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N. M. HEINTZ

SANDING MACHINE

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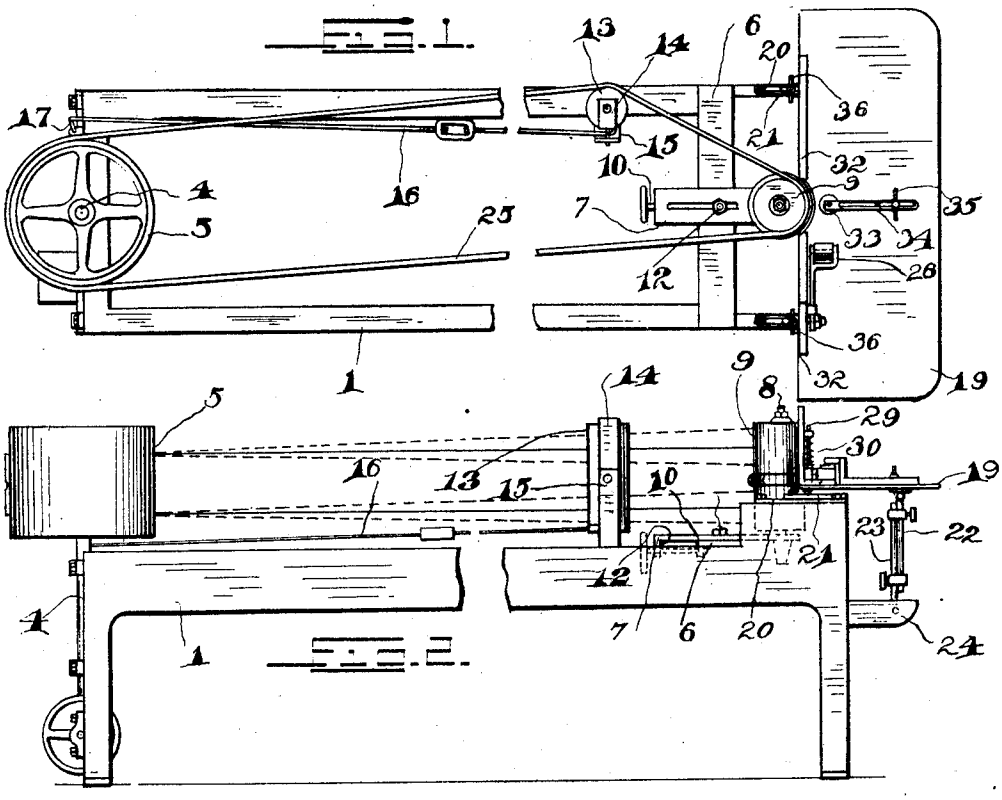


FIG. 2.

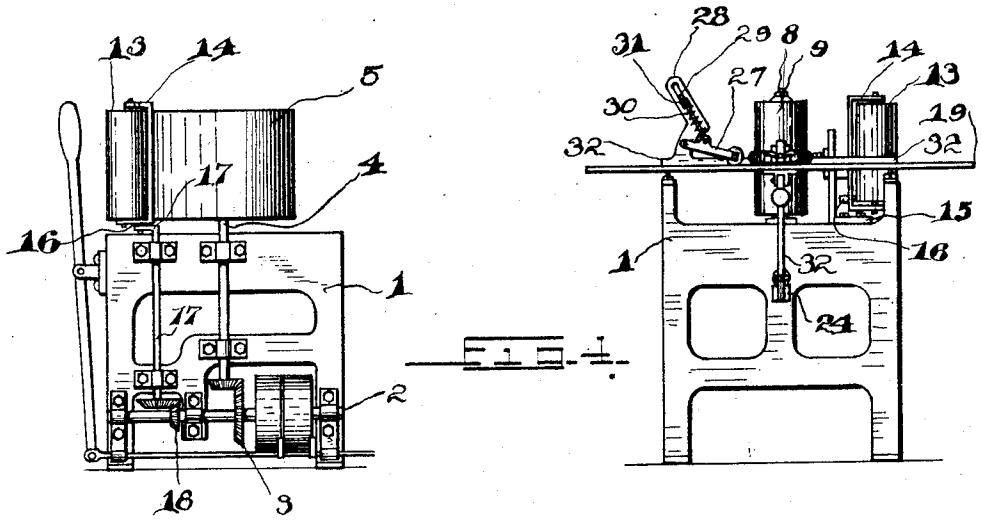


FIG. 3.

