

1,369,684.

3 SHEETS—SHEET 1.

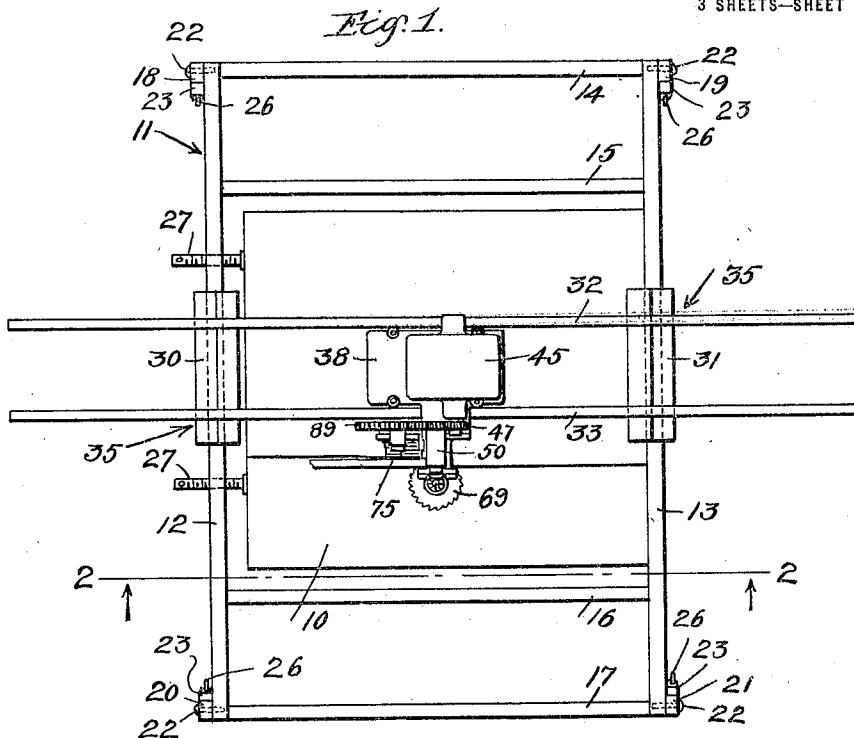
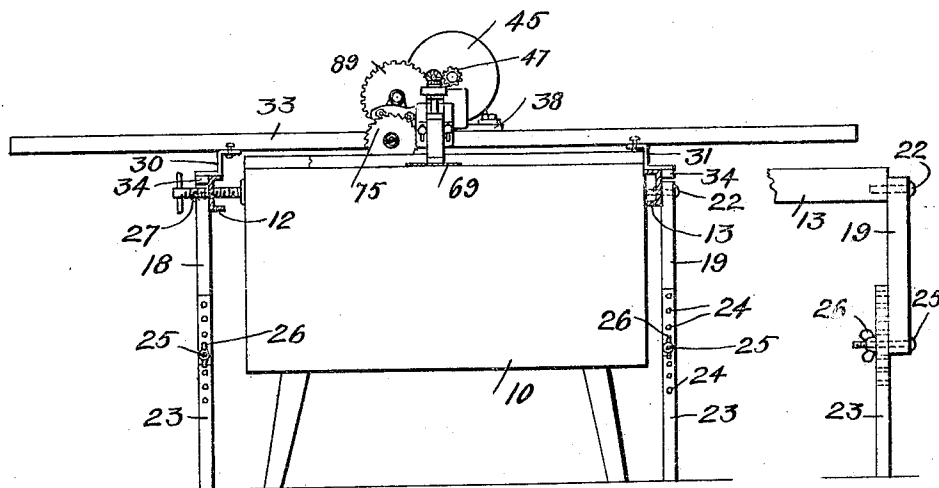


Fig. 2.



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CUTTING BLOCK SURFACING MACHINE.  
APPLICATION FILED SEPT. 11, 1918.

1,369,684.

Patented Feb. 22, 1921.

3 SHEETS—SHEET 2.

Fig. 4.

