

No. 640,272.

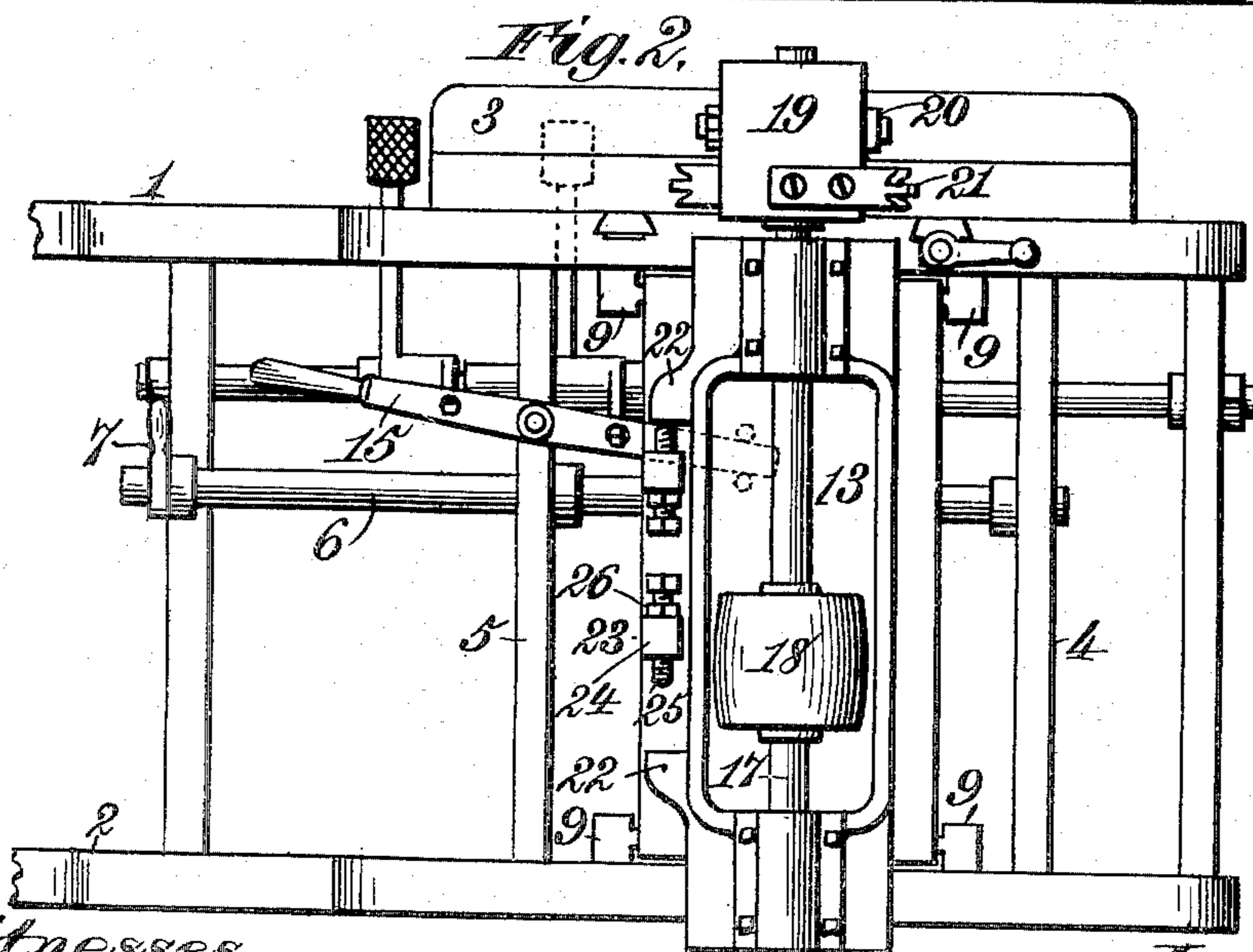
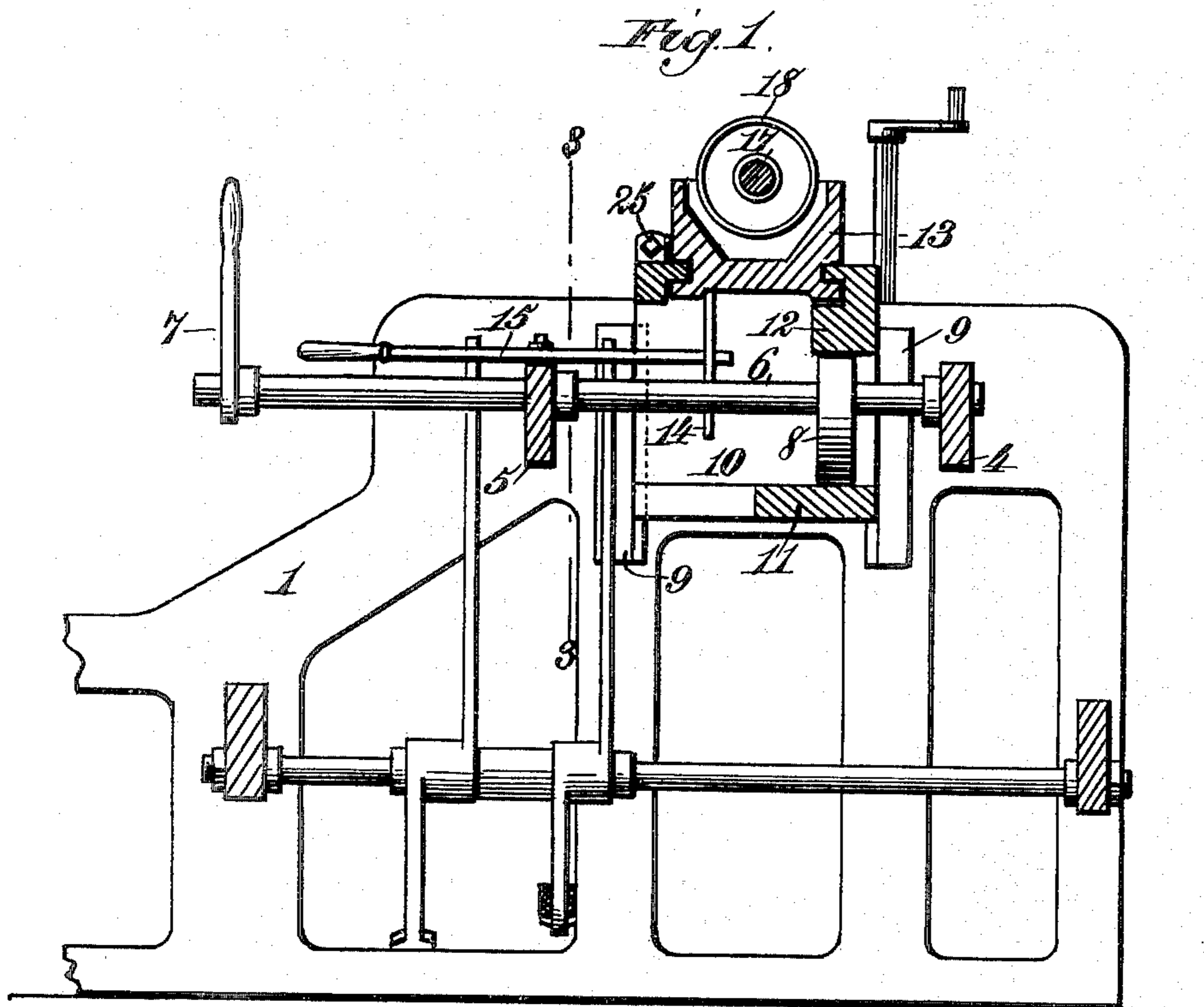
Patented Jan. 2, 1900.

