

S. W. TRAYLOR.

ORE JIG.

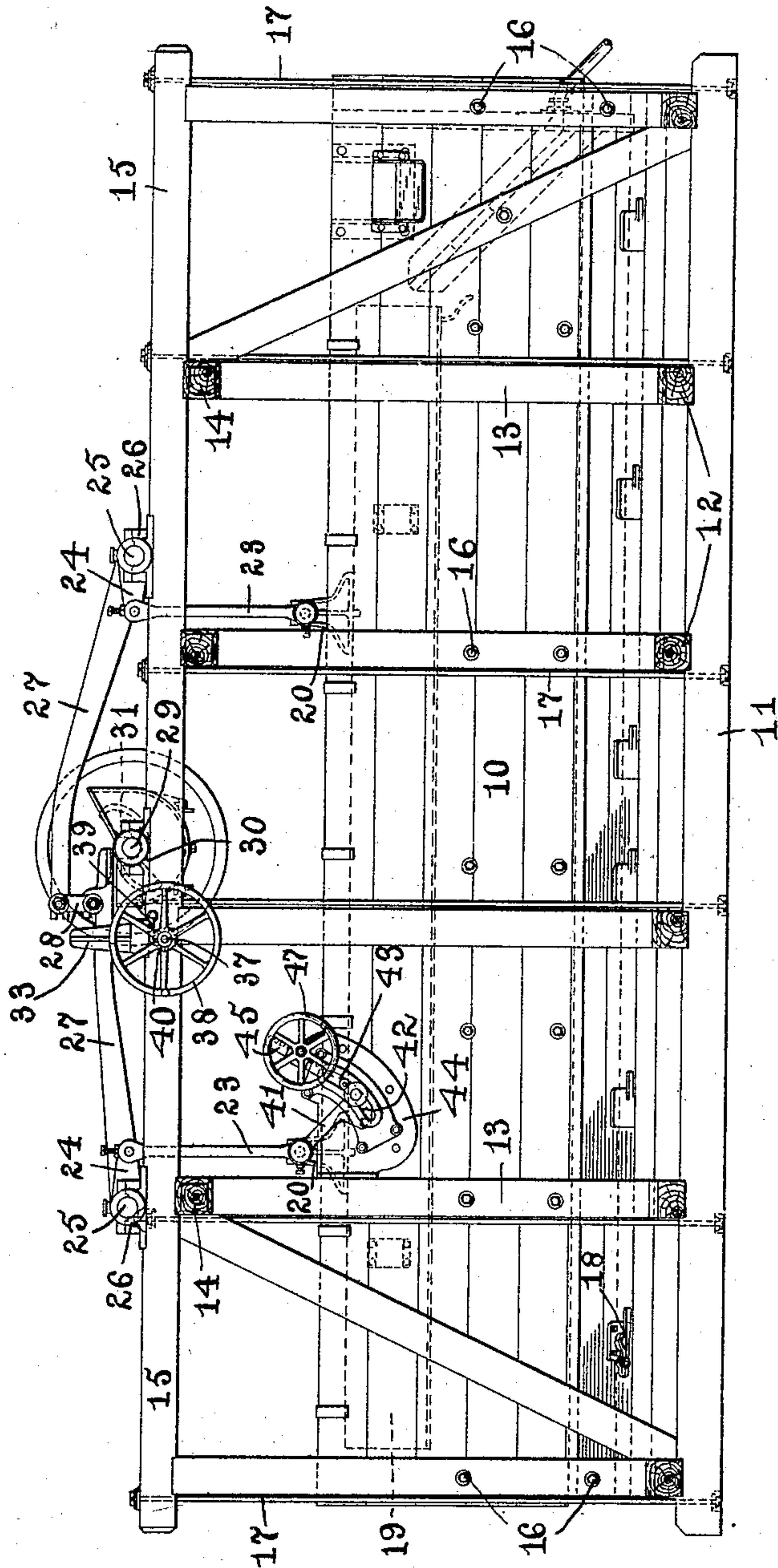
APPLICATION FILED JUNE 1, 1908.

915,508.

Patented Mar. 16, 1909.

4 SHEETS—SHEET 1.

Fig. 1.