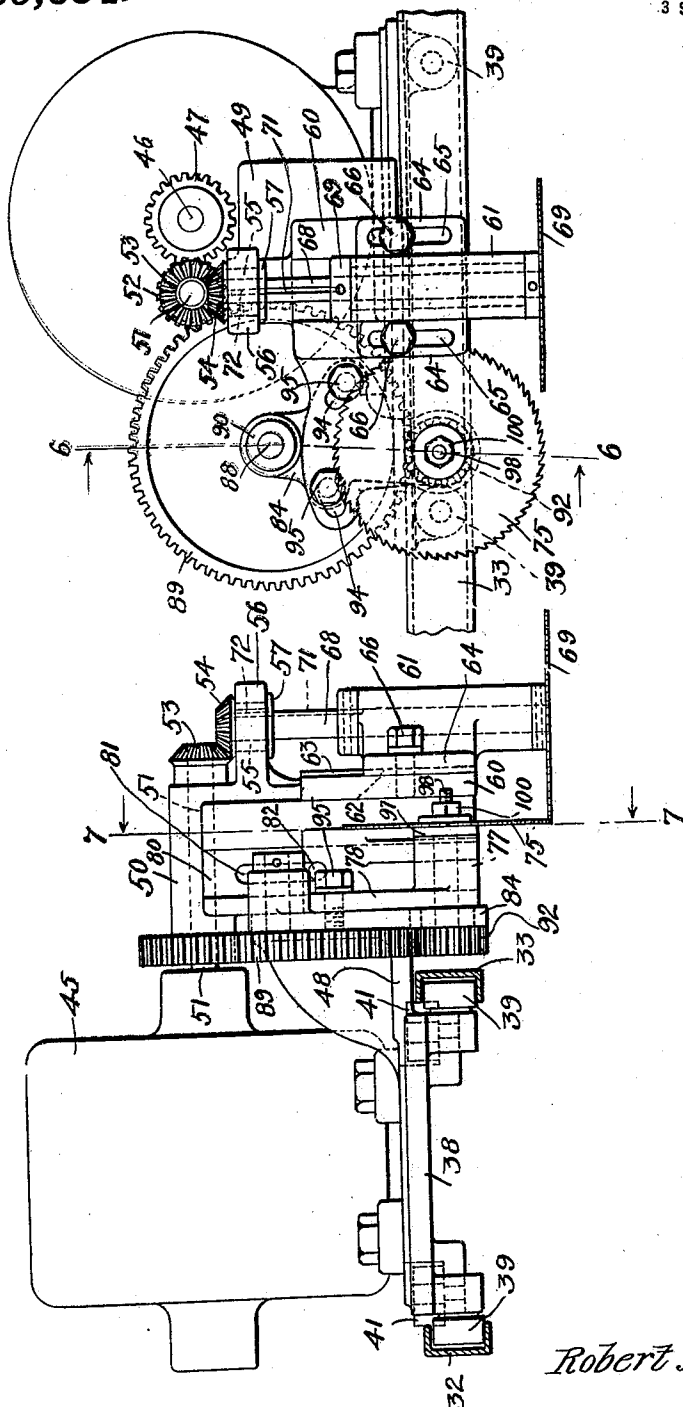


Fig. 3.

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Fig. 6.

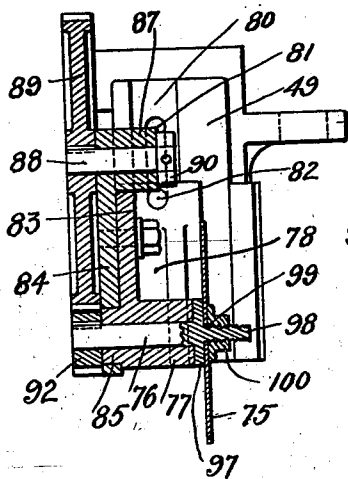
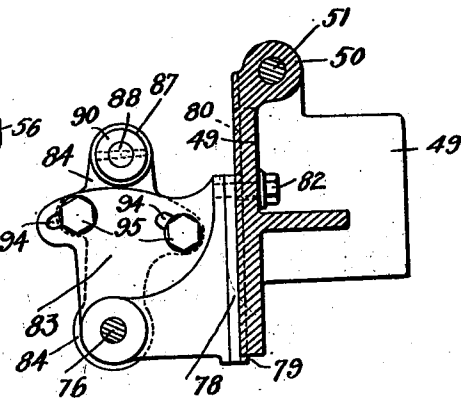


Fig. 7.



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# UNITED STATES PATENT OFFICE.

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## CUTTING-BLOCK-SURFACING MACHINE.

1,369,684.

Specification of Letters Patent.

Patented Feb. 22, 1921.

Application filed September 11, 1918. Serial No. 253,520.

*To all whom it may concern:*

Be it known that I, ROBERT A. MADDOX, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Cutting-Block-Surfacing Machines, of which the following is a specification.

This invention relates to a device for leveling cutting tables, and is particularly adapted to be used for leveling the surfaces of chopping blocks commonly used in slaughter houses and butcher shops, as well as the various cutting tables or blocks used by garment and shoe manufacturers and other industries where blocks or tables are used and their surfaces are subjected to uneven wear due to the constant contact of cutting knives.

When the surfaces of such blocks or tables become uneven and the corners rounded it is often necessary to load them on a truck and transport them to the mill to be resurfaced. This is objectionable inasmuch as they are necessarily heavy and cumbersome, and consequently considerable expense is involved.

