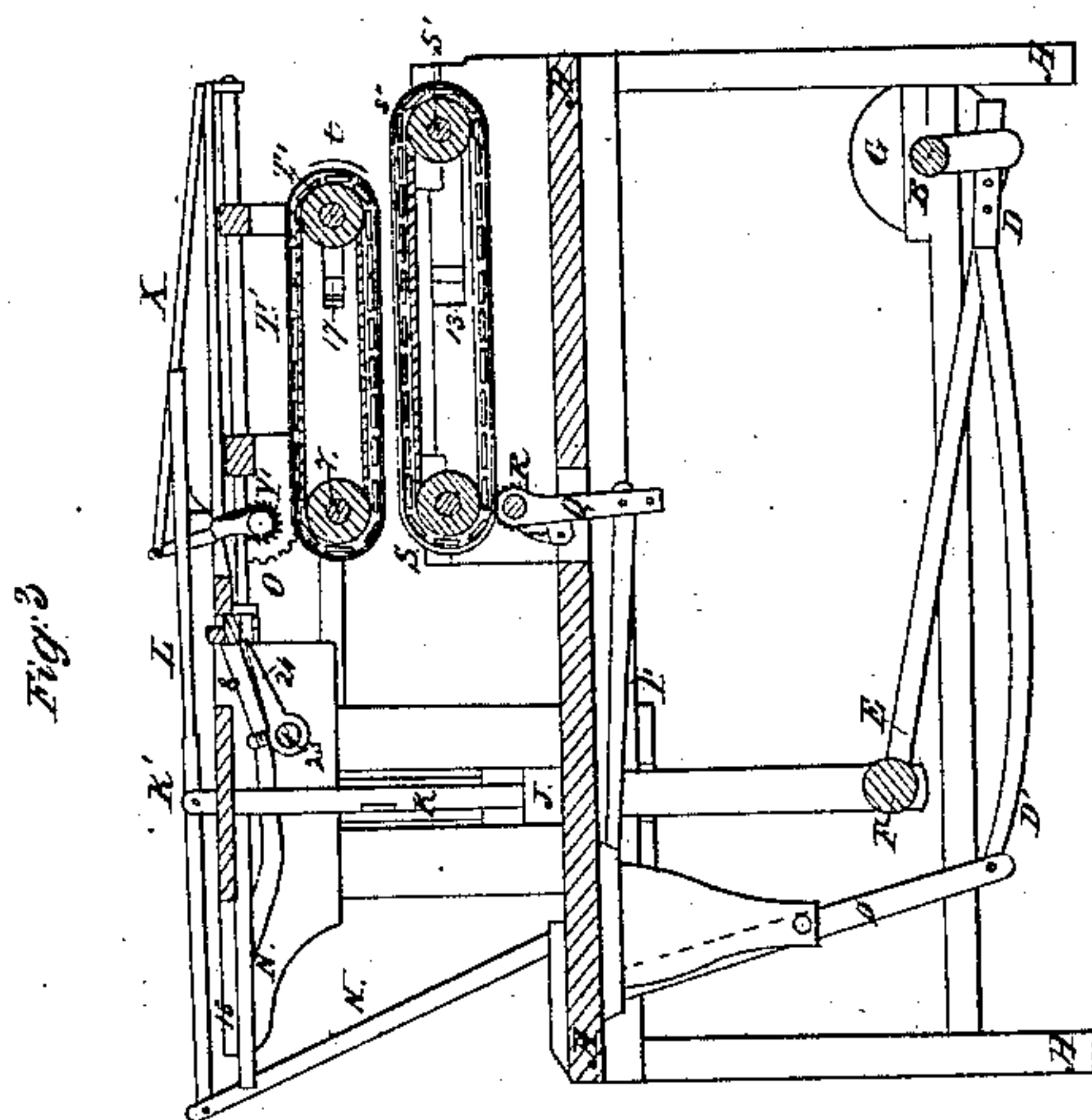
