March 15, 1927. 1,620,895

J. KANDERA

PLANER

Filed Feb. 12, 1926 2 Sheets-Sheet 1

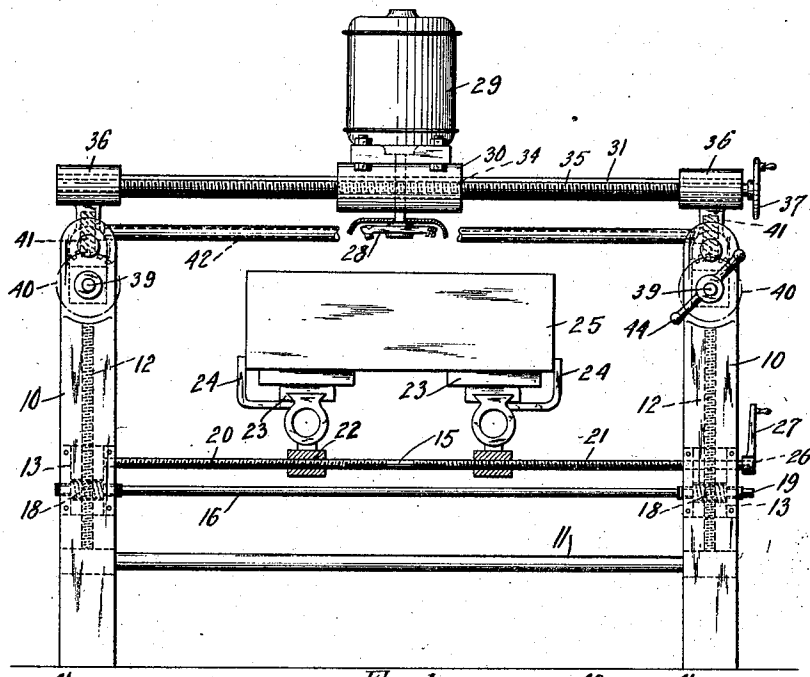


Fig. 1.

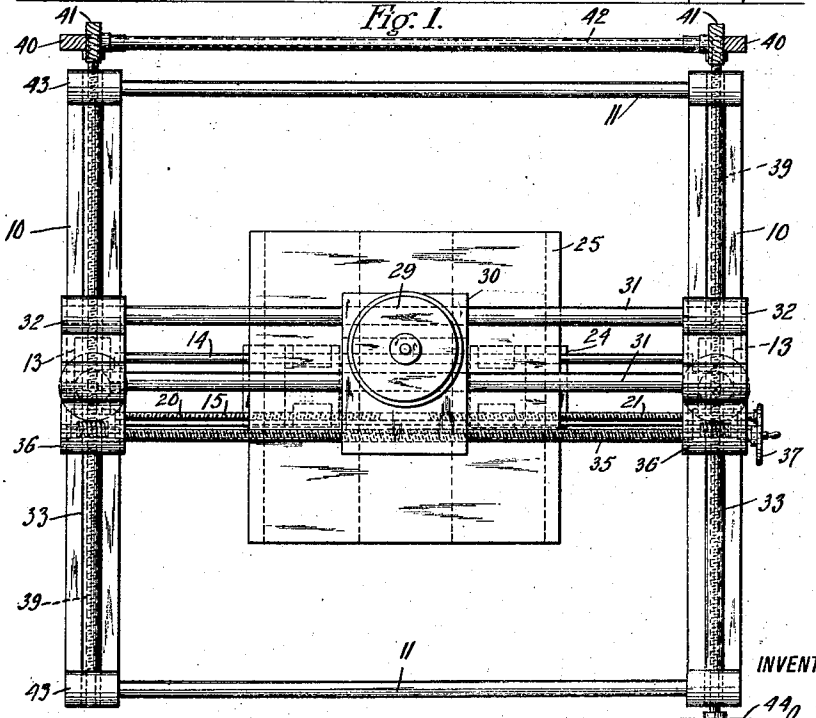


Fig. 2.

