

No. 875,399.

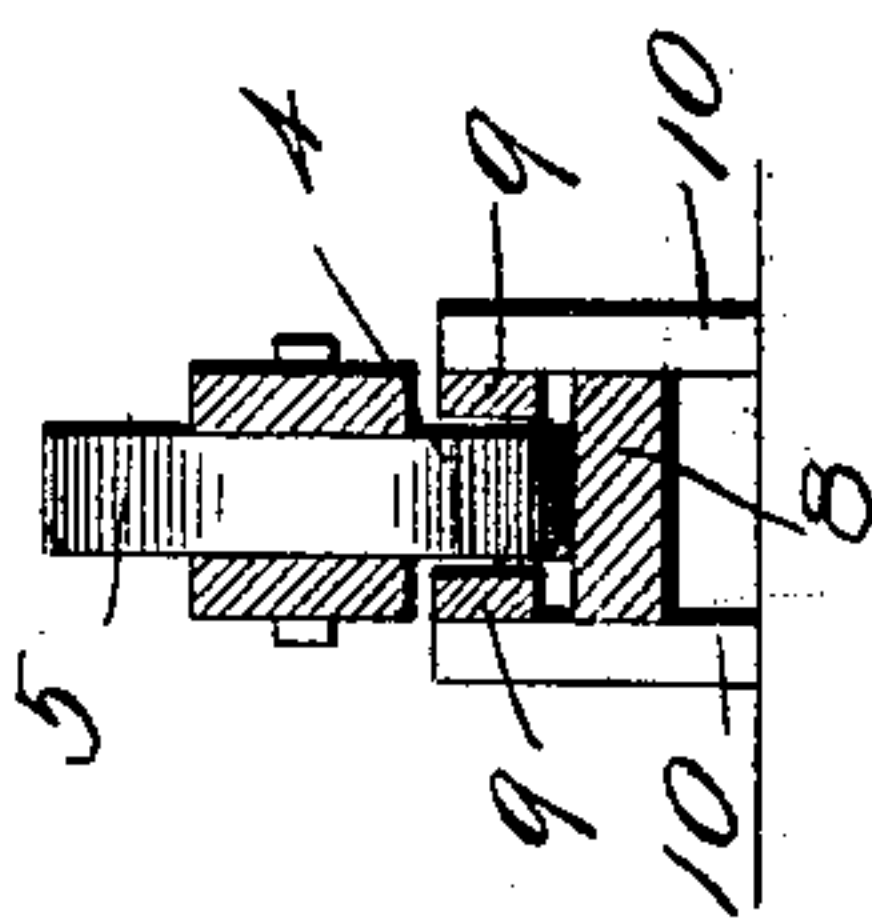
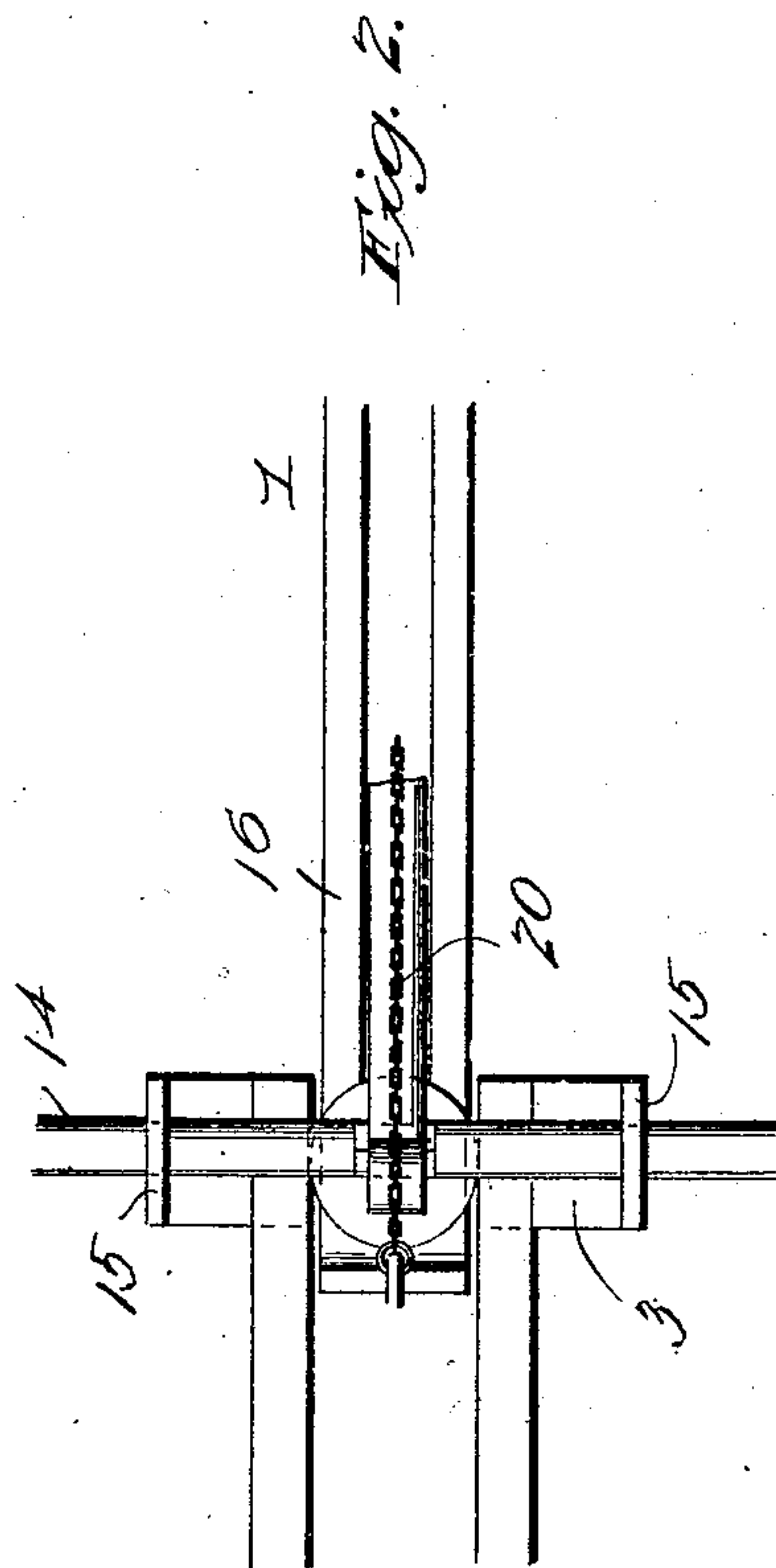
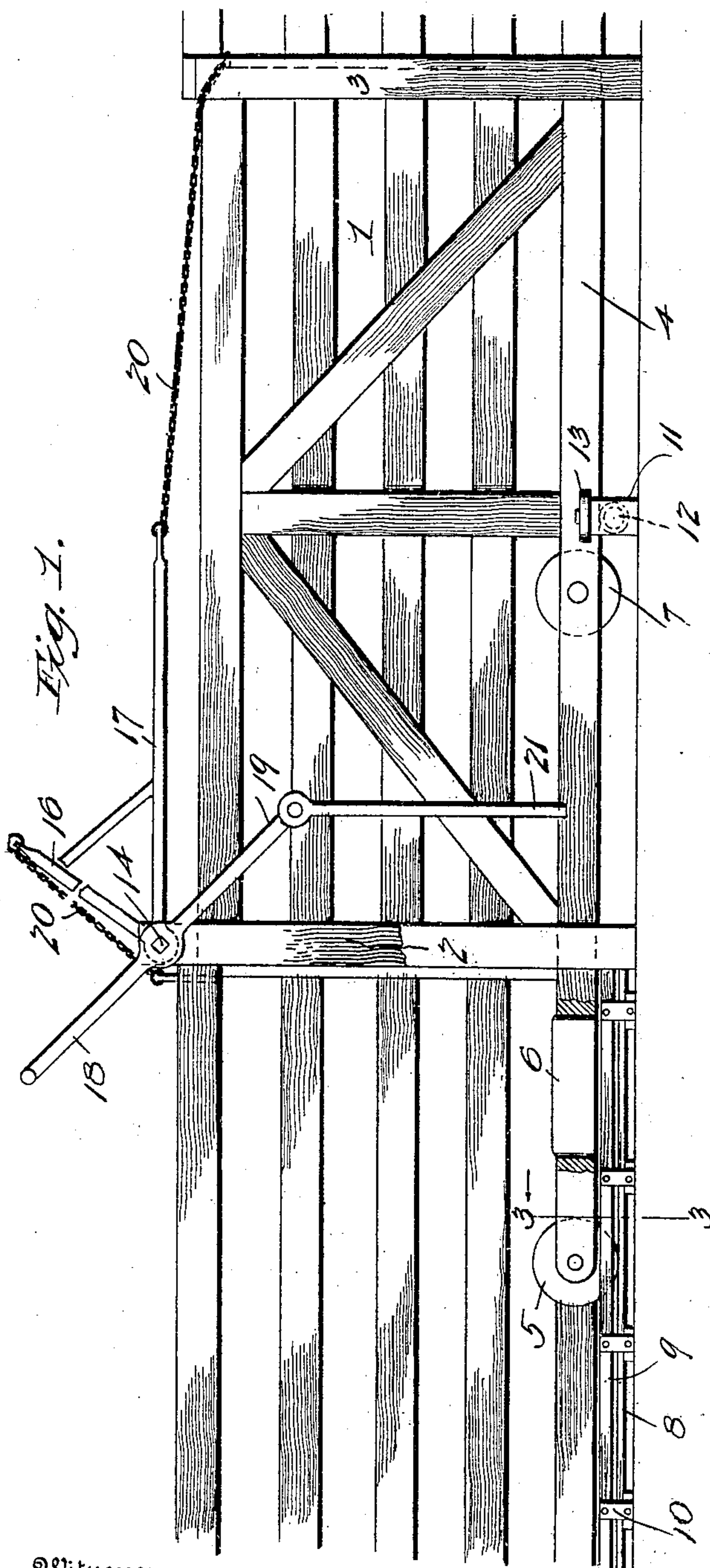
PATENTED DEC. 31, 1907.