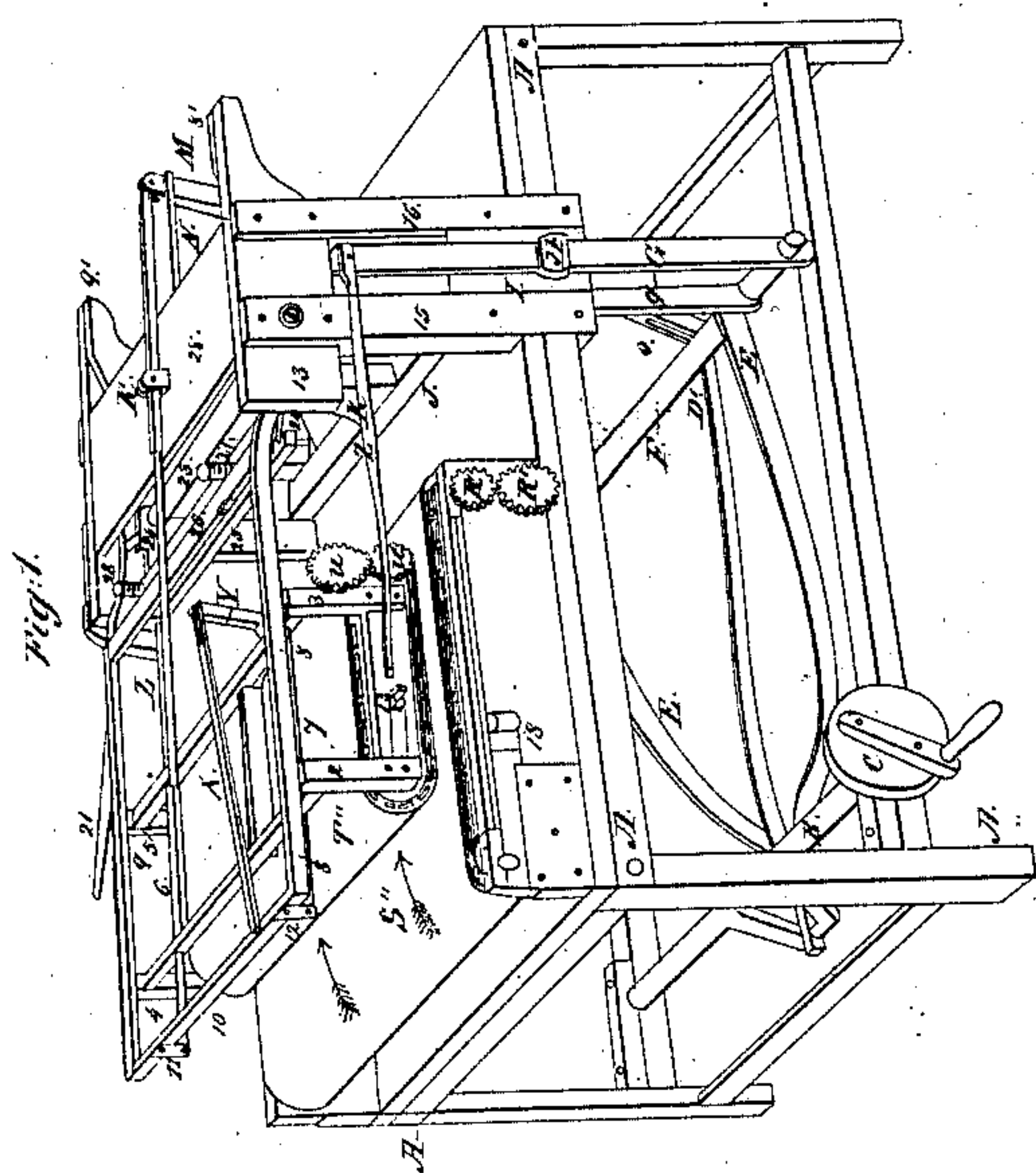