INVENTOR

J. Kandera

BY Sigmund Herzog

ATTORNEY

March 15, 1927. 1,620,895

J. KANDERA

PLANER

Filed Feb. 12, 1926 2 Sheets-Sheet 2

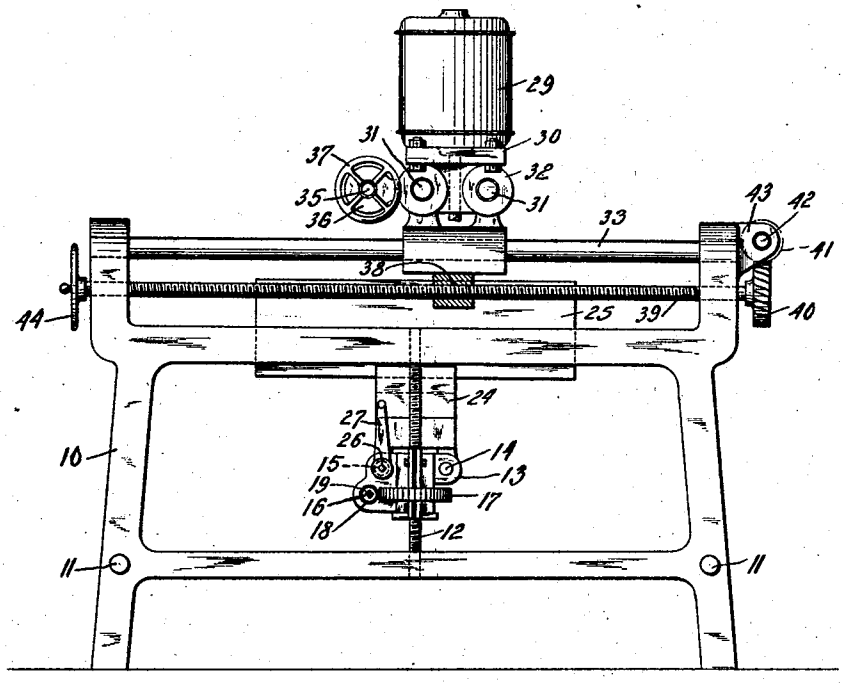


Fig. 3.

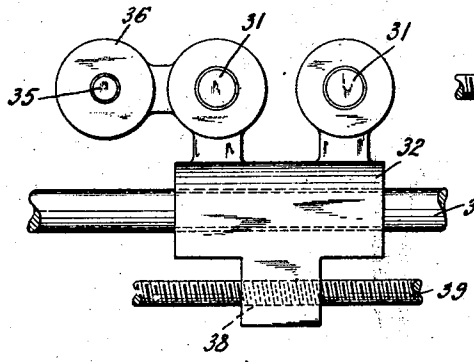


Fig. 4.

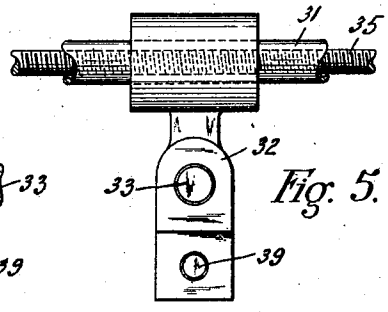


Fig. 5.

INVENTOR

J. Kandera

BY

Sigmund Herzog

ATTORNEY

Patented Mar. 15, 1927. 1,620,895

UNITED STATES PATENT OFFICE.

JOHN KANDERA, OF NEW YORK, N. Y.

PLANER.

Application filed February 12, 1926. Serial No. 87,805.

The present invention relates to improvements in surface-treating machines for planing wooden blocks employed in cutting machines, such as for instance leather cutting machines, also for treating butcher blocks, and the like.

The main object of the invention is to provide a surface treating machine of the type mentioned, wherein the work-support may be conveniently adjusted toward and from the surface treating member, whereby the depth of the cut or the pressure of the surface treating member may be controlled at will.

Another object of the invention is to provide a machine of the type mentioned in which both work-support and the tool-support are shiftable in a plurality of directions, thereby permitting the surface treating member to be conveniently brought over the entire surface of the work to be treated.

A further object of the invention is to produce a machine of the character described which is simple in construction, efficient in operation, durable in use and capable of manufacture on a commercial scale, or in other words one which is not so difficult to make as to be beyond the reasonable cost of such a machine.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of a surface treating machine constructed in accordance with the present invention; Fig. 2 is a top plan view thereof; Fig. 3 is a side elevation of the said machine; Fig. 4 is a side elevation, on a larger scale, of an element of the tool-support carriage; and Fig. 5 is a front elevation of the detail shown in Fig. 4.

