibly connected buffing member arranged in the central longitudinal plane of the draw bar member adapted to transmit the buffing strain to said co-acting engaging element. 105

6. In draft rigging, the combination with the shouldered draft sills and a draw gear member and follower arranged to engage the shoulders thereof; of a draw bar having a flexibly connected pressure link arranged in the central longitudinal plane of the draw 115 bar, and a yoke embracing the draw gear member and said link, substantially as set forth.

7. In draft rigging, the combination with the shouldered draft sills and a draw gear member and follower arranged to engage the shoulders thereof; of a draw bar having a flexibly connected pressure link engaging the follower, and a yoke embracing the draw gear member, substantially as set forth. 125

8. In draft rigging for cars, the combination of shouldered draft sills having sloping guiding faces, a draw gear member and follower mounted between said draft sills and arranged to engage the shouldered portions 130

thereof, a draw bar provided with a yoke embracing the draw gear member, and a pressure link loosely mounted in the rear of the draw bar and arranged to engage its
5 end and the follower, substantially as set forth.

9. The combination with the body bolster, center sills, end sills, and truck bolster; of draft sills secured between the body bolster and end sills having bearing shoulders, a
10 draw bar having a yoke embracing the draw gear member, a flexibly connected pressure link arranged to transmit movement between the draw bar and the follower, and means
15 for automatically moving the draw bar laterally dependent on the position of the truck bolster, substantially as set forth.

10. In a draft gearing, the combination with fixed framing members and a co-acting engaging buffer element 11, of a laterally 20 movable draw-bar member having a flexibly connected buffing member arranged in the central longitudinal plane of the draw-bar member adapted to transmit buffing strains to said co-acting engaging buffing element, 25 the framing members having abutments engaging said element provided with inclined faces, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. COURSON.

Witnesses:

C. M. CLARKE,
H. M. WILLIS.