J. H. WILSON.

GATE.

APPLICATION FILED JULY 3, 1907.

3 SHEETS—SHEET 1.



Witnesses

Witnesses
D. L. Moschauer
E. O. Crocker

Inventor

J. H. Wilson

විද්‍යා

Perford M. Smith,
Attorney

No. 875,399.

PATENTED DEC. 31, 1907.

J. H. WILSON.

GATE.

APPLICATION FILED JULY 3, 1907.

3 SHEETS—SHEET 2.

Fig. 4.

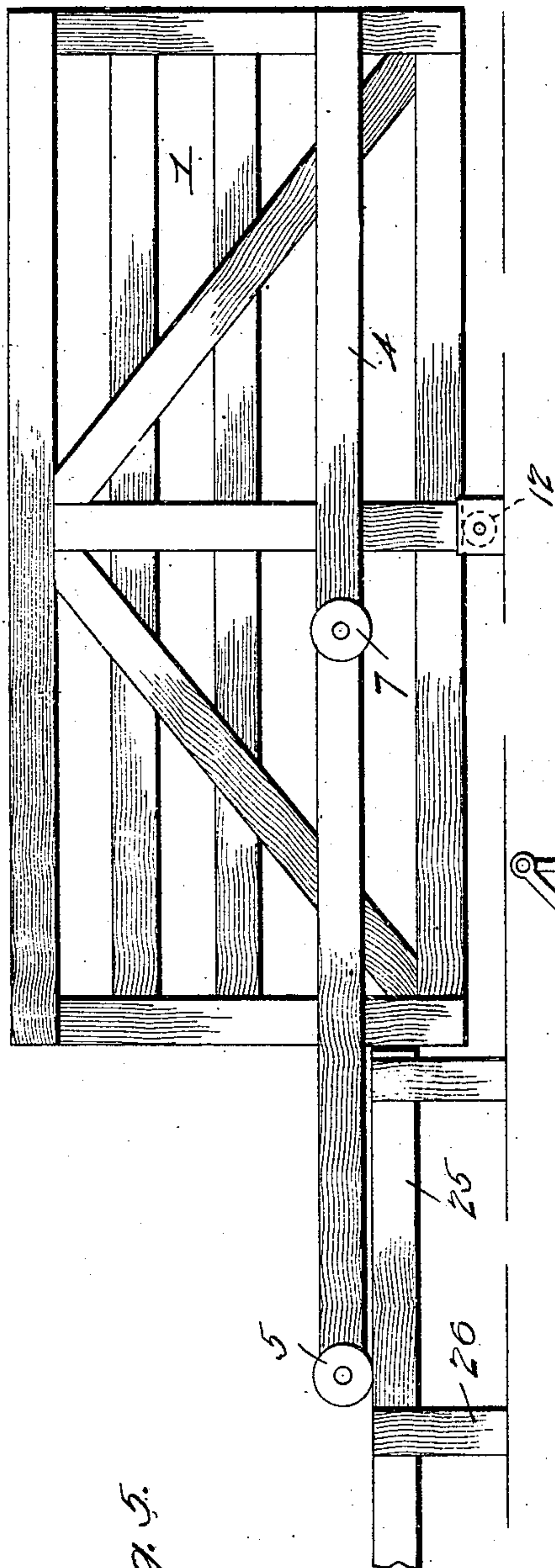
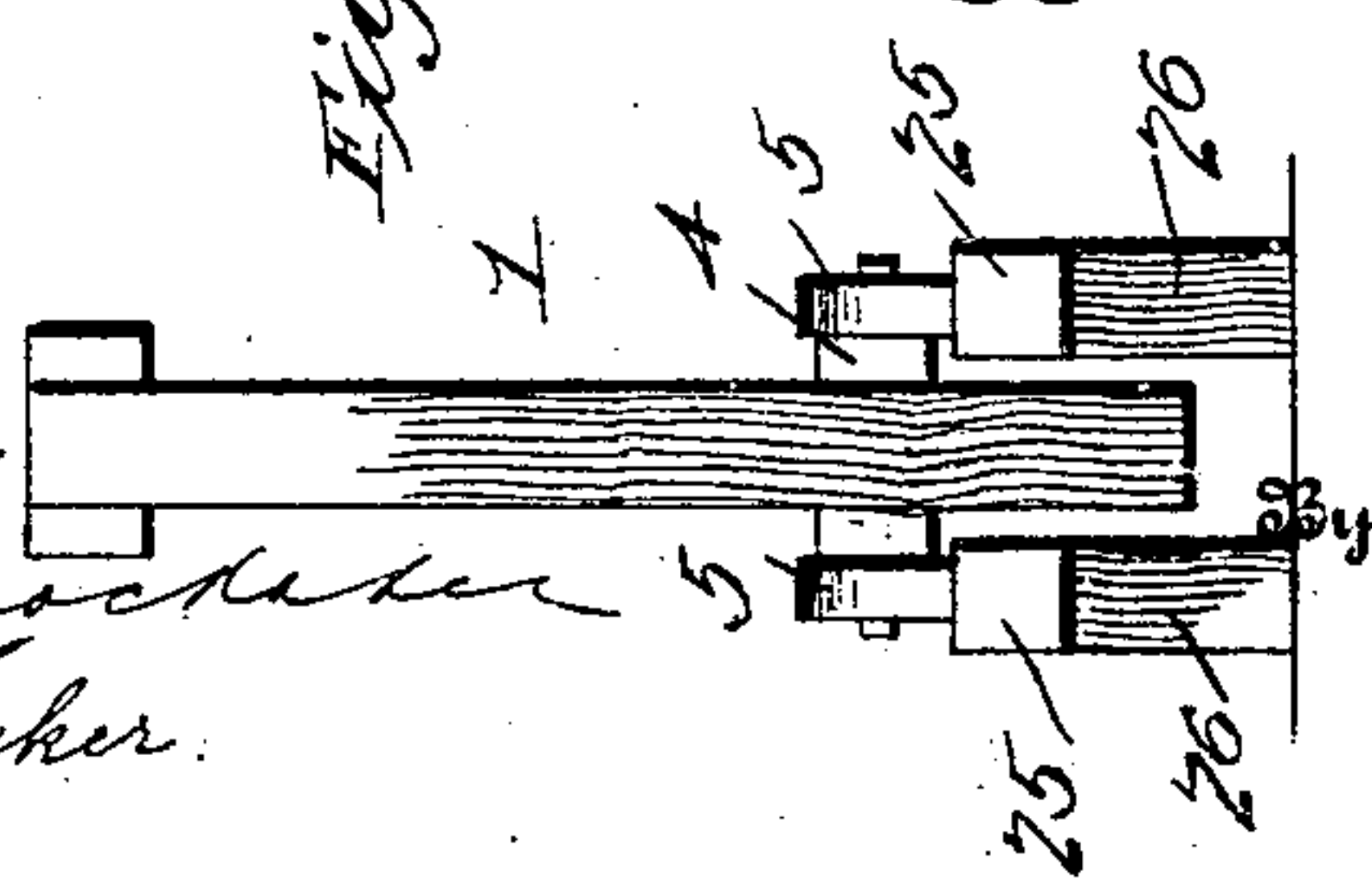