Referring now to the drawings, the numeral 10 indicates two side members of the machine frame, united by the tie-rods 11, the latter extending longitudinally of the machine. To each of the said frames is centrally attached a vertically extending screw-threaded spindle 12, and on each of these spindles is slidably mounted a block 13, the two blocks being united by a horizontally extending guide-bar 14. In the said two blocks are also rotatably journaled a spindle 15 and a shaft 16, the said spindle and shaft extending in parallel relation to the guide-bar 14. With each block is associated a worm gear 17, said gears being in mesh with worms 18, formed on the shaft 16. Each worm gear is rotatably mounted on its respective block and is provided with a screw-threaded bore, the threads of which mesh with the respective screw-threaded spindle 12, the arrangement being such that, upon rotating the worm gears 17, the blocks and the elements carried thereby are raised or lowered, depending upon the direction of rotation of the said worm gears. The shaft 16 may be rotated in any suitable manner. In the case illustrated, it is provided with a square end 19, for engagement with a crank handle. The spindle 15 is provided with two screw-threaded portions 20 and 21, the threads of which run in opposite directions (Figs. 1 and 2). With these threads mesh those of bores 22 in work supports 23, slidably mounted upon the guide-bar 14. Each support is provided with a clamping member 24 (Fig. 1). The wooden block 25 to be treated is placed upon the two work supports and the spindle 15 turned to cause the clamping members to engage the said block. The spindle 15 may be rotated in any suitable manner; it may be provided, for instance, with a square end 26, for engagement with a crank handle 27.

With the work support co-operates a cutting tool 28 of any suitable construction, the same being mounted upon the armature shaft of an electric motor 29, carried by a support 30. This support is slidably arranged upon a carriage, including two horizontally and longitudinally extending guide-bars 31, mounted upon two blocks 32. Each of these blocks is slidably mounted upon a rail 33, the latter extending transversely of the machine frame and being fixed to the side members 10 of the said frame (Fig. 3). The tool support 30 is provided with a screw-threaded bore 34, the threads of which mesh with those of a screw-

threaded spindle 35, journaled in bearing members 36 on the blocks 32. The spindle 35 is provided with a hand wheel 37, for turning the same. Each of the blocks 32 is provided with a screw-threaded bore 38, meshing with the threads of a screw-threaded spindle 39. The spindles 39 extend transversely of the machine frame, they being journaled in bearing members thereon. To each spindle 39 is fixed an oblique-toothed gear 40, meshing with a similar gear 41 on a shaft 42, the latter extending longitudinally of the machine frame and being journaled in bearing members 43 on the side frame members 10. One of the screw-threaded spindles 39 is provided with an operating handle 44.

In using the machine, the operator places the wooden block 25 upon the work-support, and then turns the spindle 15 to bring the clamps 24 into engagement with opposite sides of the block, so as to fix the same in position on the work-support. The shaft 16 is then turned in the proper direction to raise the block 25 within the reach of the cutting edges of the tool 28. When the motor is then started, the upper surface of the said wooden block is planed. If the blades do not cut deep enough the work-support must obviously be raised. If the tool is cutting too deep or acting too severely on the surface on the block, the work-support is lowered. The operator, by actuating the screw-threaded spindles 35 and 39, shifts the electric motor over the entire surface of the wooden block, so that the said surface can be treated in its entirety. It is obvious that by rotating the screw-threaded spindle 35, the tool-support is shifted longitudinally on the machine, and by turning the operating handle 44, the tool-support is moved transversely of the machine.

After the wooden block has been planed, the work-support is lowered, the clamping members 24 disengaged from the block, and the latter removed from the machine.

What I claim is:—

A surface-treating machine comprising a frame, a screw-threaded spindle extending vertically on each end member of said frame, a block slidable on each spindle, a worm gear rotatably mounted on each block provided with a screw-threaded bore, the threads of each bore being in mesh with the respective spindle, a horizontally extending guide member connecting said two blocks, a screw-threaded spindle journaled in said two blocks extending parallel to said guide member, said last-mentioned spindle being provided with two screw-threaded portions, the threads of which run in opposite directions, a work-support including two elements movable on said guide member, each work-support element being provided with a clamping member and with a screw-threaded bore in engagement with one screw-threaded portion of said spindle, whereby upon rotation of said spindle said work-support elements are adapted to be moved toward and from the work into clamping and unclamping positions, a carriage movable transversely on said frame, a tool-support adapted to move longitudinally on said carriage, means for shifting said carriage, means for moving said tool-support on said carriage, a shaft rotatably mounted in said blocks, and a worm on each end of said shaft in engagement with the worm gear on the respective block, whereby upon rotating said shaft said work-support is raised or lowered in relation to said tool-support.

Signed at New York, in the county of New York, and State of New York, this 10th day of February, A. D. 1926.

JOHN KANDERA.