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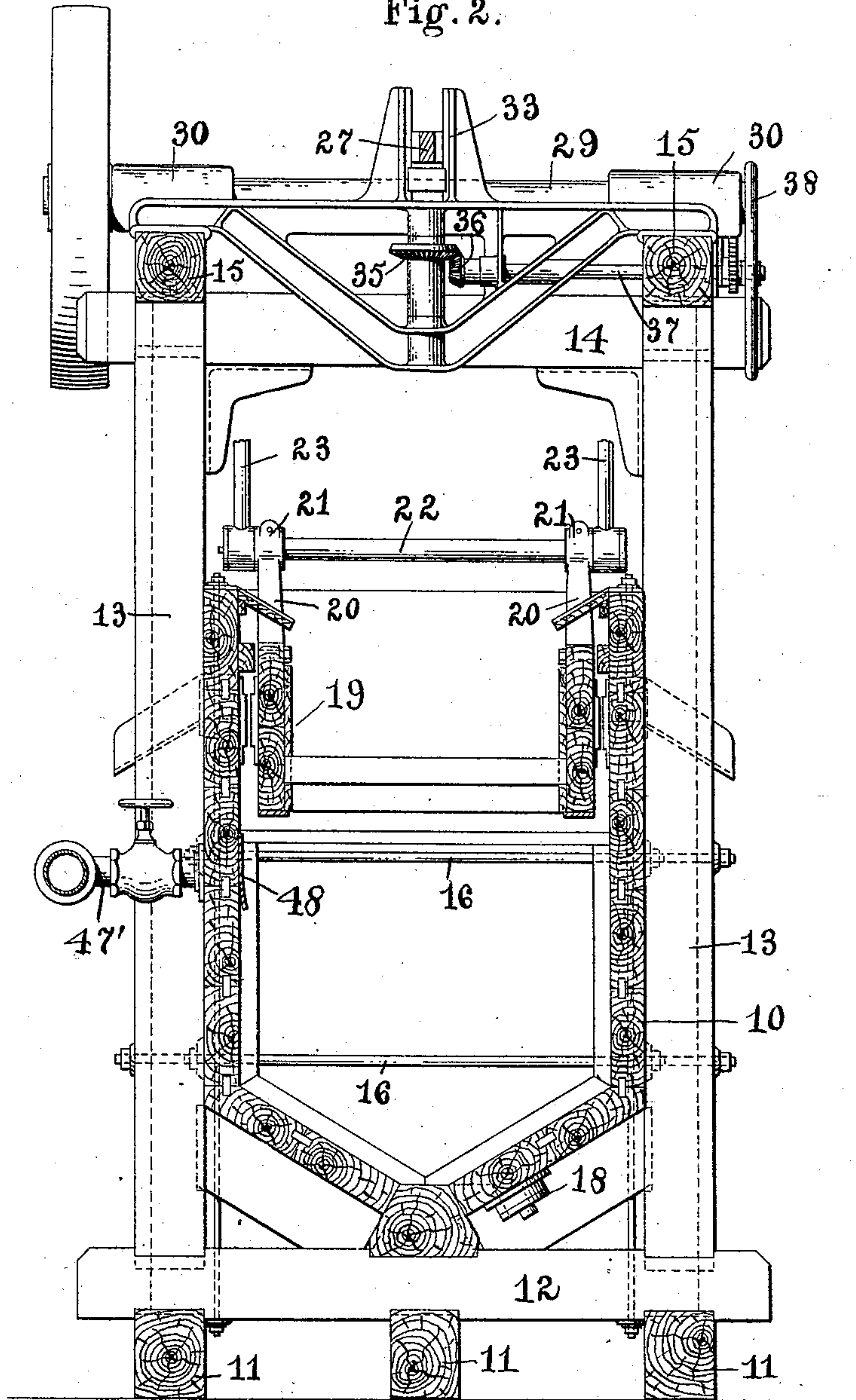
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4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