FIG. 1.

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SANDING MACHINE.

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This invention relates to apparatus used for sanding wooden mouldings and the like, and the object of my invention is to devise a machine with which may be employed a "reverse" of the pattern of the moulding for forcing the sanding surface into the hollows or grooves of the mould and which will not damage in any way sharp edges which appear in certain mouldings.

Another object is to arrange said apparatus so that the wear, when operating on a narrow moulding, is spread over a large area of the sanding surface, and thus reduce the liability of scorching which is likely to occur if the same part of the sanding surface is continually applied to the moulding.

Further objects of my invention will hereinafter appear.

I attain my objects by means of the constructions hereinafter described and illustrated in the accompanying drawings in which

Fig. 1 is a plan view of my improved apparatus;

Fig. 2 a side elevation of the same;

Fig. 3 a rear elevation of the same; and

Fig. 4 a front elevation of the same.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a frame which may be of any suitable shape and size to support the various parts. At one end of this frame is journalled in suitable bearings the main drive shaft 2. Also journalled in suitable bearings adjacent the shaft 2 and driven therefrom by suitable bevel gears 3 is the vertical shaft 4. On the upper end of this shaft and rotatable therewith is a drum 5. This drum, for a purpose which will hereinafter appear, is lagged with a thick ply of soft rubber or similar material.

At the opposite end of the frame a guide 6 is formed on which is slidable the member 7 in which is journalled a second vertical shaft 8, which carries a drum 9. For the purpose of moving the member 7 along the guide a threaded member 10 is journalled in the guide 6, which threaded member passes through a nut or projection 11 on the member 7. A clamping screw 12 is threaded through the member 7 adapted to engage the guide to lock the member 7 as adjusted.

Intermediate the drums 5 and 9 and at one side of the frame is mounted an oscillating idler drum 13. This drum is journalled in a bracket 14, which is pivoted on a bracket 15 secured to the frame. For the purpose of oscillating the drum-carrying bracket 14, I secure to this bracket one end of a rod 16. This rod is preferably divided, and the parts connected by a turnbuckle. The other end of this rod 16 is connected to an arm or crank on the upper end of a vertical shaft 17, which is also driven by suitable gearing 18 from the main drive shaft 2. In order that the extent of oscillation of the bracket 14 may be varied, the crank on the shaft 17 is so arranged that the rod 16 may be connected therewith at various distances from the axis on which it rotates. For supporting the moulding to be sanded, I provide a table 19. It is desirable that this table be adjustable both vertically and horizontally relative to the drum 9. At each side of the frame 1 are formed guides 20 on which are slidable members 21, to which one end of the table is pivotally connected. Clamping screws 36 are provided for locking the members 21 in position as adjusted. The other end of the table is pivotally supported on vertically adjustable members 22 which are slidable on the members 23, the latter being pivoted on a bracket 24 supported on the frame 1. It will thus be seen that the distance of the table 19 from the drum 9 may be varied by simply loosening the clamping screws 36 and moving the members 21 along the guides as desired, and again tightening the clamping screws, while the angle of the table to the drum may be varied by moving the members 22 up or down relative to the members 23.

A sanding belt 25 is mounted on the drums 5, 9 and 13. This belt will be of ordinary construction, usually being provided with a cotton back. On the drum 9 is positioned a reverse 9^a of the pattern of the moulding to be sanded, and the table 19 will be set at the proper distance from and proper angle to the drum 9 to suit the particular moulding.