A. C. CLOAD.  
WOODWORKING MACHINE.

(Application filed Mar. 22, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.  
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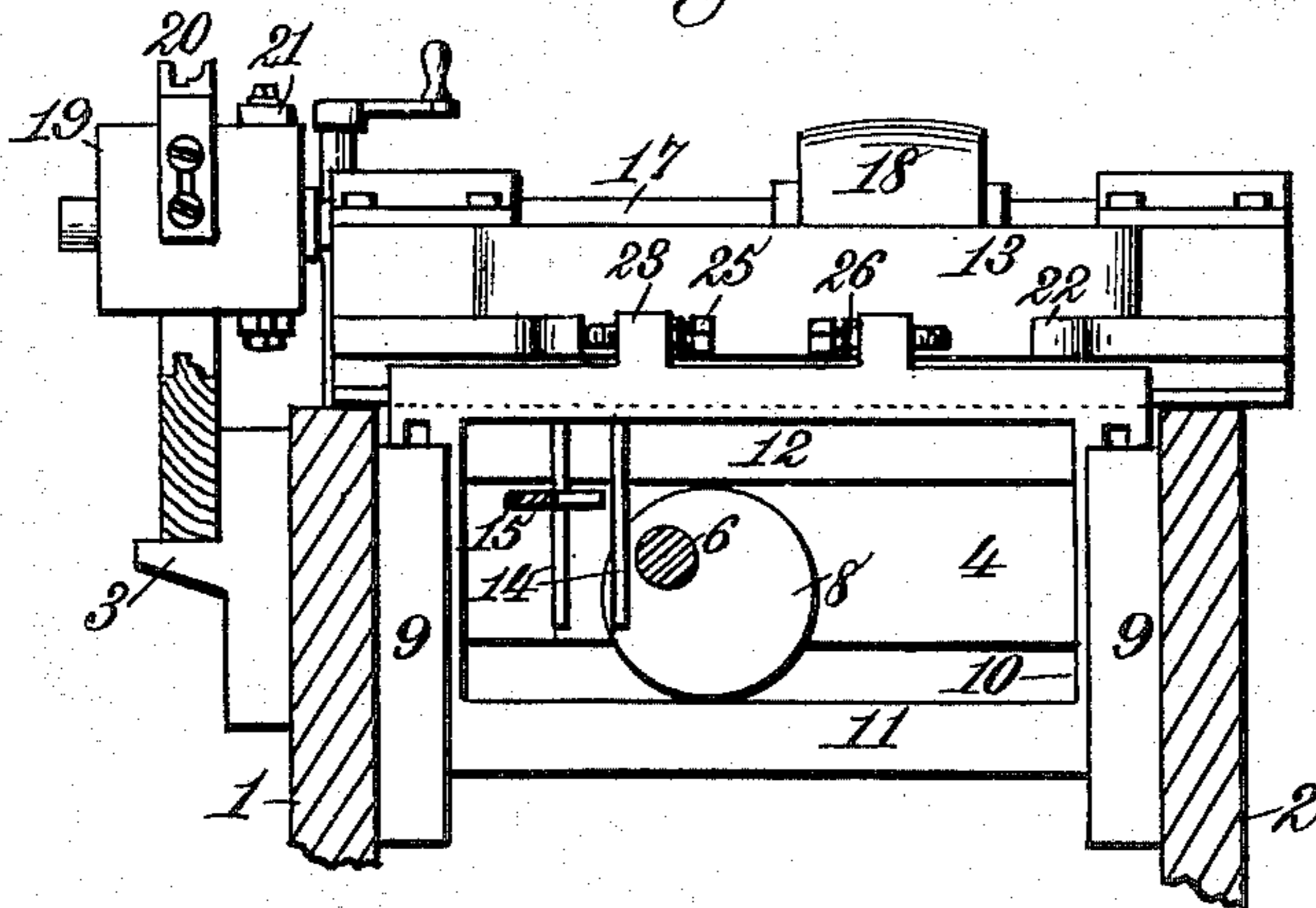