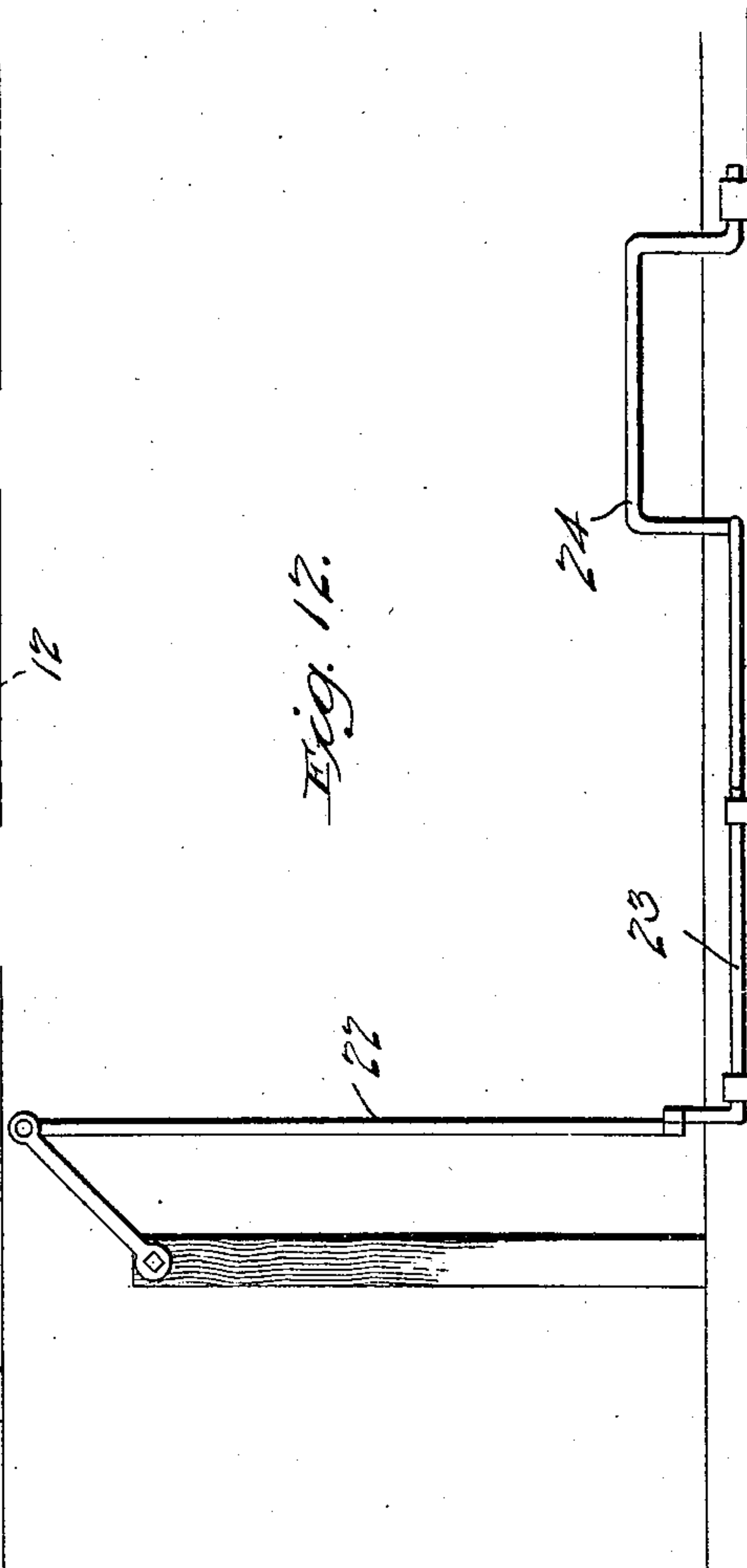
Fig. 5.



Witnesses

J. L. Macomber
E. O. Roeder.

Fig. 12.



Inventor

J. H. Wilson

Rayford M. Smith,

Attorney

No. 875,399.

