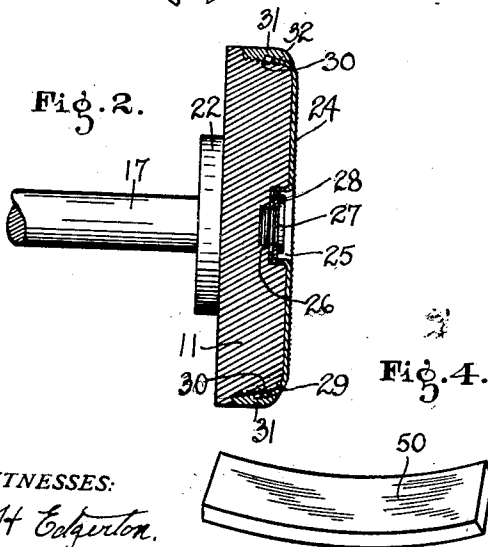
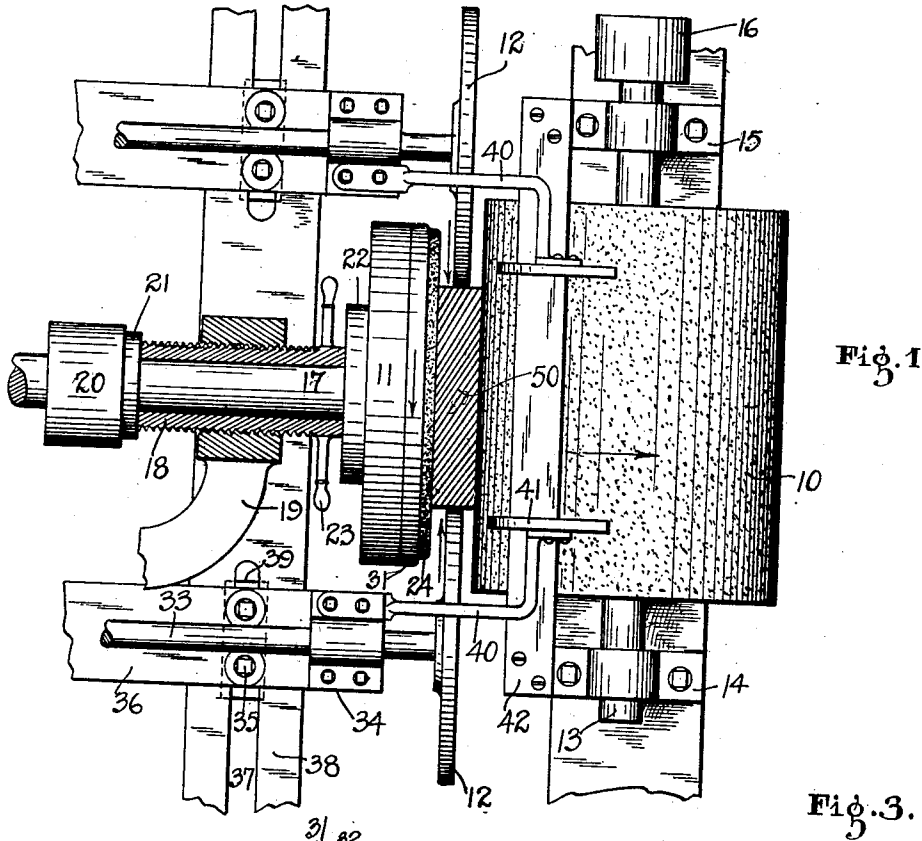


G. W. LENTZ.
SANDING MACHINE.

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1,054,006.

Patented Feb. 25, 1913.



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SANDING-MACHINE.

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To all whom it may concern:

Be it known that I, GEORGE W. LENTZ, a citizen of the United States, and a resident of Indianapolis, county of Marion, and State of Indiana, have invented a certain useful Sanding-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of this invention is to provide an improved sanding machine by which it will be possible to finish at the same time both sides of articles which are straight in one direction but varied in form in a direction at right angles thereto.