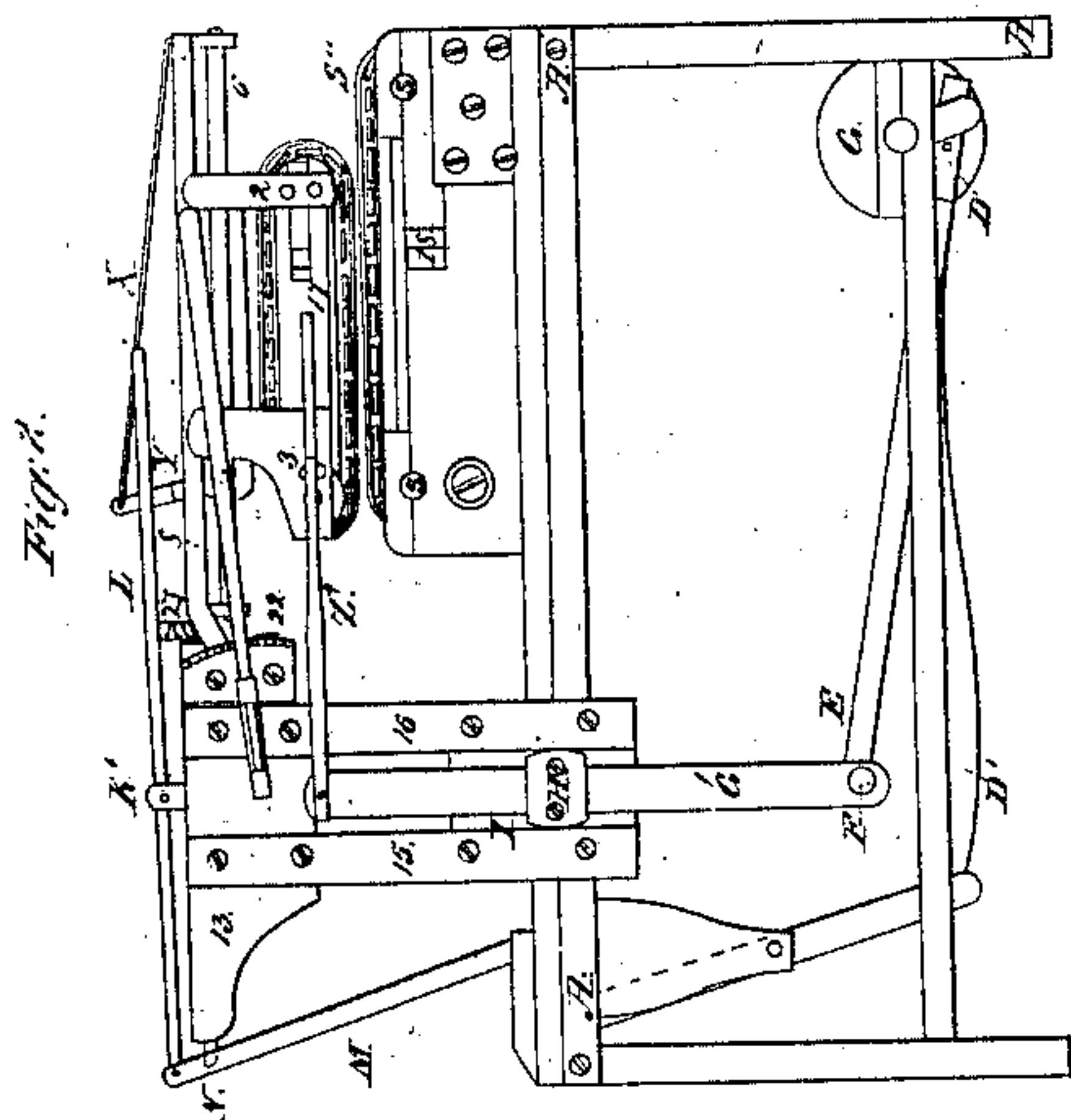