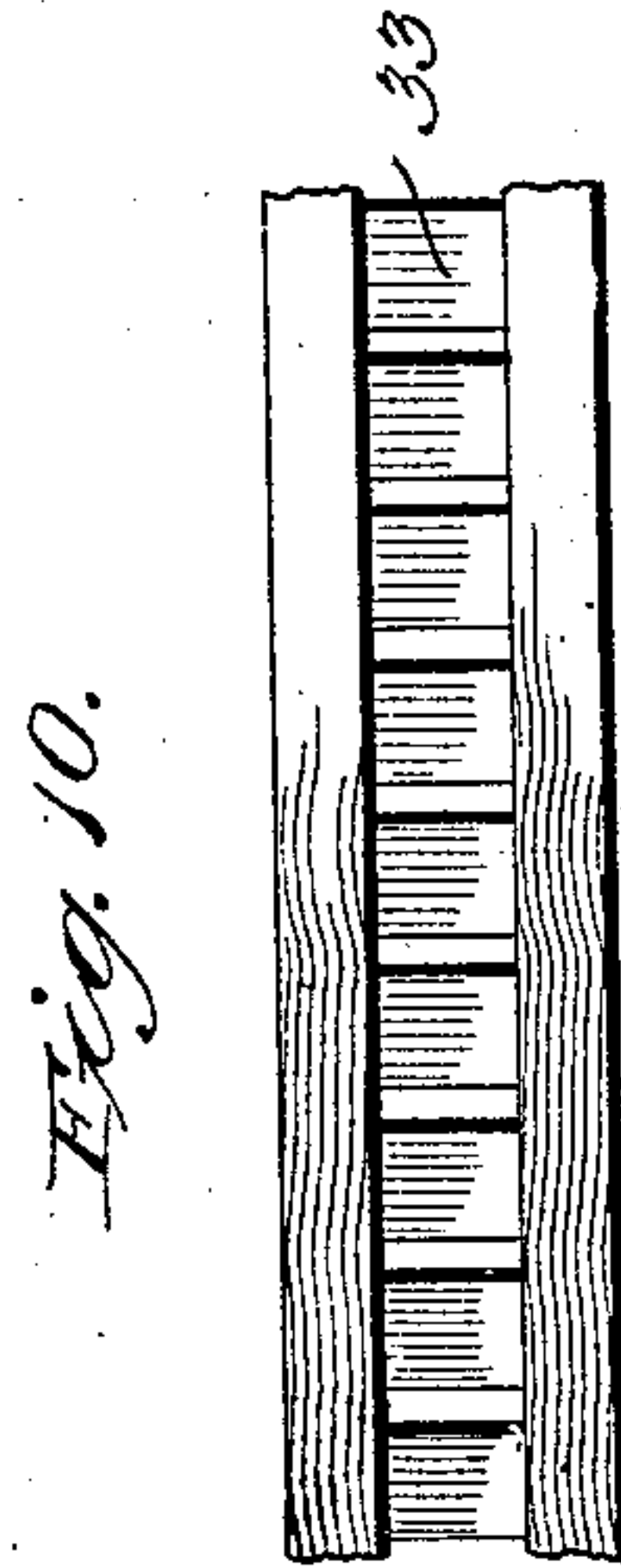
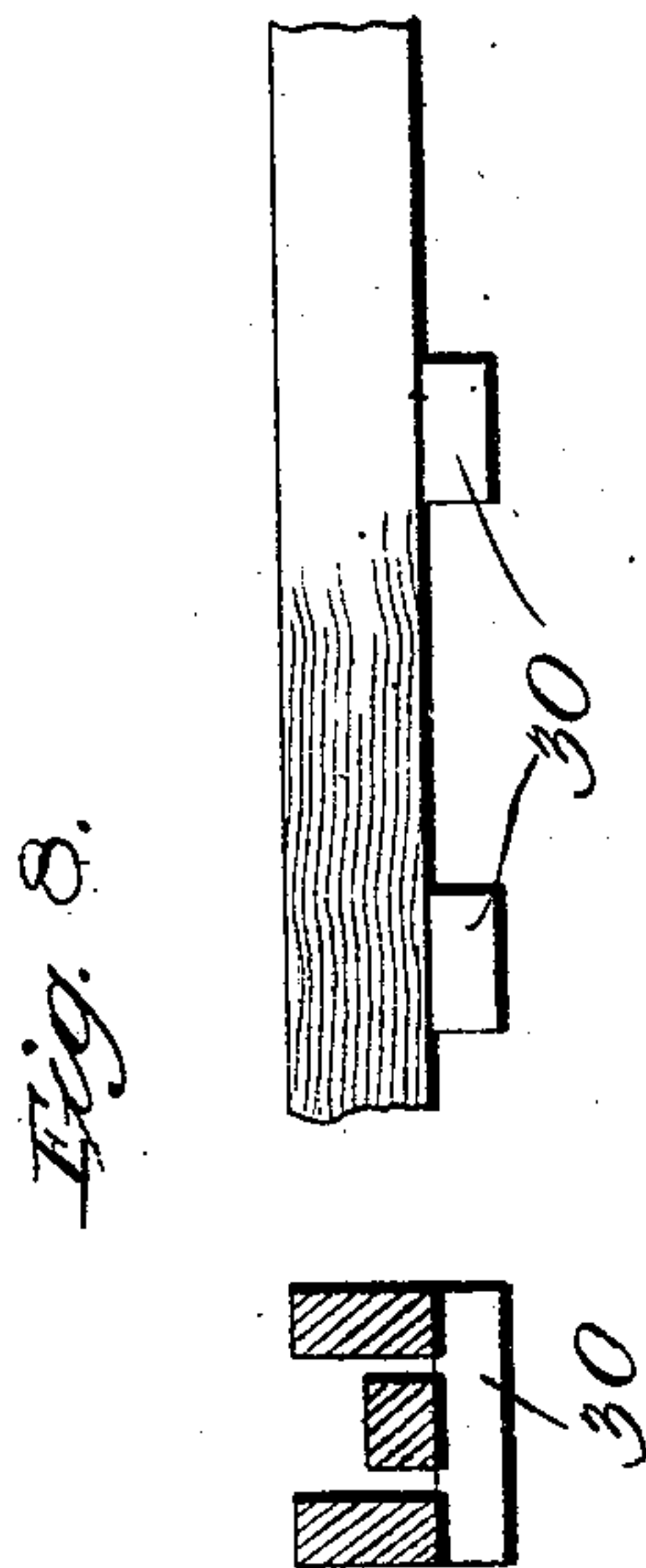