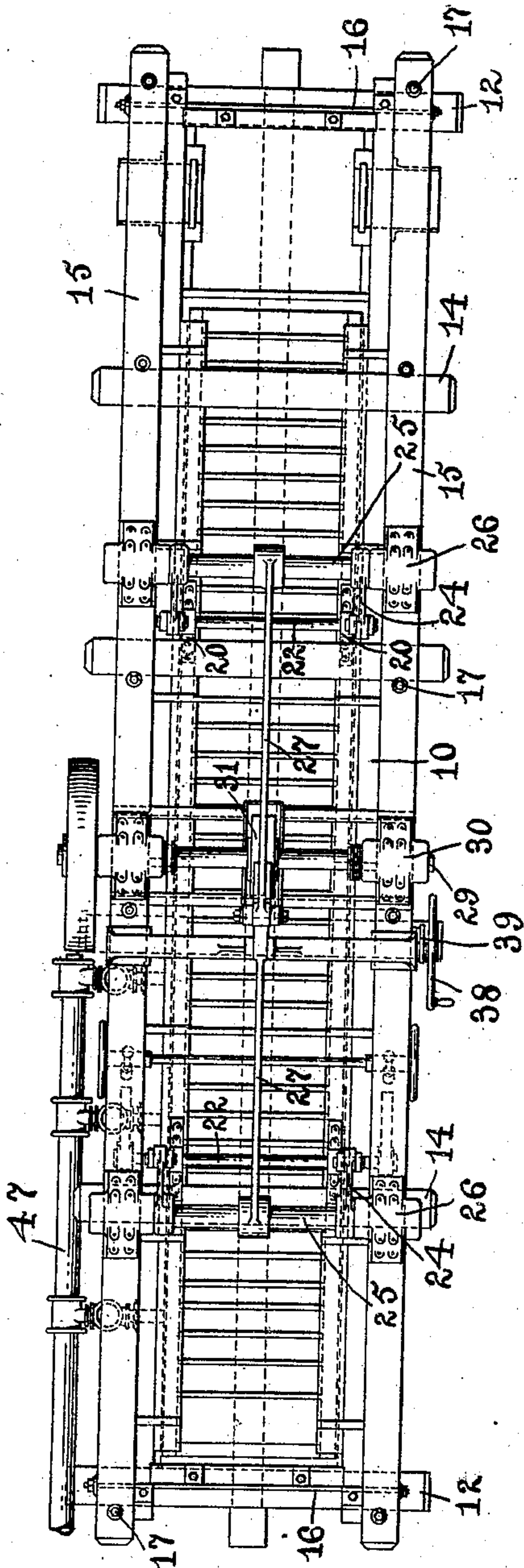


Fig. 4.

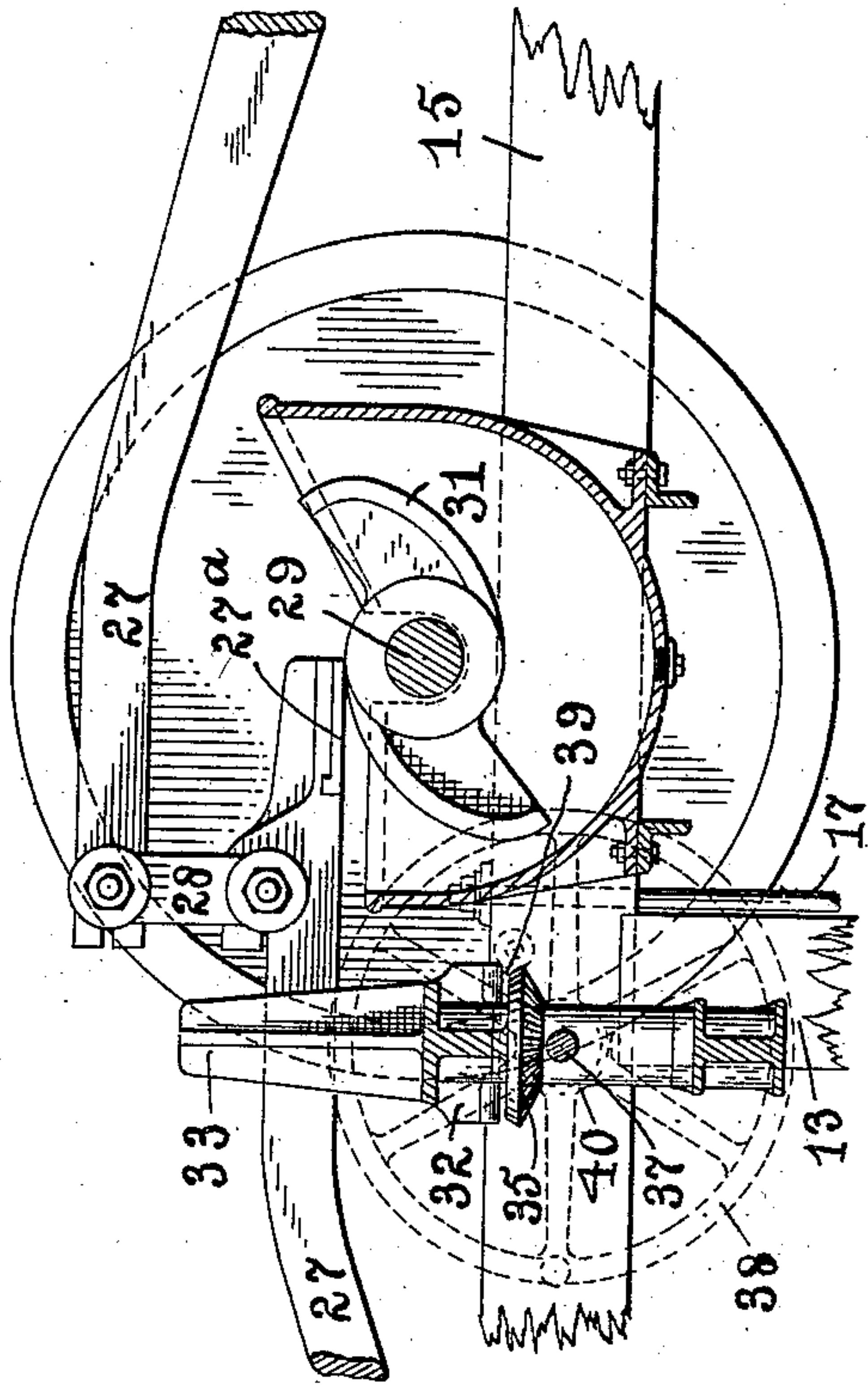


Fig. 5.

