April 26, 1955 J. S. GIFFORD 2,706,873

SANDING DEVICES

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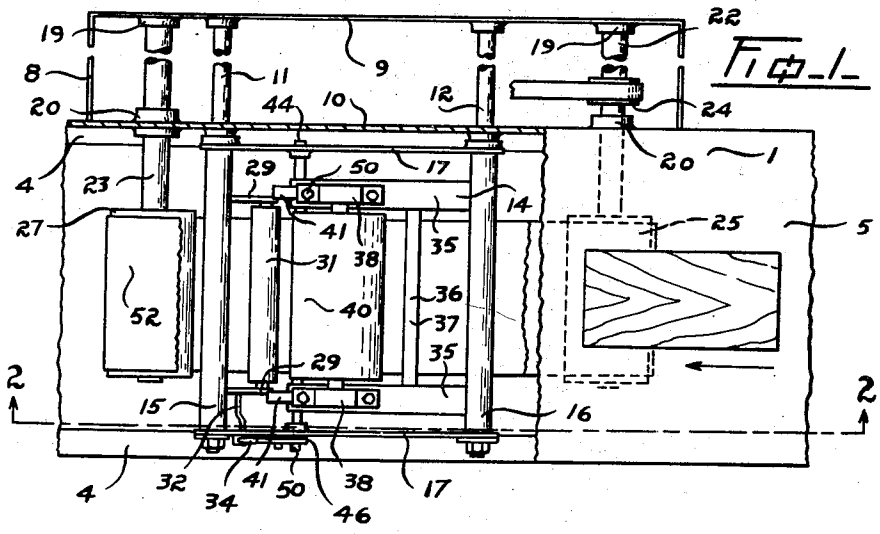


Fig. 1.

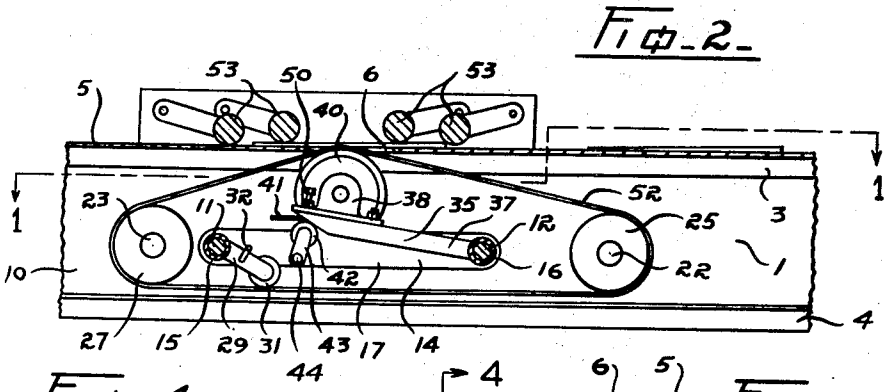


Fig. 2.

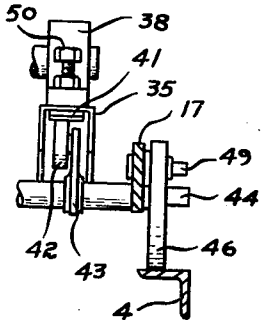


Fig. 4.

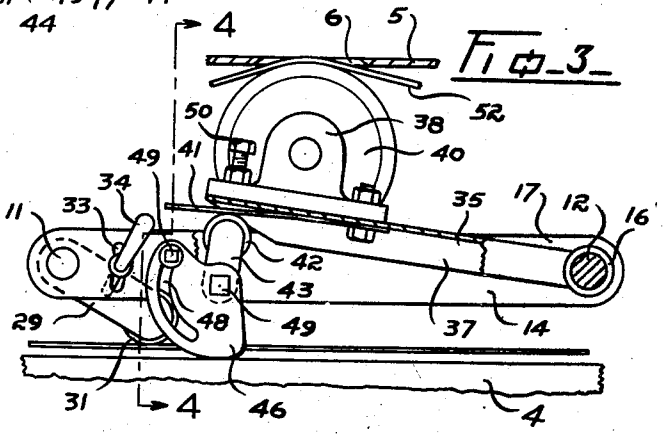


Fig. 3.

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SANDING DEVICES

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4 Claims. (Cl. 51—137)

My invention relates to improvements in sanding devices which are particularly adapted for use in sanding the weather face of shingles.

The objects of the invention are to provide a sanding device which is adapted to operate under the work supporting bed of the machine; to provide a simple means for tightening the sander belt; to provide means for resiliently supporting the sander belt in contact with the work, and also to provide a simple mechanism whereby one sander belt may be quickly removed from the machine when unduly worn and a new belt replaced and tensioned ready for work to be resumed.

Further objects will appear as the specification proceeds.

Referring to the accompanying drawings:

Figure 1 is a sectional plan view of the invention taken on the line 1—1 of Figure 2.

Figure 2 is a longitudinal sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged sectional view, part broken away, to show the spring mounting of the sander pressure roll.

Figure 4 is a transverse sectional view taken on the line 4—4 of Figure 3.