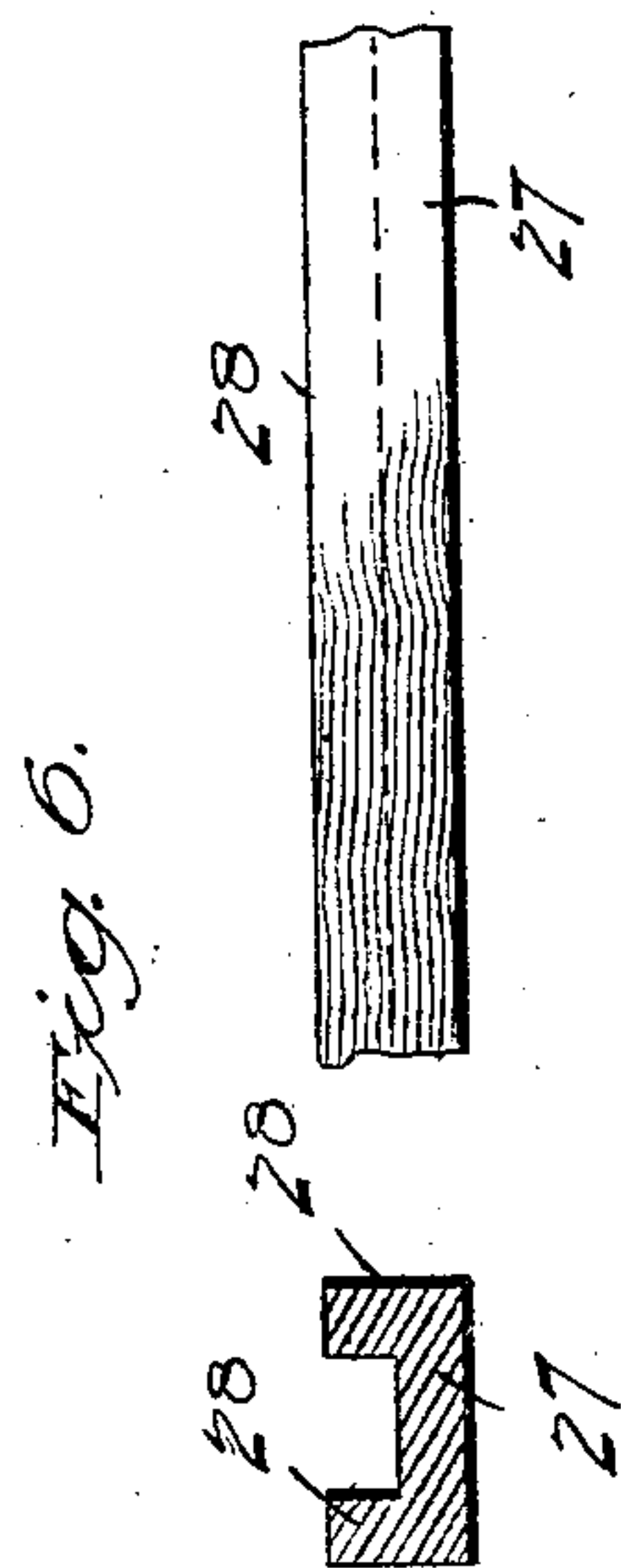
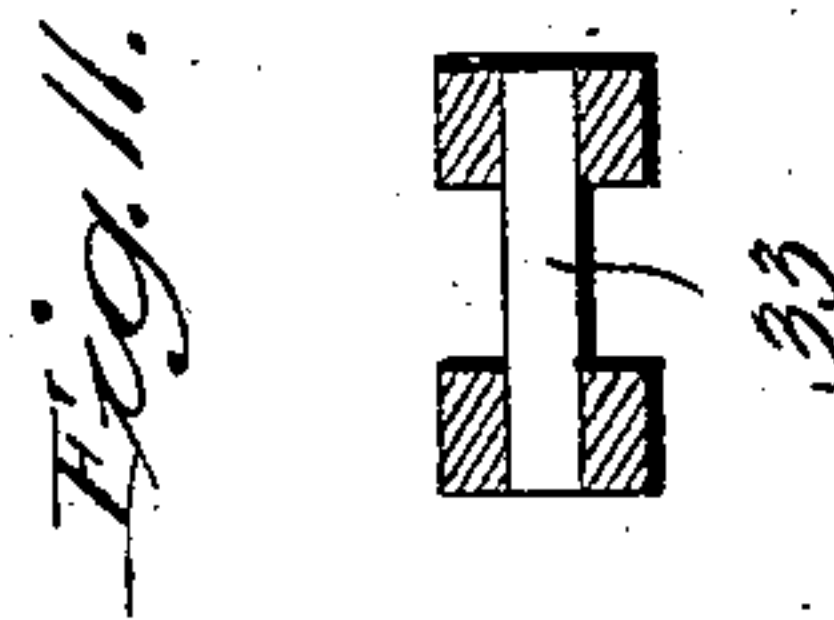
