

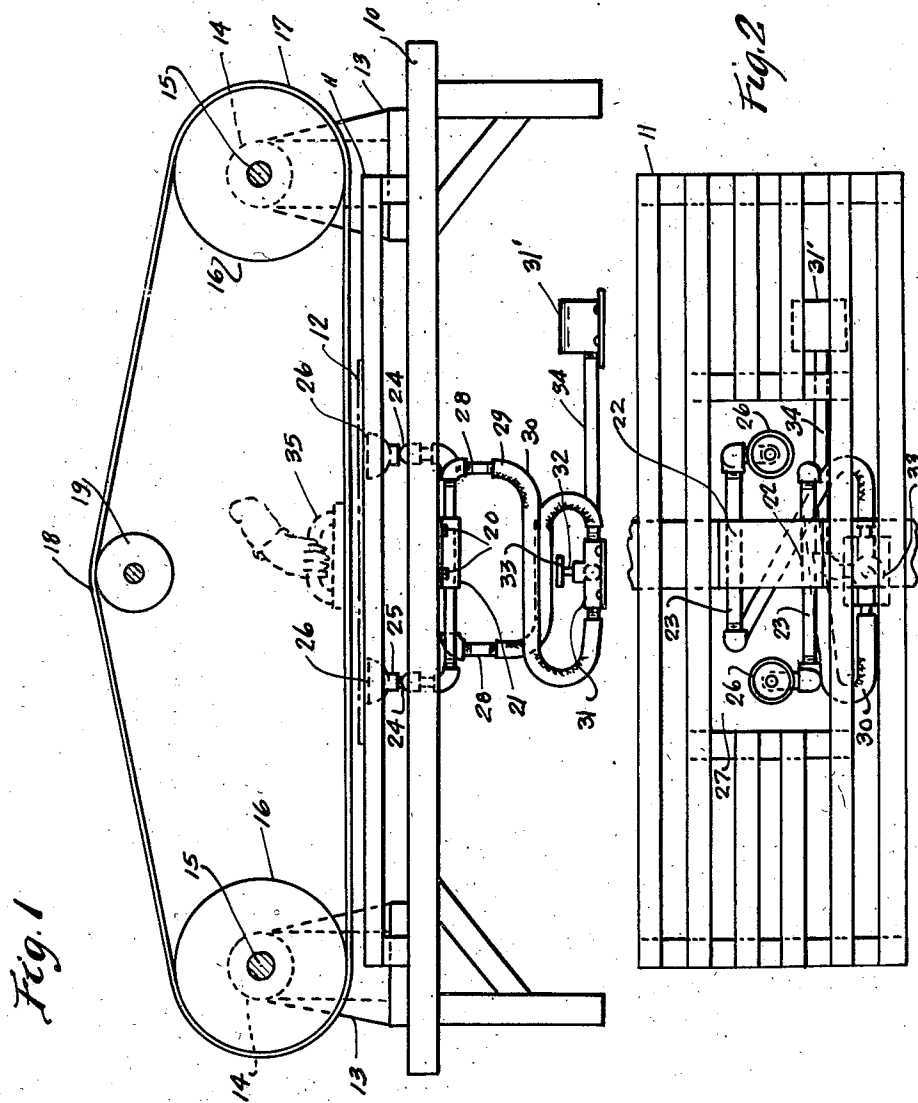
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SANDING MACHINE

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SANDING MACHINE

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3 Claims. (Cl. 51-135)

This invention relates to certain novel improvements in sanding machines, that is, a machine constructed and adapted to sand panel surfaces and the like by means of a continuous traveling belt.

More specifically the invention is concerned with the novel and effective manner of holding the work in place during the sanding operation and taking out of the work any warp or uneven surface which would otherwise interfere with the effective sanding operation of the machine.

Among the salient objects of the invention is the construction of a device of the character hereinafter described which will be highly efficient in use and economical in manufacture.

Heretofore, in the art of sanding surfaces such as panels and the like, the panel is arranged upon a supporting platform or grille plate beneath the traveling belt having an abrasive or sanding material thereon. In the sanding operation the position of the work is such that the operator has very little, if any, opportunity of holding the work steadily in place or pressing the same down to remove the warps or other curved portions thereof, this being due to the fact that the work is oftentimes covered by the sanding belt. It is, therefore, one of the many objects of this invention to provide a simple and effective arrangement for holding the work in place and for maintaining it in a substantially flat horizontal position during the sanding operation.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction, and in which:

Fig. 1 is a typical side elevational view of a sanding machine illustrating my attachment associated therewith; and

Fig. 2 is a fragmentary plan view of the work-holding platform or grille.

The drawing illustrates the preferred form of construction of my invention by which the several objects are accomplished.