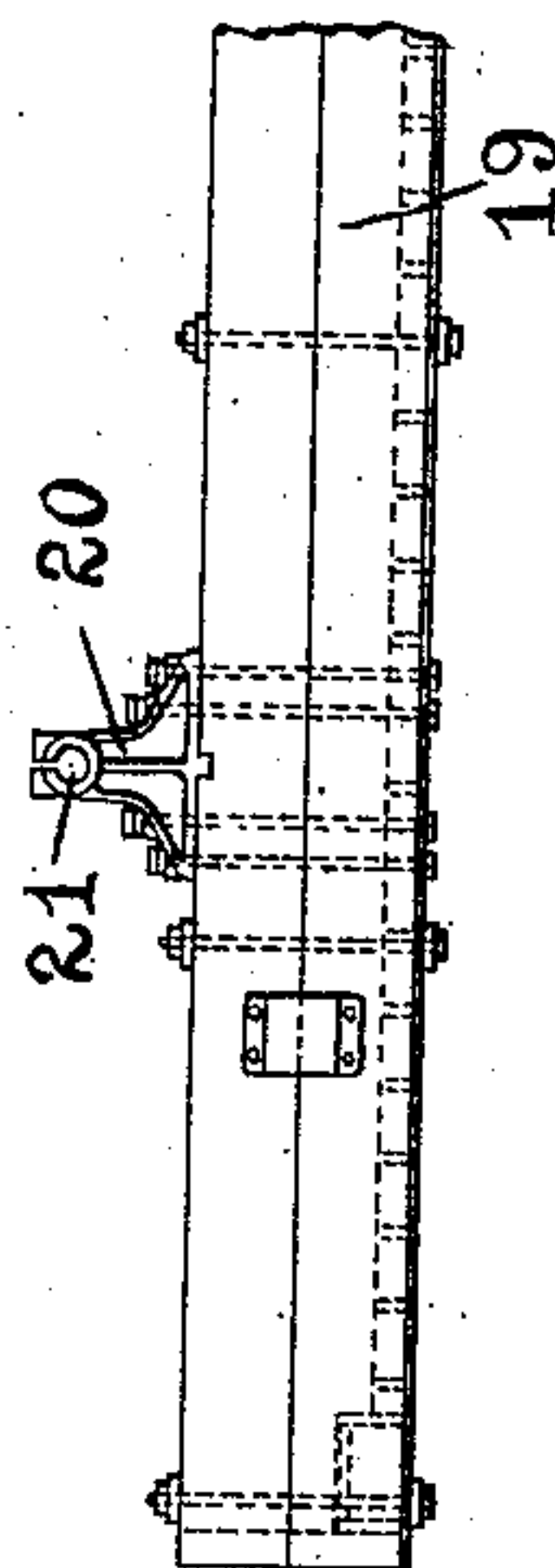
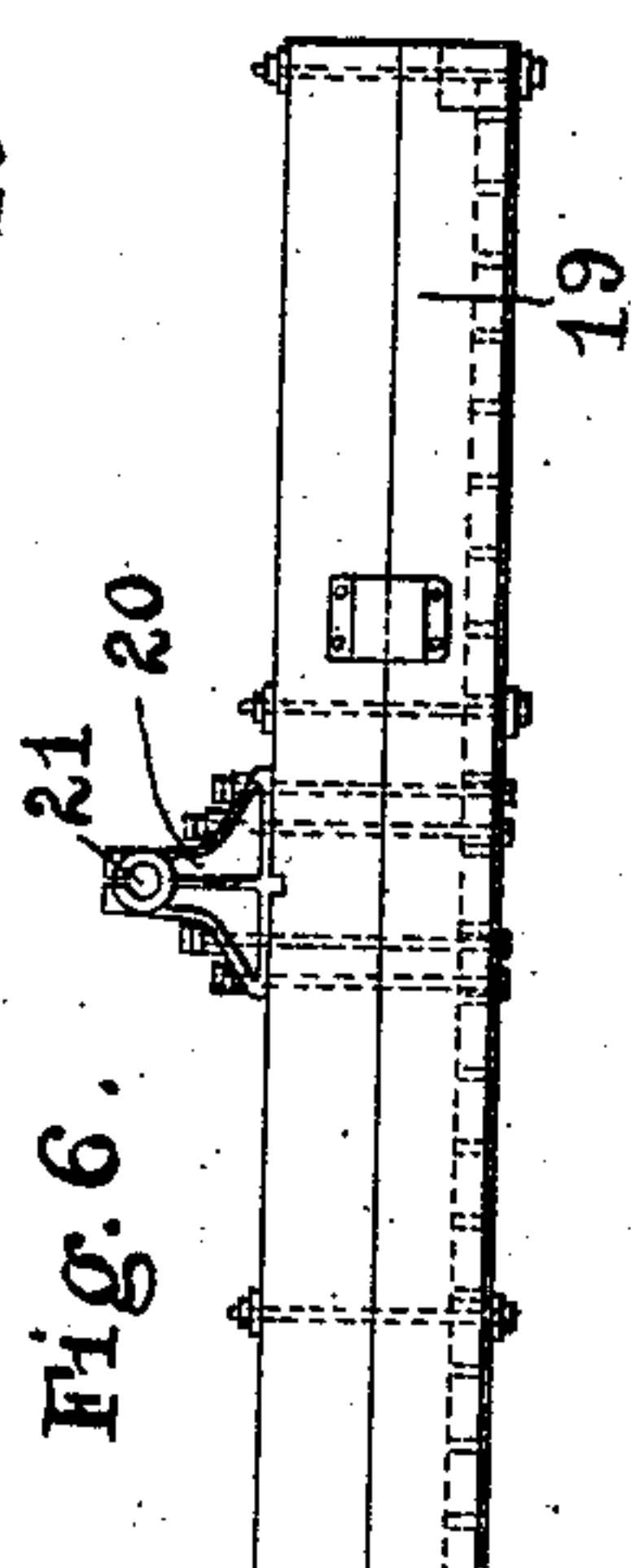