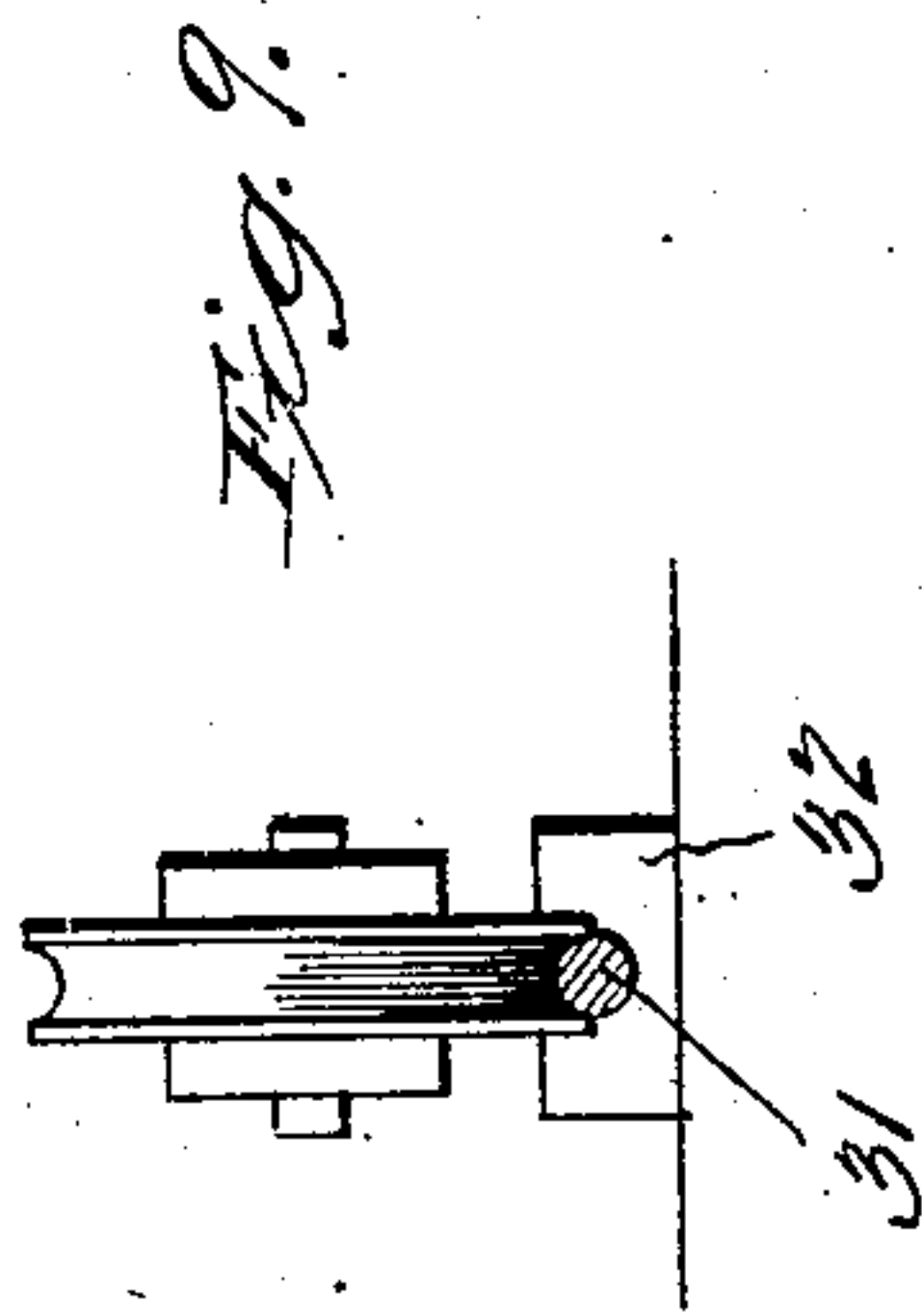
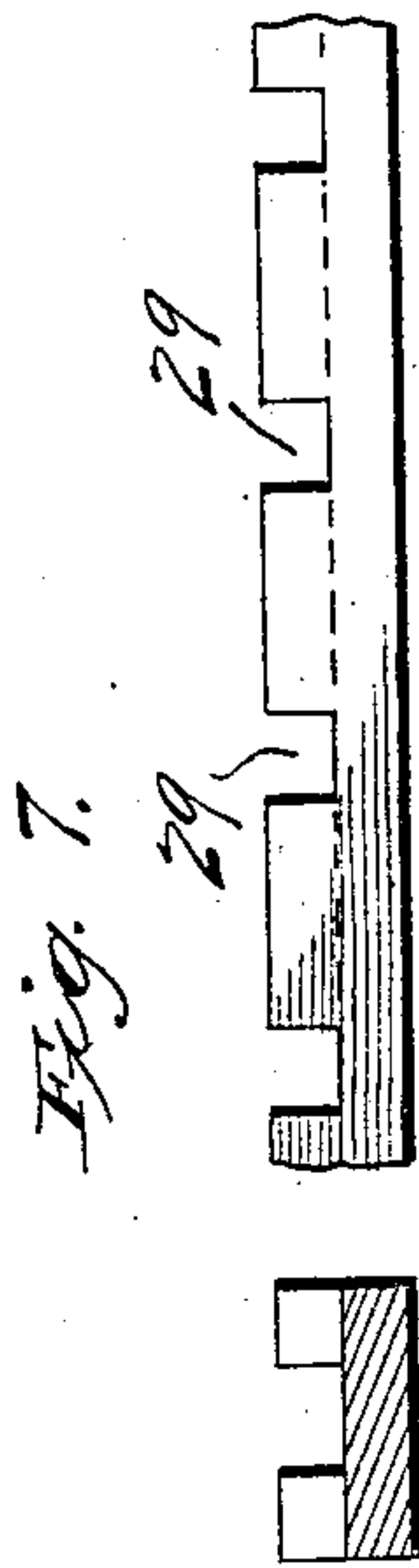
PATENTED DEC. 31. 1907.