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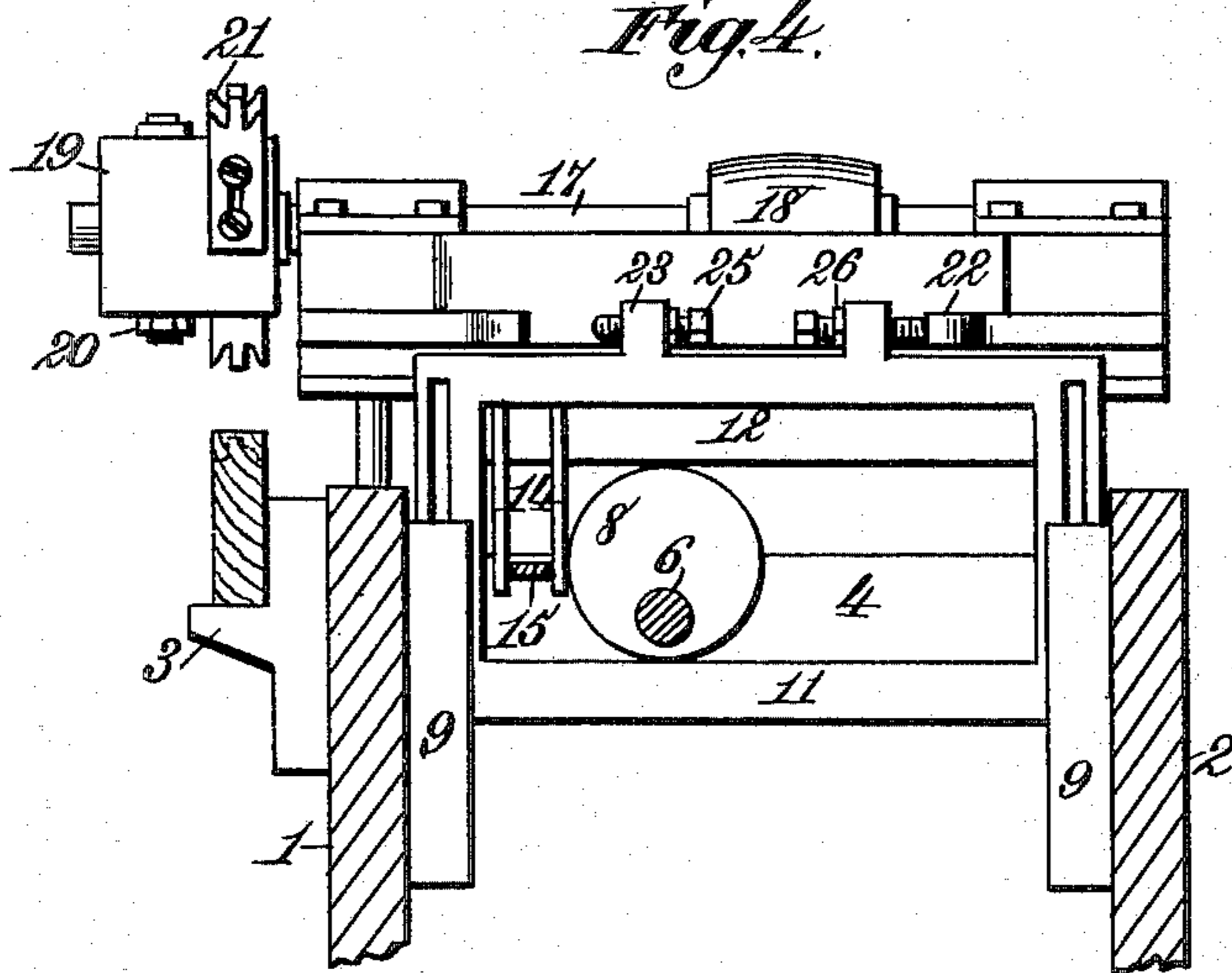
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2 Sheets—Sheet 2.