The usual and standard sanding machine of the type with which my invention is associated, comprises a table 10 on which is mounted a work platform or grille 11. In some cases this grille 11 is slidable transversely of the table 10 to permit shifting of the work 12 beneath the sanding belt to be hereinafter referred to. In other cases, this work supporting platform or grille 11

is stationary. In either case, my invention will be useful.

This sanding machine further includes brackets 13 of any approved design and construction and supported from the table 10 and having bearings 14 formed therein. In these bearings 14 there are journaled shafts 15. These shafts have mounted thereon rollers 16, either one of which may be driven by a suitable driving agent such as an electric motor (not shown) or the like. The rollers 16 are so arranged as to guide a sanding belt 17 in spaced parallel relation with respect to the grille 11. In the present instance the upper run 18 of the belt passes over an idle roller 19.

Carried by the table 10 in any suitable manner as at 20 is a supporting plate 21 having transversely extending bores 22 formed therein. Slidably mounted in each of these bores 22 is a conduit 23. Each conduit 23 terminates into a nipple 24 and secured to this nipple in any approved manner as at 25 are suction cups 26 preferably formed of rubber or other compressible or resilient material.

These cups 26 are disposed within an open area 27 formed in the grille 11 and are supported by the supporting plate 21 in such manner that each cup may be adjusted longitudinally of the grille 11 for reasons hereinafter set forth.

The opposite end of each of the conduits 23 likewise terminates into a nipple 28, and each of the nipples 28 has secured thereto the end 29 of a flexible hose 30, the flexibility of the hose 30 being such as to permit the ready adjustment of the cups 26 in the manner hereinbefore stated. Each hose 30 communicates with a valve structure 31 of any approved construction, but preferably including a foot-operated valve stem 32 comprising a foot pedal or plate 33. This valve structure 31 has communication through the medium of a conduit 34 with a suction pump 31' (symbolically illustrated in Figs. 1 and 2) of a well-known and approved construction which in its operation creates a suction within the cups 26 when the valve 31 is open.

In the usual operation of a standard sanding machine of the type hereinbefore described, the operator places the work 12 upon the grille and through the medium of the use of a flat trowel 35 or the like he presses the same down upon the belt 17, bringing the abrasive surface thereof into contact with the work by zig-zagging his hand transversely of the belt so as to cause the trowel 35 to impart a zig-zag movement to the belt 17 and the abrasive surface thereof will likewise be

caused to zig-zag over the surface of the work 12 being sanded. In many instances the work has a tendency to shift during the sanding operation. In other words, the work, which usually is in panel formation, is buckled or otherwise warped, requiring that the operator hold the same down by his free hands during the sanding operation.

In the employment of my invention just previously described, the operator conducts the sanding operation in the usual manner but during this operation he places the work 12 in a position over the open space 27 into contact with the tops of the cups 26 and then presses upon the foot pedal 33 by means of his foot, causing the valve stem 32 to move downwardly and upon the valve structure 31, bringing about suction within the cups 26 by operation of the suction motor 31'. This suction created in these cups 26 will draw the ends of the panel down against the grille 11 and firmly hold the work 12 in sanding position.

If the panel 12 be warped or buckled, this suction will also cause the panel 12 to flatten out upon the grille 11, thus permitting the operator to effectively perform the sanding operations.

In the drawing and description herein, I have described one form for carrying my invention into effect. This form may change without departing from the spirit of the invention and therefore I do not wish to be limited to the precise form shown, but desire to avail myself of all forms which come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In combination with a sanding machine which comprises a grille upon which work to be sanded is mounted and a sanding belt movable in spaced parallel relation with respect to said grille and adapted to be brought into contact with

work mounted on said grille, means for holding said work upon said grille during sanding operation on said work by said belt, said means including a suction pump, resilient cups adapted to engage the surface of said work, means providing connection between said cups and said pump, and means for mounting said cups for adjustment relative to said grille.

2. In combination with a sanding machine which comprises a grille upon which work to be sanded is mounted and a sanding belt movable in spaced parallel relation with respect to said grille and adapted to be brought into contact with work mounted on said grille, means for holding said work upon said grille during sanding operation on said work by said belt, said means including a suction pump, resilient cups adapted to engage the surface of said work, means providing connection between said cups and said pump, foot-operated means controlling communication between said cups and said pump, and means for mounting said cups for adjustment relative to said grille.

3. In combination with a sanding machine which comprises a grille upon which work is adapted to be mounted and a continuously traveling sanding belt, a run of which extends in parallel spaced relation with respect to said grille and is adapted to be brought into contact with the work upon said grille, means for flattening said work upon said grille and for holding said work firmly in position upon said grille during the sanding operation comprising suction means disposed in position with respect to said grille in contact with the surface of said work, foot-operated means for controlling the operation of said suction means, said suction means including spaced resilient cup-like members, and means for mounting said cup-like members for adjustment relative to said grille and work supported thereon.

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