J. H. WILSON.

GATE.

APPLICATION FILED JULY 3, 1907.

3 SHEETS—SHEET 3.



Witnesses

T. L. Mocham
E. O. Crocker

Inventor

J. H. Wilson

By

Reynold M. Smith

Attorney

UNITED STATES PATENT OFFICE.

JAMES H. WILSON, OF MOUNT AYR, IOWA.

GATE.

No. 875,399.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed July 3, 1907. Serial No. 381,955.

To all whom it may concern:

Be it known that I, JAMES H. WILSON, a citizen of the United States, residing at Mount Ayr, in the county of Ringgold and State of Iowa, have invented a certain new and useful Gate, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to gates, and the object of the invention is to provide a light, strong, durable and easily operated sliding gate, especially designed for use on farms, said gate being combined with operating mechanism therefor by means of which the gate may be opened and closed by a person on horseback or in a vehicle without dismounting.

A further object of the invention is to provide supporting and guiding means for the gate which will insure the easy operation and manipulation of the gate in all kinds of weather, avoiding liability of obstruction to the sliding of gate by reason of the accumulation of mud, snow, sleet and the like.

A further object of the invention is to provide operating mechanism of such a character that the gate may readily be thrown open or closed at any point irrespective of the position in which the gate is found; also to provide operating mechanism of such character that it will hold the gate either fully open or fully closed, as the case may be.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as hereinafter fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a gate embodying the present invention, the gate being shown closed. Fig. 2 is a detail plan view of the gate operating mechanism. Fig. 3 is a detail cross section through the lower portion of the gate and track, taken on the line 3—3 of Fig. 1. Fig. 4 is a side elevation of the gate, showing another form of supporting guide or track. Fig. 5 is an end view of the same. Figs. 6, 7, 8, 9, 10 and 11 show other forms of supporting tracks which may be used in connection with the improved gate. Fig. 12 is an elevation showing an addition to the gate operating mechanism adapted to be

tripped and worked by contact with the wheel of a vehicle.

The preferred embodiment of the invention is illustrated in Fig. 1 in which 1 designates the main body of the gate which may be of any usual or preferred construction for the greater part, and suitably braced, as shown, to prevent sagging.

2 and 3 represent the gate posts, which are preferably composed of two bars each, the said bars being spaced apart wide enough to receive the gate 1 between them. In other words each of the posts is open in the center to accommodate one of the end uprights of the gate, as clearly shown in Fig. 2.