J. E. Wiggin,

Dressing Leather,

N^o 62,514.

Patented Feb. 26, 1867.



Inventor:

J. E. Wiggin

United States Patent Office.

J. E. WIGGIN, OF STONEHAM, MASSACHUSETTS.

Letters Patent No. 62,514, dated February 26, 1867.

IMPROVED BOARDING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. E. WIGGIN, of Stoneham, in the county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in a Boarding Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in combining and arranging the several parts of a leather boarding machine, so that when the same is set in motion, and one end of the side of leather to be operated upon is inserted, the machine will continue to act upon the leather until it has completely "boarded" it. My machine is so constructed that when the action of boarding is complete the leather is thrown out, and by simply moving a lever, the machine is ready for another piece; thus it may work all day without once stopping.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and use. In the drawings—

Figure 1 represents a perspective view of the machine.

Figure 2 is a side elevation showing the opposite side of that shown in the perspective view.

Figure 3 is a vertical section.

I first construct a suitable frame, A A, made of wood or metal, and of such form and strength as the size of the machine requires. In the lower part of this frame the shaft B is hung, figs. 1 and 3, said shaft having a crank near its centre, shown in fig. 1, and a driving-pulley, C, at one end. E E represent links to connect the swinging-bar F with the crank of the shaft B. The swinging-shaft F is hung to the upper part of the frame by links, g g, one of which only is shown in fig. 1. The ends of the swinging-shaft F pass through the levers G, fig. 1, and G', fig. 2. These levers G G' pass through pivot boxes, H H, and through the links Z, fig. 1, and Z', fig. 2, communicating a vibrating motion to the frame 2 3 4 5, fig. 1. As this frame supports the rolls T T', fig. 3, upon which the endless apron T'', revolves, it is evident that the apron and rolls as a whole will partake of this vibrating motion, that is, the whole will pass back and forth over the apron S''. The frame 2 3 4 slides upon the metallic bars 6 and 7, fig. 1, these bars being supported by the frame 8 8' 9 9' and 10. This frame is pivoted at 8' 9', fig. 1, so that the end 8 9 is free to rise and fall, taking with it the vibrating frame 2 3 4 5, and the endless apron T''. The endless apron T'' may be raised or lowered by operating the cam 24, fig. 3, this cam acting upon the under side of the frame 8 8' 9 9'. The cam 24 is attached to the shaft 23, figs. 1 and 3, and is operated by the lever 21, figs. 1 and 2. The cam 24 acting through the bar 25, the standards and spiral springs 27 also act to depress and bear down upon the frame carrying the endless apron, so, if requisite, the endless apron T'' may be pressed hard upon the apron S''. The lever 21 catches into the ratchet 22, so that the frame 8 9, the endless apron T'', and all the connecting parts may be raised or lowered at pleasure, or any desirable amount of pressure may be brought to bear upon it. All this may be effected while the machine is in motion. The amount of vibrating motion of the frame 2 3 4 depends upon the position that the pivot box H has upon the lever G. Thus, if the pivot box was near the upper end of the lever G, the link Z would have but a slight motion, when compared with the motion of the swinging-bar F, but if the pivot-box H occupies a position near the middle of the lever G, as shown in the drawings, then the motion of Z would be equivalent to the motion of the swinging-bar F. Thus it will be seen that the amount of sliding motion given to the endless apron T'' depends upon the position of the pivot box H. The pivot box H is pivoted upon the slide I, fig. 1, and may be raised or lowered by the lever L, which operates through the standard K K', and the cross-bar J. The standard K K' has a notch cut into it, as shown in fig. 3, so that when it is desired that the endless apron T' shall have but a slight motion, the regulating parts, viz, K, J, I, and H, may be all held up by simply drawing up the standard K K', and suspending it by the aforesaid notch upon the board 28, fig. 1. Thus far in my description I have only set forth the motion that the endless belt T'' has in common with its carrying frame 2 3 4 5, but this endless apron T'' has an intermittent rolling motion upon its roller T T'; this result is effected by the lever Y, fig. 3, acting by means of a pawl acting upon a ratchet-wheel, V, which in its turn acts upon the gear-wheel U, fig. 1, and through it upon the gear-wheel U', fig. 1, which, being connected to the shaft Y', fig. 3, causes the apron T'' to revolve in the direction indicated by the arrow, fig. 3. The cause of this action of the lever Y will be readily understood if it is remembered that the link X is comparatively sta-