Fig. 6.



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4 SHEETS—SHEET 4.

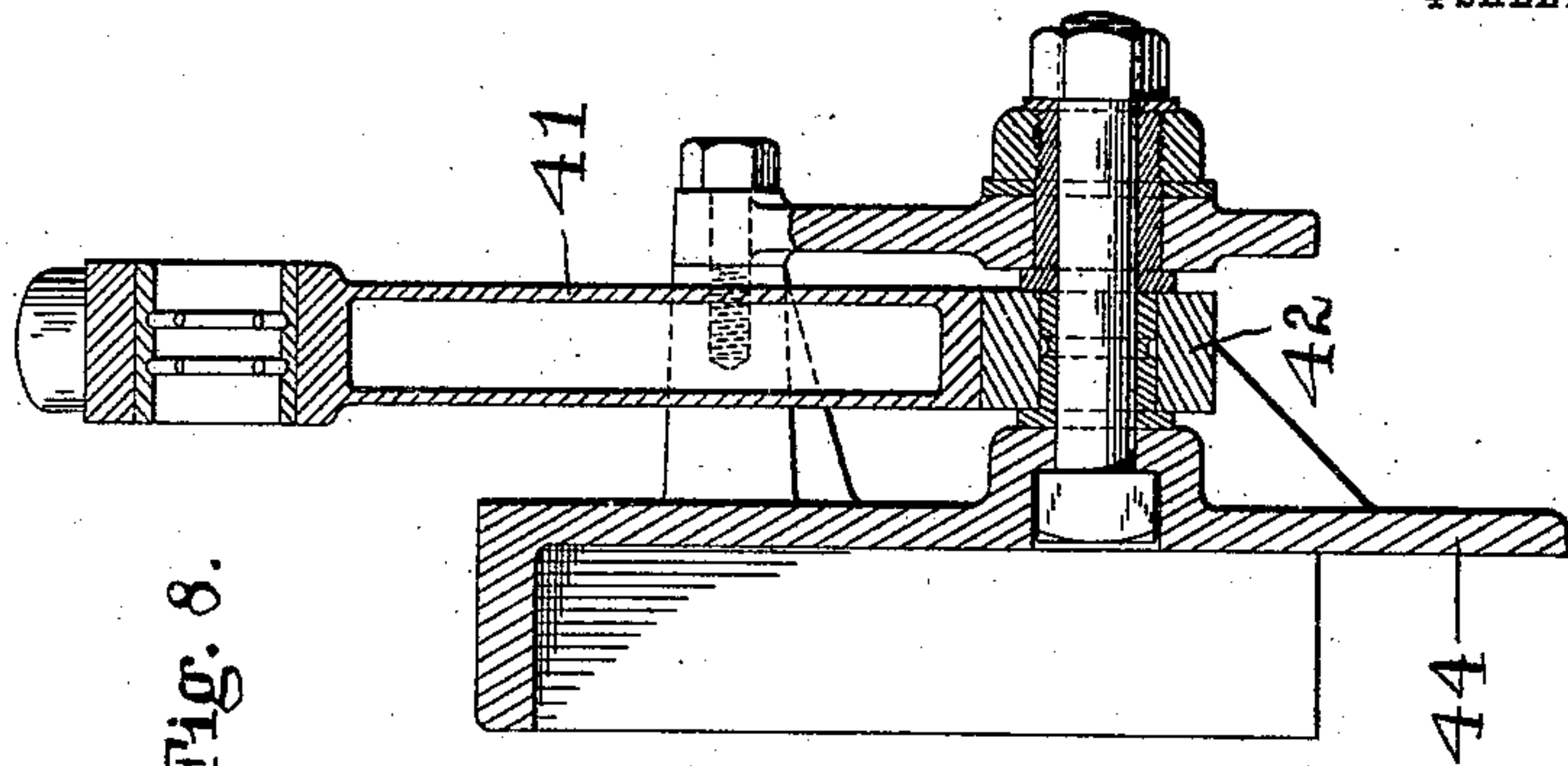


Fig. 8.

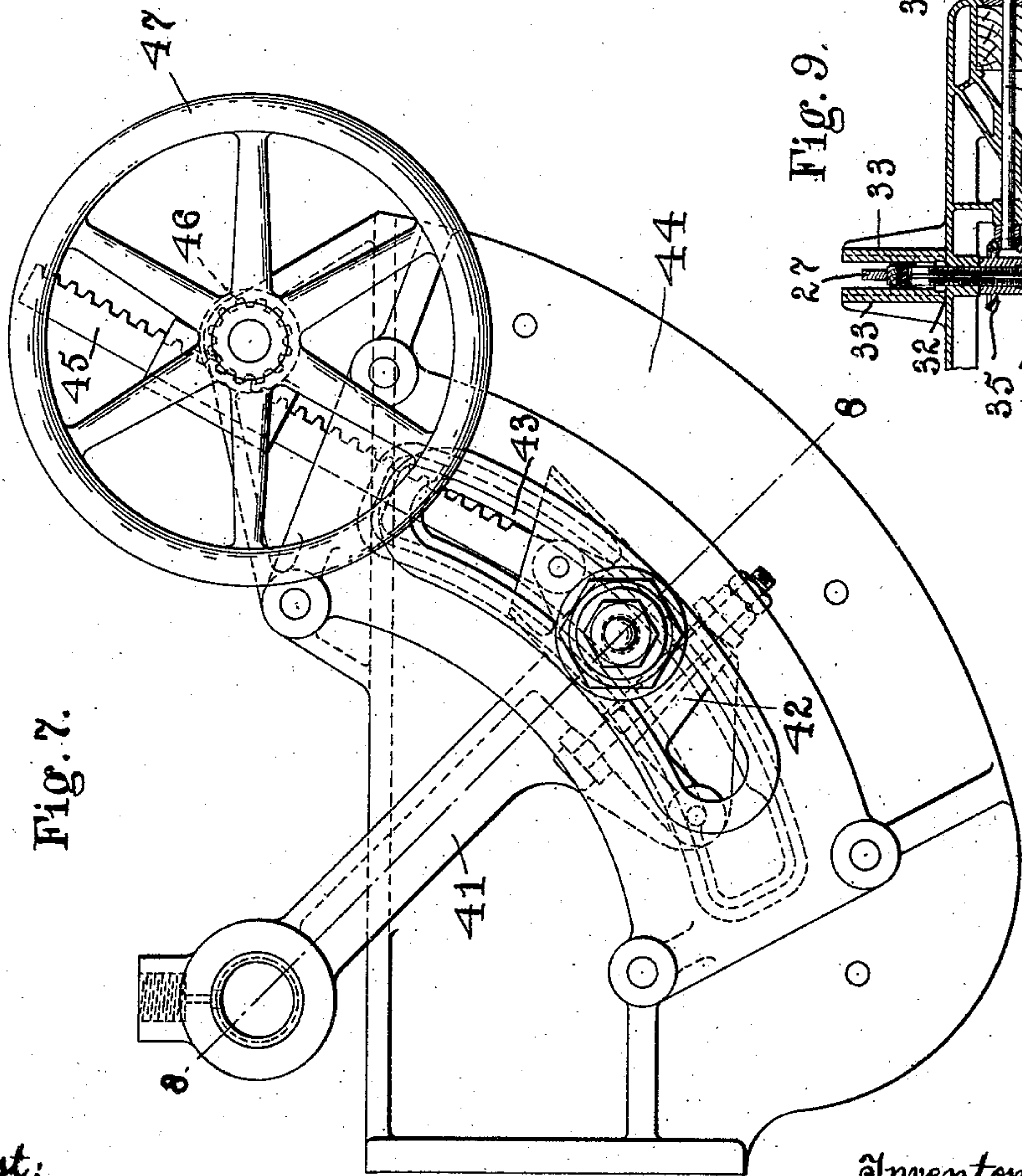


Fig. 7.