The bottom rail of the gate is composed of two parallel bars 4 fastened to the uprights of the gate, and the said bottom rail is extended beyond the end of the gate as shown at the left hand end of Fig. 1 and has a supporting wheel or roller 5 journaled between the parallel bars thereof. The said projecting portion of the bottom rail is also provided with a weight 6 of suitable size which acts to counterbalance the main body of the gate when extending across the gateway between the posts 2 and 3, in the position shown in Fig. 1. Another supporting wheel or roller 7 is mounted between the parallel bars of the bottom rail of the gate near the center of the gate as shown in Fig. 1. The rollers or wheels 5 and 7 travel back and forth on a track shown at the left hand end of Fig. 1, and under the preferred embodiment of this invention said track is composed of a horizontal supporting rail 8, parallel guard rails 9, at opposite sides thereof, and legs or standards 10, by which the rails 8 and 9 are upheld at a suitable elevation above the surface of the ground, said rails being fastened to the legs or standards. It will be noted that space is left between the rails 8 and 9 to permit snow, dirt, etc. to readily escape, thus keeping the track clear and free of accumulations. As the wheels or rollers 5 and 7 move back and forth, they act to clear any accumulation from the track, which is thus always maintained in proper condition for use.

About midway between the gate posts 2 and 3, there is a short standard or post 11 bifurcated or slotted to receive a horizontally disposed roller 12 on which the bottom

5 rail of the gate rests and slides in its movements, and also mounted on said post 11 are rollers 13 arranged at opposite sides of the bottom rail 4 to hold and guide the gate in its back and forth movements without friction.

The operating mechanism for the gate embodies a rock shaft 14 mounted in suitable bearings 15 on one of the gate posts, as shown in Figs. 1 and 2, two gate-throwing arms 16 and 17, and a pair of operating arms 18 and 19. Each of the throwing arms 16 and 17 is connected with the gate at one end by a flexible connection 20 which may consist of a strap or chain, chains being shown in the drawings. One connection 20 extends from the tip of one arm to one end of the gate, while the other connection extends from the tip of the other arm to the opposite end of the gate, as clearly shown in Fig. 1. It will be noted that the arms 16 and 17 and the connections 20 are so proportioned and of such relative lengths and throw that, when the gate is either fully open or fully closed, the connection attached to the upstanding arm 16 or 17, as the case may be, is approximately in line with its arm, and therefore the gate cannot swing the arms or turn the rock shaft, although said shaft may be rocked by hand to throw the gate either open or shut. In this way the gate operating mechanism acts also as a lock for the gate, doing away with the necessity for a latch or other device having the function of a latch. The arms 18 and 19 are for the purpose of manipulating the rock shaft 14 by hand and one or both of said arms may be provided with a handle 21 of suitable length, pivotally attached to the arm to hang pendent in position to be grasped and pulled downward or pushed upward as occasion may require.

45 Instead of the handle 21, a connecting rod or link 22, may reach from the arm which operates the rock shaft 14, down to a crank shaft 23, as shown in Fig. 12, arranged in the roadway and having an upstanding crank 24 designed to contact with a vehicle wheel, whereby the gate is adapted to be operated automatically as the vehicle approaches the gate or moves away from the same, the said arrangement being duplicated at both sides of the gate for both opening and closing purposes.

55 Instead of placing the wheels or rollers 5 and 7 on the bottom rail of the gate, they may be mounted on a rail higher up as shown in Fig. 4, and the track may be correspondingly elevated as shown in said figure. Furthermore, the rail 4 on which said wheels or rollers are mounted may be a single rail as shown in Figs. 4 and 5, with wheels or rollers 5 and 7 on both sides thereof. In the latter case two parallel supporting rails 25 will be used mounted on posts 26 arranged to permit the gate to move between them.

65 If desired a track such as is shown in Fig. 6 may be used, comprising a base or supporting rail 27 and side guard rails 28, all made in one like a trough or gutter. To prevent accumulation of trash about such a track the side guard rails may be cut away or notched at intervals as shown at 29, in Fig. 7. Again the supporting rail and guide rails may be arranged as shown in Fig. 8, wherein said rails are all separate and fastened to and upon cross ties 30, such construction permitting trash to readily escape.

75 A single rod 31 may be used for a track, as shown in Fig. 9, mounted on suitable supporting blocks 32 or their equivalent, in which case the wheels or rollers 5 and 7 will have grooved peripheries, as shown in said figure. Another form of track is shown in Figs. 10 and 11, in which the side guard rails are secured to cross ties 33 arranged very close together to form the supporting rail on which the wheels or rollers travel, a slight space being left between the ties to admit of the escape of the trash.

85 Other forms of track will suggest themselves and I do not therefore desire to be limited to the use of any particular form of track. The form of gate and the general arrangement of parts may also be varied considerably without departing from the principle or sacrificing any of the advantages of the invention herein disclosed.

I claim:—

1. An endwise sliding gate embodying a horizontal rail, supporting wheels carried thereby, a supporting rail on which said wheels travel, and gate-operating mechanism embodying a rock-shaft, a plurality of arms extending upwardly from said shaft, and connections attached at one end to the upper extremities of said arms and at their other ends to opposite ends of the gate.

2. An endwise sliding gate embodying a supporting rail, rollers or wheels carried by the gate and traveling on said supporting rail, and gate-operating mechanism comprising a lever having a plurality of arms, and connections leading from the arms of said lever to opposite ends of the gate, said arms and connections being so proportioned that they act to hold the gate locked at the limit of its throw.

3. An endwise sliding gate embodying a supporting rail, wheels carried by the gate and traveling on said rail and gate-operating mechanism comprising a lever, having a plurality of arms, and connections leading from the arms of said lever to opposite ends of the gate, said arms and connections being so proportioned and disposed that the connections substantially line up with the arms when the gate is at the limit of its movement, substantially as and for the purpose described.

4. The combination with a sliding gate,

and operating mechanism therefor, of a supporting track embodying a supporting rail and side rails or guards at opposite sides of the supporting rail, spaces being left for the escape of trash and the track as a whole being sustained in an elevated position, substantially as described.

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

JAMES H. WILSON.

Witnesses:

A. F. KIRBY,
L. W. LAUGHLIN.