tionary while the shaft upon which the ratchet-wheel acts, slides back and forth. The lower apron S'' revolves upon the rollers S S, fig. 3, with an intermittent motion, produced by means of a ratchet, R, and pawl, as shown in fig. 3, Q being a lever to which the pawl is attached. Motion is given to the pawl-lever Q by the link P, fig. 3, connected to the lever O, and through it, by means of the link D' D, to the crank-shaft B. As the ratchet R connects directly with the wheel R', fig. 1, and R' gears into R'', made fast to the roller S, fig. 3, it will be seen that the endless apron S'' must move in the direction indicated by the arrows, fig. 1. The frame to which the rollers carrying the lower apron S'' being stationary, the only motion that the apron has is that on its rollers S S'. 17 and 18, figs. 1, 2, and 3, are wedges (acting upon the shafts T' and S') used to strain up the aprons.

Before entering upon the use of my machine, I wish to have the motions of the endless aprons S'' and T'' clearly understood, I will therefore recapitulate, referring to fig. 1. The upper or presser apron T'' revolves upon its rollers in the direction indicated by the arrow t, with an intermittent motion, and has a vibrating or back-and-forth motion, produced by the lever G. This vibrating or back-and-forth motion is regulated as to space passed over by raising or lowering the pivot boxes H H, as has been described. Lastly, the apron T'' may be raised by means of the lever 21, so as not to touch the lower apron S'' at all, or may be pressed down upon it. The lower apron S'' has but one motion, that is, in the direction indicated by the arrows. This motion is not constant, but takes place at the same time that the presser apron T'' is being drawn back.

To board or soften leather upon my machine I proceed as follows: I first reduce the stroke of the pressure apron T'' by raising up the pivot boxes H H', which is done by the lever L, as explained heretofore. Now, the leather to be operated upon is so placed that one end or side slightly folded back on to itself just enters between the two aprons S'' and T'', and as the presser apron is acting upon its short stroke, while the lower apron S'' is operating as usual, (that is, in full motion,) the leather will be gradually drawn in between the two aprons. When the leather has been drawn in to about the centre of the presser apron T'' the lever L is lowered, thus dropping the pivot boxes H H' to the centre of the levers G G', so as to give the presser apron T'' its full motion. Now the upper fold of the leather is thrown out as fast as the lower fold is drawn in; and during this operation the boarding of the-leather is going on. This action continues until the whole piece of leather has been drawn in by the lower apron and thrown out by the upper apron.

I am aware that endless aprons have been used in connection with boarding machines; therefore I do not claim the use of the endless apron itself as a part of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The endless apron S'', actuated by the ratchet R and gears R' R'', or their mechanical equivalents, made substantially as described, and for the purpose set forth.
2. The endless apron T'', in combination with the device of the pawl-lever Y, the ratchet V, and the gears U W, or their mechanical equivalent, for the purpose set forth.
3. The device of the movable pivot box H upon the lever G, for the purpose of regulating the amount of vibrating motion given to the apron T''.
4. The combination, as well as the arrangement, of the two endless aprons S'' and T'', with the actuating devices, substantially as described and for the purpose set forth.
5. So arranging the frame 2 3 4 5, that a vibrating motion, as well as a revolving motion, may be given to the endless apron T''.
6. The general combination, as well as the arrangement, of the several parts of my machine, made substantially as described and for the purpose set forth.

Witnesses:

FRANK G. PARKER,
WILLIAM EDSON.

J. E. WIGGIN.