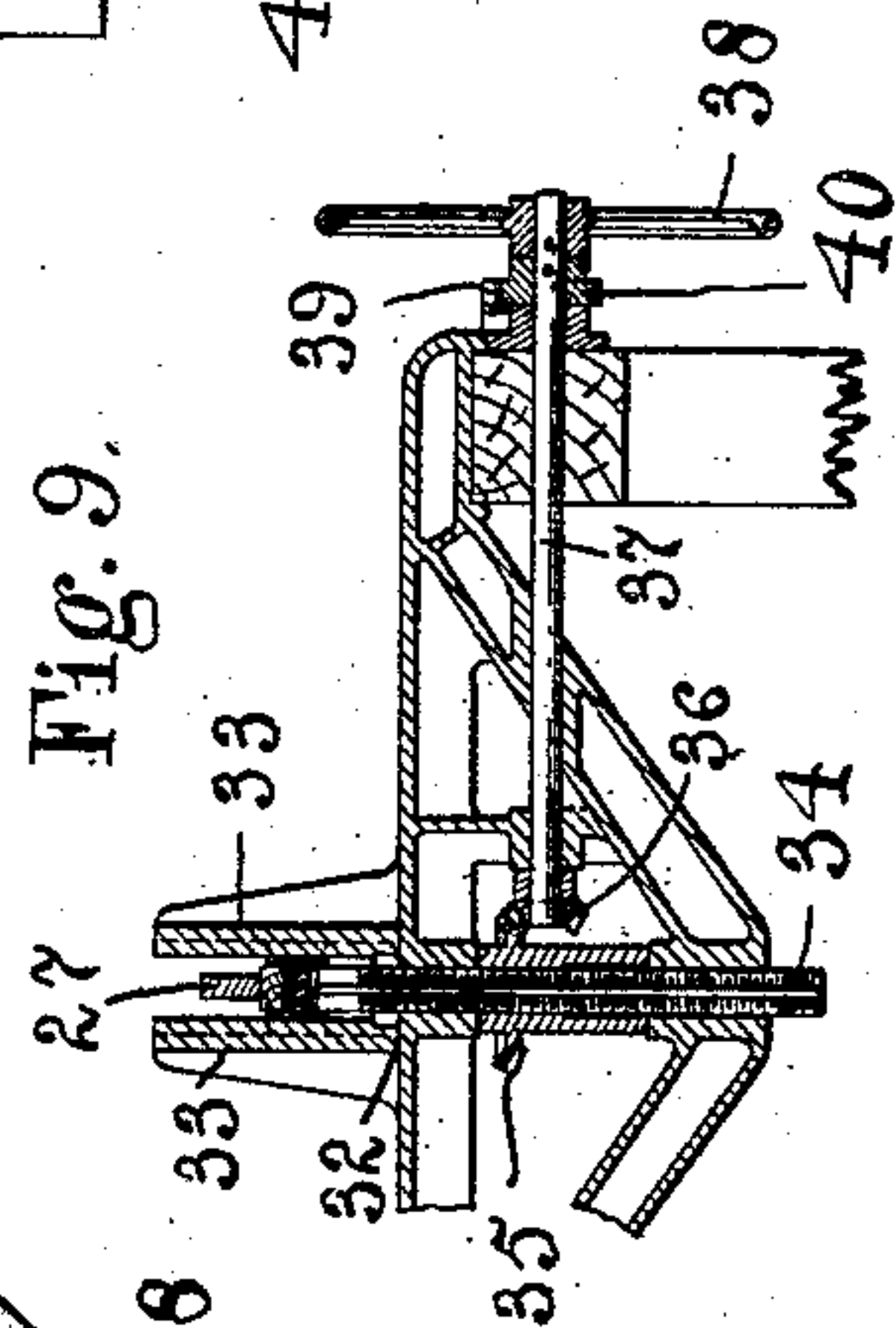


Fig. 9.

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# UNITED STATES PATENT OFFICE.

SAMUEL W. TRAYLOR, OF NEW YORK, N. Y.

## ORE-JIG.

No. 915,508.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed June 1, 1908. Serial No. 435,923.

*To all whom it may concern:*

Be it known that I, SAMUEL W. TRAYLOR, a citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in Ore-Jigs, of which the following is a specification.

My invention relates to improvements in jigging machinery for dressing ores.

Among the objects of the invention are to provide an apparatus in which the driving mechanism shall be supported above the jig to prevent the fouling of the same from any water or material slopped over by the action of the machine, to provide means for regulating the length of stroke while the machine is in operation, and for adjusting the amount of forward acceleration without stopping the apparatus.

I have also aimed to simplify the mechanism as much as possible and construct a machine which shall be durable and efficient in use.

With these and other objects in view, the invention includes the novel features of construction and arrangement and combination of parts hereinafter described and particularly set forth in the appended claim.