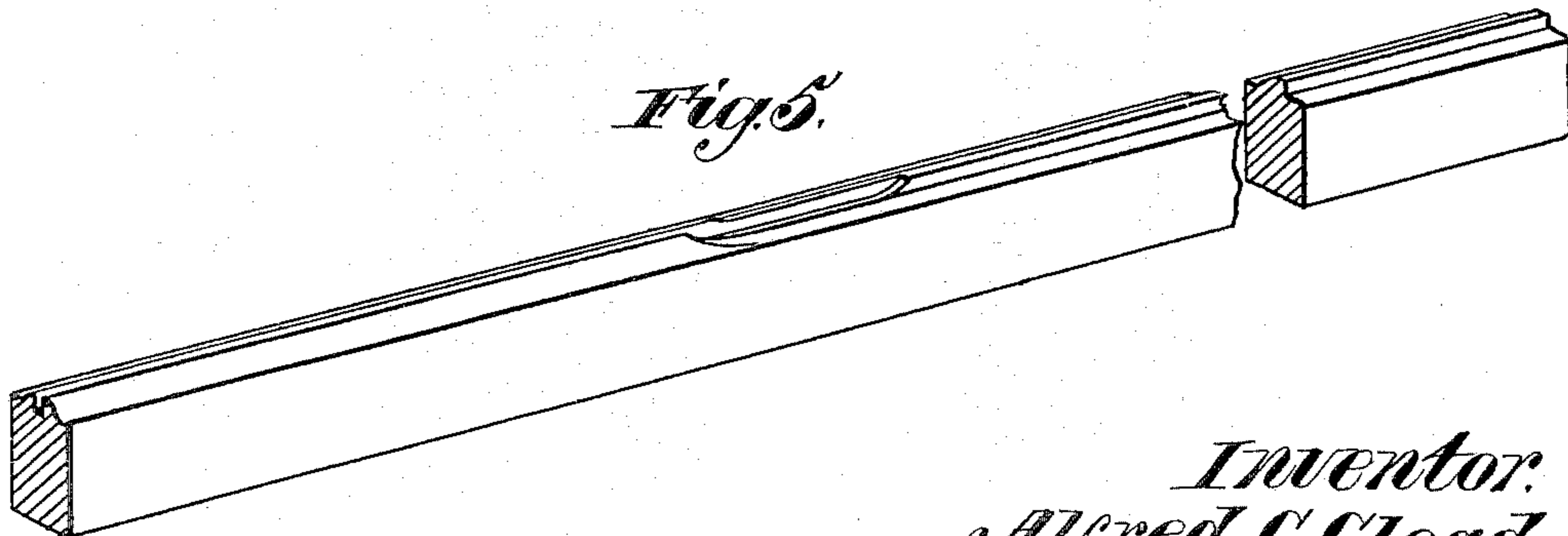
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