It is an object of my invention to provide a device for leveling and surfacing cutting blocks and tables, which will be simple and efficient as well as light and compact, whereby it may be readily transported from shop to shop, set up, and operated by one man, thus avoiding the necessity of removing the table or block to the mill, and thereby reducing to a minimum the time the owner is deprived of the use of the table, as well as the expense of the operation.

Other objects of my invention will appear in the following description, and will be pointed out in the appended claims.

Referring to the accompanying drawing—

Figure 1 represents a plan view of my device shown as applied to a butcher block.

Fig. 2 is a front view of the same.

Fig. 3 is an enlarged side view of my device.

Fig. 4 is a front view of the same.

Fig. 5 is a plan view of the same.

Fig. 6 is a fragmental sectional view taken on line 6—6 of Fig. 4 viewed in the direction indicated by the arrows.

Fig. 7 is a fragmental sectional view taken

on line 7—7 of Fig. 3 viewed in the direction indicated by the arrows.

In carrying out my invention, 10 represents a common butcher block to which is clamped adjacent its upper surface a supporting frame 11, which comprises a pair of transverse rails 12 and 13 preferably formed of channel iron, disposed in parallel relation and held firmly together by the longitudinal spacing bars 14, 15, 16 and 17. The frame 11 is adapted to surround the block 10 and is held in parallel relation to the floor upon which said block stands by the supporting legs 18, 19, 20 and 21, which are pivoted to the corners of said frame by the pins 22. In order to properly adjust the frame 11 with reference to the top surface of the block 10, the legs 18, 19, 20 and 21, are made adjustable, and to this end each of said legs is provided with extensions 23, which are provided with a series of perforations 24 adapted to receive the bolts 25, which pass through perforations in the lower ends of legs 18, 19, 20 and 21 and are clamped by the butterfly nuts 26 which are threaded onto the ends of said bolts.

After the frame 11 has been adjusted with respect to the height of the block 10, it is clamped firmly thereon by means of the set screws 27 which are threaded into the rail 12 and abut against the side of the block 10, the other side of said block being engaged by the rail 13.

Supported on the rails 12 and 13 respectively, and adapted to slide transversely thereon are the cleats 30 and 31 to which are secured the longitudinally disposed parallel tracks 32 and 33, which are preferably formed of channel iron. The cleats 30 and 31 are each provided with a downwardly projecting ledge 34 adapted to engage with the sides of the rails 12 and 13, whereby said cleats may be properly guided on said rails. The cleats 30 and 31 and tracks 32 and 33 constitute a carriage 35 which may be moved transversely across the upper surface of the block 10.

Supported to the carriage 35 and adapted to be moved along the tracks 32 and 33 and longitudinally of the block 10, is the platform 38 provided with the anti-frictional rollers 39 adapted to engage between the upper and lower flanges of the channel iron

tracks 32 and 33, and in order to provide against lateral thrust the platform 38 is also provided with rollers 41 which engage against the inwardly projecting edges of the upper flanges of the tracks 32 and 33.

Secured to the platform 38 is an electro-motor 45 having the shaft 46 to which is keyed a pinion 47. Extending outwardly from the platform 38 is the bracket 48 to which is secured the casting 49 provided at its upper end with the horizontal bearing 50, in which is journaled the shaft 51 having secured on its inwardly projecting end the gear 52 adapted to mesh with the pinion 47, and at its outwardly extending end the miter gear 53 adapted to mesh with the miter gear 54 which is secured to the upper end of the vertically disposed sleeve 55 journaled in the bearing 56 formed on the casting 49. The lower end of the sleeve 55 is provided with a flange 57 adapted to engage with the lower surface of the bearing 56, and prevent upward movement of said sleeve in said bearing. The sleeve 55 is held against downward movement in the bearing 56 by the miter gear 54.

Mounted on a flange 60 formed on the casting 49 for slidable relation therewith is the vertical bearing 61 which is disposed directly below the bearing 56 and in alinement therewith. A vertical groove 62 is formed in the flange 60 adapted to receive the tongue 63 formed on the bearing 61. The bearing 61 is provided with the ears 64 having the vertical slots 65 through which cap screws 66 pass and are threaded into the flange 60. By the above construction it will be seen that the bearing 61 may be adjusted vertically to any desired position. Journaled in the bearing 61 is the lower end of the shaft 68 which carries on its extreme lower end a cutting member 69 preferably in the form of a circular saw which abuts against the lower surface of the bearing 61. A collar 70 is secured to the shaft 68 and abuts against the upper surface of the bearing 61, thus preventing vertical movement of the shaft 68 in the bearing 61 but permitting rotary movement therein. The shaft 69 is provided at its upper end with the vertically disposed groove 71 adapted to receive the spline 72 secured in the sleeve 55. By the above recited construction it will be seen that the cutting member 69 may be adjusted vertically to any desired degree by adjusting the bearing 61, the shaft 68 sliding in the sleeve 55, but at all times being keyed thereto for rotary motion therewith.