My invention is particularly adapted to finish the head board for chair backs and the like.

The features of the invention lie in mounting a sand drum with the axis thereof at right angles to the axis of a disk sander and with suitable means for controlling their relative positions, together with a suitable guard for the feed wheels to prevent the feeding of an article larger than that for which the machine has been set to receive.

The most important feature of the invention whereby it is enabled to properly operate upon curved material, is in providing means which engage the lateral edges of the strip of material and feed it through the machine. That enables pieces of material with variations in form, aside from the width, to be operated upon, whether straight or curved or irregular.

The nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a front elevation of the portion of a sanding machine embodying my invention. Fig. 2 is a transverse section through the sand disk shown in elevation in Fig. 1 and showing the means for securing the paper thereon. Fig. 3 is a perspective of the feeding wheel guards. Fig. 4 is a perspective of a piece of material adapted to be treated by the machine.

In detail there is shown in the drawings a portion of a sanding machine having a sand drum 10 mounted with its axis in a vertical position and a sand disk 11 mounted with its axis horizontal and the disk adjustably spaced from the periphery of the drum 10 and with a pair of oppositely

located feed wheels 12 for feeding the work 50 to be finished between said drum and said disk.

The sand drum 10 is circular in cross section and is mounted upon a shaft 13 which has bearings 14 and 15 secured to some rigid portion of the machine and there is a pulley 16 on said shaft by which it may be driven. The abrasive may be secured on the periphery of the drum in any manner desired.

The disk 11 is mounted upon a shaft 17 free to turn in a sleeve 18 which is threaded into a rigid bracket 19. Power may be supplied to the shaft 17 in any desired manner, although as here shown, there is a pulley 20 secured to said shaft which may be driven by a belt, omitted here for the sake of clearness. The threaded sleeve 18 bears against a collar 21 at one end and against a collar 22 adjacent the rear of the disk 11 at the other end and said disk may be adjusted toward or from the drum 10 by turning the sleeve in the threaded bracket 19. This is done by means of handles 23 secured to the sleeve 18. For the purpose of securing the paper 24 to the face of the disk 11, there is a central counterbored space 25 with a threaded hole 26 concentric with the counterbore at the inner end thereof. A plug 27 is screwed into the threaded hole 26 and bearing against a collar 28, serves to hold the central portion of the paper 24 against the inner face of the counterbore 25. The use of the collar 28 prevents the paper from being twisted and torn as the plug 27 is screwed into place. The outer front edge 29 of the disk is rounded and to the rear thereof there is a threaded portion 30 and a ring, 31 having its forward inner edge 32 bent to conform with the curved edge 29, is secured onto the threaded portion 30 of the disk and serves to hold the outside edge of the paper 24 against the disk.

The feeding wheels 12 are disk-like in shape with their peripheries roughened slightly and are mounted upon shafts 33 which may be driven by any suitable means, not shown, so as to revolve toward each other. Said disks may be adjusted toward or away from each other by vertically adjusting the bearings 34 for the shafts 33. This is done by loosening bolts 35 which project through an extension 36 on the bearing 34 and through a slot 37 in a rigid vertical plate 38 forming part of the machine

and into a plate 39, see dotted lines in Fig. 1, upon the back of the plate 38 and vertically adjusting the extension 36 until the wheels 12 have reached the desired position, after which the bolts 35 are tightened to clamp the extensions 36 against the vertical plate 38. The peripheries of the wheels 12 being roughened and said wheels turning in opposite directions, when a piece of work to be finished is fed between them, they will grasp the edges slightly and force it between the drum 10 and the disk 11.