ALFRED C. CLOAD, OF LUTCHER, LOUISIANA.

## WOODWORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 640,272, dated January 2, 1900.

Application filed March 22, 1899. Serial No. 710,053. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED C. CLOAD, a citizen of the United States, residing at Lutcher, St. James parish, State of Louisiana, have  
5 invented new and useful Improvements in Woodworking-Machines, of which the following is a specification.

My invention relates to woodworking-machines, the same being particularly designed  
10 for cutting stiles to be used in the construction of doors which have panels in the lower part thereof and glass in the upper part. It is, however, not limited to this use, but may be employed in any class of work where it is  
15 desired to make different kinds of cuts upon the same edge or side of a strip of wood.

In the ordinary machines the cutter-head is fixed to the main frame and the bed-plate is movable. In operating machines of this kind  
20 the strips or stiles are first placed upon the bed-plate, and the latter is moved until it brings the strip within the range of movement of the cutter. The said strip is then forced along to the point at which the particular kind of cut to which the knives are adapted  
25 is to end and the different kind of cut is to begin. Where a number of stiles are to be operated upon, they are passed one at a time through the machine in the manner described  
30 and removed when one kind of cut has been made. Afterward the cutter is adjusted on the main frame and the strips or stiles are, one at a time, placed back upon the bed-plate, and an operation similar to that above described  
35 is repeated. The objection to this form of machine is that it requires a much greater time to complete a job of work, and, furthermore, extreme care is necessary in order to prevent the different cuts from getting  
40 out of alinement one with the other.

My invention is designed to overcome the objections above noted, and does so by providing means whereby the different kinds of cuts may be imparted to the different strips  
45 or stiles without removing them from the machine.