The cutting member 69 is designed to form a horizontal saw cut in the block 10, and inasmuch as the depth of this cut is limited and can only penetrate into said block for the fractional part of its area, I provide a second rotary cutter 75 preferably in the form of a circular saw, and operating

in unison with the cutter 69 to form a vertical saw cut in the block, which will intersect the horizontal saw cut, thus cutting a slab out of the block.

The saw blade 75 is secured to the outwardly projecting end of a shaft 76 which is journaled in the bearing 77 formed on the lower end of a vertically slidable block 78 which is provided with a tongue 79 adapted to be guided in a groove 80 formed in the casting 49. A slot 81 is formed in the casting 49 through which passes the cap screw 82 which is threaded into the block 78, by which the block 78 may be secured firmly in adjusted position to the casting 49. The block 78 is provided with a flange 83 against which rests the swinging arm 84 hinged at its bottom end to a trunnion 85 formed on the inwardly projecting end of the bearing 77. The upper end of the arm 84 is provided with a bearing 87 in which is journaled a shaft 88 to one end of which is secured the spur gear 89, the opposite end being provided with the collar 90. To the inwardly projecting end of the shaft 76 is secured the pinion 92 adapted to mesh with the gear 89, which in turn meshes with the gear 52. In order that the gear 89 may be adjusted properly in mesh with the gear 52 when the bracket 78 is moved upwardly or downwardly the flange 83 is provided with the segmental slots 94 through which pass the cap screws 95, which are threaded into the swinging arm 84 and clamp the swinging arm 84 in adjusted position.

The cutting member 75 is adapted to be adjusted longitudinally with reference to the cutting member 69 as well as vertically in order to compensate for the decrease in diameter of these cutting members due to wear and re-sharpening, and to this end the shaft 76 is provided with an annular flange 97 which is interposed between the bearing 77 and the cutting member 75 and is provided with the outwardly extending threaded stem 98 which passes through an aperture 99 in said cutting member, and has threaded thereon a nut 100 which is adapted to clamp said cutting member firmly against said flange and to the shaft 76. When it is desired to adjust the cutting member 75 outwardly to compensate for its decrease in diameter, a washer (not shown) of the desired thickness is inserted between the flange 97 and the cutting member 75.

It will be seen by the foregoing description that I have provided means for adjusting the cutting members with reference to the work, as well as with reference to each other.

The setting up and operation of my device is as follows: By referring to Figs. 1 and 2, the frame 11 is first placed around the table or block 10 and adjusted with reference to the top surface of said table or

block by means of the adjustable supporting legs. It is then firmly clamped to the block or table 10. The carriage 35 is then mounted on the frame 11 and the platform 38 is mounted on said carriage and is moved to the lower left hand corner of the table or block and adjusted as to both vertical and longitudinal depth of cut. Power is applied to the motor 45 which imparts rotary motion to the saw blades 69 and 75. The platform is pushed along the carriage 35 to the right, thereby cutting a slab of the desired depth and thickness from the table or block. When this slab has been cut entirely from the table or block the platform is then moved back to the left until the saw blades clear the block; the carriage 35 is then advanced upwardly, as viewed from Fig. 1, and the operation is repeated. The carriage 35 and the platform 38 are moved alternately until the entire surface of the table or platform has been leveled.

What I claim is:

1. A device of the class described, comprising a platform adapted to be moved both longitudinally and transversely across the top of a table or block, a pair of circular saws mounted thereon in adjustable relation to each other adapted to make intersecting cuts simultaneously in said table or block, means for supporting and guiding said platform, and means for rotating said saws.

2. A device of the class described, comprising a platform adapted to be moved

across the top of a block or table in several directions, a pair of circular saws mounted in adjustable relation to each other for rotation on said platform and adapted to make horizontal and vertical intersecting cuts simultaneously in said table or block, means for adjusting said saws with respect to each other and means for supporting and guiding said platform.

3. A device of the class described, comprising a frame adapted to be clamped to a table or block adjacent the top thereof provided with guide rails, a carriage mounted to be moved on said guide rails provided with tracks arranged at right angles to said guide rails, a platform mounted to be moved on said tracks, a pair of rotary circular saws arranged at right angles with each other mounted on said platform, said saws being mounted in adjustable relation to each other, and means for operating said circular saws simultaneously.

4. A device of the class described, comprising a frame adapted to be clamped to a table or block, a carriage mounted for movement on said frame, a platform mounted for movement on said carriage, a pair of adjustable circular saws mounted on said table disposed at right angles to each other, and a motor mounted on said platform for operating said saws simultaneously.

In witness that I claim the foregoing I have hereunto subscribed my name this 15th day of August, 1918.

ROBERT A. MADDUX.