An ore jig constructed in accordance with my invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation. Fig. 2 is a transverse section. Fig. 3 is a plan view. Fig. 4 is an enlarged side elevation of the operating cam and coöperating parts. Figs. 5 and 6 are detailed views of the screen mechanism. Fig. 7 is an enlarged side view of the means for varying the amount of acceleration. Fig. 8 is a section on line 8—8 of Fig. 7. Fig. 9 is a sectional detail.

Referring by reference characters to this drawing, the numeral 10 indicates the hutch or trough, which is stationary and which may conveniently be made in the shape shown in Figs. 1 and 2 of wood supported upon suitable base pieces 11 and 12, the sides being sustained by the vertical posts 13 connected at the top by cross bars 14 and longitudinal beams 15, which latter serve to support the operating mechanism hereinafter described. The whole structure may be conveniently tied together or braced by transverse rods 16 and vertical rods 17. The bottom of the trough is preferably formed inclined as shown and provided with a series of delivery openings closed by hinged gates as indicated at 18. Within the upper

portion of the hutch or trough is located the screen frame 19, which consists of a rectangular skeleton frame having a screen or reticulated bottom. To the upper edges of the side members of the screen frame are bolted brackets 20 having bearings 21, in which are journaled the cross rods 22, which are suspended at the lower ends of links 23. These are connected at their upper ends to the arms 24 carried by transverse shafts 25, journaled in brackets 26, mounted on longitudinal beams 15 of the frame hereinbefore referred to. These rock shafts 25 carry rigidly attached arms 27 which extend toward and overlap each other and have their overlapping ends connected by a link 28, as shown more clearly in Fig. 4. A shaft 29 journaled in suitable bearings 30 supported by the beams 15 carry a cam 31, which is located directly beneath the projecting end of the lower arm or lever 27. This latter carries a wear plate 27<sup>a</sup> which is designed to receive the impact of the wings or raised portions of the cams, and thereby enable the lower lever 27 to be raised and through the link connection 28, the upper lever 27, also until the wear plate 27<sup>a</sup> slips off from the high part of the cam when both levers will drop. As the levers 27 are raised by the action of the cam, the rock shafts 25 are turned to cause the arms 24 through links 23 to raise the screen frame and this lifting action continues until the wear plates slip from the high part of the cam when the levers drop, allowing the screen frame to fall suddenly. The tank is of course filled with water to a suitable height and the downward movement of the screen frame causes the water to rush with considerable force through the screen whereby the lighter material is lifted in the manner well understood by those familiar with the operation of ore jigs.

In order to regulate or adjust the amount of movement imparted to the screen frame, I provide beneath the lower lever 27 a stop member or plate 32, which preferably has side arms 33 extending up on each side of the lower lever and serves to guide the same in its vertical movement. This stop 32, or buffer as it may be called, is mounted on a screw threaded spindle 34, which passes down through the center of a beveled gear 35. This latter is engaged by a corresponding beveled gear 36 on the inner end of a shaft 37, which is provided at its outer end with a hand wheel 38, by turning which the



buffer may through the gear described, be raised or lowered and thus the amount to which the levers 27 are permitted to descend limited or regulated as desired. A pawl 39  
5 engaging a ratchet wheel 40 serves to hold the shaft in any position to which it has been adjusted.

In order to impart a longitudinal impulse to the screen frame so as to secure the longitudinal movement of the material carried  
10 by the screen, I provide one or more links 41. Such link has one end pivotally connected to one of the shafts 22 and its other end connected to a cross head 42, guided in an arc  
15 shaped slot 43, in a bracket 44 secured to the side wall of the trough. A rack bar 45 has one end pivotally connected to this cross head and is designed to be engaged by a gear 46, suitably journaled and adapted to be  
20 operated by the hand wheel 47. By means of this hand wheel the inclination of the link 41 may be adjusted and consequently the amount of longitudinal movement imparted to the screen during its vertical reciprocations may be adjusted and this adjustment  
25 can be effected without difficulty while the machine is running and without danger to

the operator. At 47' I have shown a pipe which supplies the water to the tank, the inner end of the delivery opening being  
30 closed by a flap valve 48.

Having thus described my invention, what I claim is:—

In a machine of the class described, the combination with the jig frame and sieve  
35 operating arms, of a cross bar resting upon the top of the frame and having parallel guides projecting upwardly therefrom between which one of the arms works, a buffer  
40 within said guides, a substantially V-shaped member depending from said cross bar, a bevel gear having its hub journaled between said cross bar and V-shaped member, and  
45 having an internal thread, a screw engaging said thread and having its upper end supporting said buffer, a transverse shaft carrying a bevel gear engaging said first named gear, and means for rotating said shaft.

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

SAMUEL W. TRAYLOR.

Witnesses:

P. E. VANSAN, F. W. HOPKINS.