In carrying out my invention I provide an adjustable bed-plate on the main frame, a vertically-movable frame, means for locking said  
50 frame in its raised or lowered position, a transversely-movable tool-carriage on the vertically-movable frame, a rotary cutter on said

carriage, a plurality of knives of different design on the cutter-head, and means for moving said carriage and for regulating or limiting the degree of movement thereof. 55

The invention also consists in other details of construction and combinations of parts, which will be hereinafter more fully described and claimed. 60

In the drawings forming part of this specification, Figure 1 is a central longitudinal section of the machine. Fig. 2 is a plan view. Fig. 3 is a transverse section on the line 3 3 of Fig. 1. Fig. 4 is a similar section with the tool-carriage elevated and shifted to a different position. Fig. 5 is a detail view of the article produced by the machine. 65

In the embodiment of my invention illustrated in the drawings and to be described herein the main frame is made up of two substantially parallel side bars 1 2, suitably spaced apart and braced to prevent displacement, the side bar or plate 1 having secured to it an adjustable bed-plate 3, upon which the work is to be placed and on which it is guided. Connecting the side plates or bars 1 2 at points adjacent to the front and rear ends thereof, respectively, are two transversely-extending beams 4 5, respectively, through which passes the shaft 6, having a crank or handle 7 on the rear end thereof. Said shaft 6 carries, at a point adjacent to its forward end, an eccentric or cam 8 for a purpose which will hereinafter appear. Mounted in suitable guides 9 between the side bars or plates 1 and 2 is a vertically-movable frame 10, which for the purpose of clearness in description may be termed the "locking-frame." Said locking-frame is made up of parallel side pieces and a bottom piece 11, connecting said side pieces. The top of said frame is open or slotted, as clearly shown. A short distance below the top piece of the locking-frame and adjacent to the forward end thereof is a cleat 12, against which and the bottom 11 the cam 8 is adapted to bear for the purpose of raising and lowering the locking-frame and holding the latter in one position or the other. A tool-carriage 13 is mounted to slide transversely in suitable guides in the upper end of the locking-frame 10 and has lugs 14 14 on the underside thereof, between which extends one end of lever 15, fulcrumed upon the cross-beam 70 75 80 85 90 95 100

5 and adapted to be operated by hand or by foot power for the purpose of shifting the carriage in one direction or the other. Mounted in suitable bearings in the carriage 13 is a shaft 17, having a drum or roller 18 thereon, by means of which said shaft may be rotated from any suitable source of power. The outer projecting end of the shaft 17 carries the cutter-head or dado 19 of any suitable form and construction, the same being provided with a plurality of sets of knives or cutters 20 21, the knives 20 in the present instance being designed for the purpose of shaping one end of the stile or strip so that it is adapted to receive a pane of glass. The knives 21 are designed to shape the other end of the stile or strip so that it is adapted to receive the edges of the panels of the door. These knives may of course be of any suitable shape for the purpose of adapting the device to any use to which it may be desired to put the same. On the upper end of the locking-frame 10 are secured two stops 22 22, the same being fixed in place adjacent to the transverse center of said frame. On the carriage 13 are adjustable stops 23, which are adapted to cooperate with the stops 22 on the locking-frame. The adjustable stops 23 are made up of lugs 24 on the carriage, threaded bolts 25 extending through said lugs, and jam-nuts 26 on said bolts, adapted to engage said lugs for locking the bolts in any position to which they may be adjusted. By this construction it will be evident that the degree of transverse movement of the tool-carriage may be accurately regulated.

The operation of my device is as follows: When it is desired to cut the edges of a door-stile for the purpose of adapting the same to be used upon a door in which panels are employed in the lower part and glass in the upper part, the locking-frame 10 is elevated by turning the crank or handle 7 to the left. This action rotates the shaft 6 and the cam 8, carried thereby, bringing said cam into engagement with the under side of the cleat 12 on the locking-frame, raising the latter. When the latter is elevated, the ends of the carriage 13, which project beyond the sides of the locking-frame, are thrown out of engagement with the upper edges of the side plates 1 and 2, so that said carriage is free to be moved in one direction or the other. The lever 15 is then moved so as to throw the carriage 13 to the right until the stops 23 thereof come in contact with the corresponding stops 22 on the locking-frame. The stops 23 are so adjusted that when this contact takes place the knives 20 will be in proper position directly over the bed-plate 3. The locking-frame 10 is then lowered to its normal position by turning the crank 7 to the right. This action through the shaft 6 throws the cam or eccentric 8 into contact with the upper surface of the bottom 11 of said locking-frame, forcing the latter downward. The same is not only forced downwardly, but is held in its lowermost position by the