The moulding to be sanded will be fed across the table transversely of the frame with its moulded surface in engagement with the sanding belt as the latter passes over the reverse of the pattern carried by the drum 9.

To hold the moulding down in position on the table, I provide the spring pressed roller 26 which is carried by an arm 27 pivoted on a support 28 mounted on the table. To hold the roller in position on the moulding, I connect to the arm 27 a rod 29 on which is mounted a spring 30 which engages the arm 27 and the support. The upper end of

this rod 29 is connected to a nut 31 slidable in a slot formed in the support 28.

Guides 32 are provided on the table, one at each side of the drum 9, to keep the moulding at the proper angle when being fed across the table. To hold the moulding against the sanding belt, I provide a roller 33 carried by a member 34 slidably mounted on the table, said member 34 being provided with a slot through which a clamping screw 35 on the table is adapted to pass.

As the sanding belt is driven by the drum 5, the drum 13 will also be oscillated, and as the belt passes over this oscillating drum it will be moved up and down, and will also move up and down on the drum 9, as shown in Fig. 2, so that the area of the belt engaging the moulding will be greatly increased. thus increasing the life of the belt as well as reducing the tendency to scorch. The surface of the drum 13 will be provided with a suitable covering to prevent slipping of the belt. As the belt passes over the reverse of the moulding, which forms a projection on the surface of the drum 9, the resilient surface of the drum 5 will give sufficiently to compensate for the pull on the belt as it is drawn over the reverse of the pattern, and the tendency to stretch or tear the belt is therefore greatly reduced.

From the above description it will be seen that I have devised a construction which will satisfactorily attain the objects of my invention as set out in the preamble of this specification.

What I claim is:

1. In sanding apparatus, the combination of a pair of spaced rotatably mounted belt-supporting members; an endless sanding belt carried by said members; means for causing a transverse movement of said belt as it travels around said members, comprising a third member around which the belt passes; a pivotally mounted support for said third member; and means for oscillating said support.

2. In sanding apparatus, the combination of a frame; a pair of spaced rotatably mounted belt-carrying members; an endless sanding belt carried by said members, one of said members having a "reverse" of the pattern of the material being sanded, said belt being materially wider than the reverse of the pattern and materially narrower than the belt carrying members; and means for causing a transverse movement of said belt as it travels around said members.

3. In sanding apparatus, the combination of a frame; a pair of spaced rotatably mounted belt-carrying members; an endless sanding belt carried by said members, one of said members having a "reverse" of the pattern of the material being sanded, the other of said members having a belt-engaging surface of resilient material of a thickness to compensate for irregularities in the surface of the reverse of the pattern, said belt being materially wider than the reverse of the pattern and materially narrower than the belt carrying members; and means for causing a transverse movement of said belt as it travels around said members.

4. In sanding apparatus, the combination of a frame; a pair of spaced rotatably mounted belt-carrying members; an endless sanding belt carried by said members, one of said members having a "reverse" of the pattern of the material being sanded, said belt being materially wider than the reverse of the pattern and materially narrower than the belt carrying members; a third member around which the belt passes; a pivotally mounted support for said third member; and means for oscillating said support.

5. In sanding apparatus, the combination of a pair of spaced rotatably mounted belt-supporting members; an endless sanding belt carried by said members; means for causing a transverse movement of said belt as it travels around said members, comprising a third member around which the belt passes; a pivotally mounted support for said third member; a rod pivoted at one end to said support; a crank arm pivoted to the other end of said rod; and means for rotating said crank arm.

6. In sanding apparatus, the combination of a pair of spaced rotatably mounted belt-supporting members; an endless sanding belt carried by said members; means for causing a transverse movement of said belt as it travels around said members, comprising a third member around which the belt passes; a pivotally mounted support for said third member; and means for automatically oscillating said support.

Signed at Hespeler, Ont., this 11th day of July, 1925.

NORMAN M. HEINTZ.