To prevent a workman from feeding to the machine a piece of work which is of greater width than that for which the machine has been adjusted, an arm 40 is secured to each of the bearings 34 for the shafts 33 and extends to the right, as shown in Fig. 1, beyond the faces of the feed wheels 12 and the end thereof is bent upward and has a guide plate 41 secured to it with the front face thereof substantially in alinement with the periphery of the feed wheel 12. The left-hand edges of the guide plates 41 are cut away, as shown in Fig. 3, and said guide plates bear against a vertical plate 42 which is secured to the bearings 14 and 15 for the shaft of the drum 10. Thus it will be seen that as the feed wheels 12 are adjusted toward or away from each other, the guide plates 41 will be likewise adjusted toward or away from each other and the width of the work which can be fed will be automatically adjusted. When working with curved work, such as chair backs, one cannot feed them straight between the wheels in the same plane as that of the feed wheels, but must feed them in upon the arc of a circle. Therefore, the guide plates 41 will serve the purpose.

The operation of my invention is readily understood. The disk 11 being revolved in either direction desired and the feed wheels 11 being driven in the direction of the arrows as shown, a chair back or like work being inserted in between said feed wheels 12, will be grasped by them and drawn between the drum 10 upon one side and the disk 11 upon the other and said disk being given the desired horizontal adjustment relative to said drum, the two opposite faces of the chair back will be finished.

It is thus seen that with this device, curved and irregular forms, such as chair backs and the like can be readily treated in this machine. In other words, it will operate upon boards or material variously formed, that is, whether straight or curved in one direction, but it is desirable that the width thereof be substantially the same so as to be properly operable by the feeding wheels 12. This result ensues largely from employing only a single oppositely located pair of feed wheels or the like and having them engage the lateral edges of the boards.

Heretofore the feed wheels have engaged the side faces of the boards and there has been a plurality of sets of feed wheels so that unless a board was perfectly true in form it could not be properly fed or held to the abrasive surfaces.

I claim as my invention:

1. A sanding machine including oppositely located rotary abrasive means adapted to operate on the opposite sides of a board which is rectangular in cross section, and a pair of oppositely located feed wheels operating between said abrasive means in position to engage the edges of the board at points between said abrasive means and feed it through the machine.
2. A sanding machine including a pair of oppositely located rotary abrasive means adapted to operate on the opposite sides of the material, one of said abrasive means being cylindrical with the periphery thereof adapted to treat the concave surface of a curved board, and a pair of oppositely located feed wheels with their axes in substantially the same plane as the axes of said abrasive means and projecting between said abrasive means in position to engage the edges of the material and feed it through the machine.
3. A sanding machine including a plane abrasive carrying surface, and a curved abrasive carrying surface adjacent thereto.
4. A sanding machine including an abrasive carrying means having a surface which is straight in one direction, and abrasive carrying means having a surface parallel in one direction with said first abrasive carrying means and curved in another direction and spaced apart therefrom.
5. A sanding machine including an abrasive carrying disk, an abrasive carrying drum with the axis thereof at right angles to the axis of said disk, means for adjusting one of said abrasive carriers relative to the other, means for feeding the work between said abrasive carriers, and means for driving said abrasive carriers.
6. A sanding machine including an abrasive carrying disk, an abrasive carrying drum with the axis thereof at right angles to the axis of said disk, means for adjusting one of said abrasive carriers relative to the other, means for feeding the work between said abrasive carriers, means for adjusting said feeding means, means for driving said feeding means, adjustable means for governing the size of work fed to the machine, and means for driving said abrasive carrying means.
7. A sanding machine including an abrasive carrying disk, an abrasive carrying drum with the axis thereof at right angles to the axis of said disk, means for adjusting one of said abrasive carriers relative to the other, means for feeding the work be-

tween said abrasive carriers, means for adjusting said feeding means, means for driving said feeding means, means adjustable with the adjustment of said feeding means
5 for controlling the size of work fed to the machine, and means for driving said abrasive carrying means.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

GEORGE W. LENTZ.

Witnesses:

J. H. WELLS,
E. H. MAYO.