action of the cams, the downward movement being limited by the engagement of the projecting ends of the carriage 13 with the upper edges of the side plates or bars 1 and 2. By continuing the movement of the shaft 6 close and rigid engagement between the carriage and the main frame will be effected and independent movement of said carriage will be effectually prevented. With the parts in this position the stiles are, one at a time, fed along the bed-plate 3, either by hand or by suitable feed-rollers, until the same are brought within the range of movement of the knives 20, the forward movement of the said stiles being continued up to the point at which the particular kind of cut made by the knives 20 is to end. Without moving the stile from the bed-plate the carriage 13 is elevated in the manner heretofore described and shifted to the left, so that the cutters 21 will be brought directly over the bed-plate 3 and in proper position to act upon the stile, which remains upon the bed-plate, said knives or cutters 21 being of such pattern that they shape the stile to receive the edges of the door-panels. The said carriage and locking-frame are then lowered and the forward feeding movement of the stile continued, the effect being that when the stile has passed entirely through the machine it will have thereon the two kinds of cuts necessary for the purpose for which it was designed.

From the foregoing description it is seen that I am enabled to impart different kinds of cuts to the same strip without removing the same from the machine and that it is absolutely impossible for these cuts to be out of alinement with each other. It will also be observed that the mechanism for raising and lowering the locking-frame and the tool-carriage thereon also serves to lock the latter in any position to which it may be adjusted.

Having now described my invention, what I desire to secure by Letters Patent is—

1. In a woodworking-machine, the combination with a bed-plate for the work, of a locking-frame movable vertically on the main frame, a tool-carriage movable horizontally on the locking-frame, a rotary cutter-head mounted on the carriage and having knives of different pattern adapted to be successively brought into operation upon different portions of the work, means for imparting horizontal movement to said tool-carriage after the operation of one of the knives on the cutter-head is completed, and stops to limit said movement whereby the tool-carriage is arrested when the next knife is directly over the bed-plate and in position to act upon the work remaining thereon, substantially as described.

2. In a woodworking-machine, the combination with a locking-frame vertically movable on the main frame, of a cam lying between the bottom of said frame and a cleat above the cam, a horizontally-movable tool-

carriage on said locking-frame, a cutter-head on a shaft mounted on said carriage, a plurality of knives of different pattern mounted on different parts of the cutter-head to operate in succession on the work, means for moving the tool-carriage horizontally, and stops to arrest said movement when one of the knives is over the bed-plate and in position to act, in its turn, upon the work remaining on the bed-plate, substantially as described.

3. In a woodworking-machine, the combination with a locking-frame vertically movable on the machine-frame, of a cam to raise and lower said locking-frame, a tool-carriage horizontally movable on the locking-frame, a cutter-head and shaft mounted on the latter, two knives of different pattern mounted on different parts of the cutter-head, to operate on the work in succession, a lever to move the tool-carriage, and stops to arrest the movement in both directions thereof, when either of the two knives is over the bed-plate and in position to act, in its turn, upon the work, substantially as described.

4. In a woodworking-machine, the combination with a bed-plate of a vertically movable locking-frame, a cam on a horizontal cam-

shaft, said cam lying between the bottom of the locking-frame and a cleat thereon to raise and lower the locking-frame and hold it in lowered position, a transversely-movable tool-carriage on said locking-frame, a lever fulcrumed on the main frame and having one end between lugs on the tool-carriage, a cutter-head and shaft on the carriage, knives of different pattern on different parts of the cutter-head to operate successively on the work on the bed-plate, and a stop to arrest the movement of the tool-carriage in either direction when the knives are brought into position to operate in succession on the work on the bed-plate, the ends of the tool-carriage extending over or beyond the sides of the main frame on which the locking-frame has vertical movement, to arrest the downward adjustment when the knives are at a proper point, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFRED C. CLOAD.

Witnesses:

LOUIS E. PÉTRE,  
JOSEPH DAMARÉ.