In the drawings like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates a main frame having upper and lower side members 3 and 4 spaced apart. The upper side members 3 support a plane bed 5 in which a transverse rectangular opening 6 is provided. A side frame 8 is extended from one side of the main frame and is provided with an outer wall 9. A main frame wall 10 is carried by the adjacent side frame members 3 and 4 and carried by these walls and extending through the main frame wall are two non-rotating shafts 11 and 12. The inner ends of the shafts 11 and 12 project below and across the bed 5 and slidably support a sander frame 14 consisting of sleeves 15 and 16 slidably mounted upon the shafts 11 and 12 and connecting longitudinal members 17.

Bearings 19 and 20 are carried by the walls 9 and 10, in which are journalled shafts 22 and 23. The shaft 22 is fitted with a drive pulley 24 within the side frame 8 and a driven pulley 25 which extends transversely below the bed 5. The shaft 23 is fitted with an idler pulley 27 which also extends transversely below the bed 5.

The sleeve 15 of the sander frame is rockingly mounted upon its shaft 11 and is fitted with a pair of brackets 29 which support a freely rotatable tension roller 31. One of the brackets 29 is provided with a cranked arm 32 which extends through an arcuate slot 33, see Figure 3, formed in the adjacent longitudinal sander frame member 17, and is fitted with a clamping lever 34 by which the arm 32 is adapted to be locked to said frame member to retain the roller 31 in adjusted position against the sander belt to be hereinafter described.

The sleeve 16 is rockingly mounted upon the shaft 12 and is provided with a pair of arms 35 connected together by a member 36 to form a swinging platform 37. A pair of bearings 38 are carried on the platform 37 and a rubber covered roller 40 is journalled therein. Secured to the underside of the platform 37 are leaf springs 41 which are adapted to project below said platform and to come to rest upon rollers 42 which are mounted upon cranks 43 fitted upon a transverse shaft 44 carried between the longitudinal members 17. Non-rotatably fitted to an end of the transverse shaft 44 is a disk 46 having

an arcuate slot 48 through which a bolt 49 extends into the adjacent longitudinal member 17 and serves to lock the disk and the rollers 41 in adjusted position. The end of the shaft 44 is preferably squared to enable it to be rocked by a wrench to raise or lower the rollers 42 to a desired position. The free ends of the leaf springs 41 are bent downwardly below the arms 35 and are of sufficient strength to support the platform 37 and its rubber covered roller 40 in an upwardly tensioned position and adjustment screws 50 are provided in the bases of the bearings 38 to limit the movement of the rubber covered roller 40 in a downward direction.

An endless sanding belt 52 is trained around the driven and idler rollers 25 and 27 and the tensioning roller 31 and over the top of the rubber covered roller 40 and extends into the opening 6 to abrade the underside of shingles passing along the bed 5 and under pairs of conventional dead rolls 53 which are swingingly mounted above said bed.

In operation, the sanding belt is driven and shingles or other work pieces are passed face downwards along the bed and beneath the dead rolls 53, the springs 41 maintain a constant upward thrust through the rubber covered roller upon the underside of the work, but the roller is prevented from dropping to the point where the belt would fail to contact the work by the proper adjustment of the screws 50. When it is required to replace a sander belt the tensioning roller 31 is raised out of contact with the inner side of the sander belt after slackening the clamping lever 34, the bolt 49 is slackened and the disk 46 is rocked in a clockwise direction to lower the rollers 42 and allow the platform 37 to move downwardly and bring the top of the rubber covered roller well below the underside of the bed 5. The turning of the disk 46 also lifts its lower periphery out of contact with the adjacent longitudinal frame member 4 so that the endless sander belt can be freely drawn outwardly from the interspace between said frame member and the disk and a new belt replaced. It will be realized that the disk 46 serves the double purpose of locking the shaft 44 against rotation to support the rubber covered roller 40 in adjusted position and also to support the free end of the sander frame on a lower longitudinal member 4.

What I claim as my invention is:

1. A machine for sanding shingles and the like comprising a main frame having a bed provided with a transverse opening across which work pieces are adapted to be moved, an idler and a driven shaft each having a pulley and projecting under the bed, a pair of non-rotative shafts rigidly supported from one side of the main frame and projecting across said bed, one of said shafts having a swinging platform supporting a resilient surfaced pulley, means for supporting the platform from a main frame member to project said pulley into the opening of the bed, said means being adjustable to lower the pulley and to separate said means from the main frame member, an endless sander belt trained around the several pulleys, and means for driving the driven shaft.

2. A machine for sanding shingles and the like comprising a main frame, having an open side and a bed having a transverse opening across which a work piece is adapted to be moved, an idler and a driven shaft extending from one side of the main frame across said bed, said shafts having an idler pulley and a driven pulley, a pair of non-rotative shafts supported at one side of the main frame and extending under the bed, a hinged platform rockingly mounted on one of said non-rotative shafts, a resilient surfaced pulley upon the platform, a rock shaft mounted parallel to the non-rotative shafts, a member upon said rock shaft adapted to engage the platform to adjust its resilient surfaced pulley into and away from the transverse opening, a disk member adapted to lock the rock shaft in adjusted position and to support an end of said rock shaft adjacent the open side of the main frame and an endless sander belt trained about the pulleys.

3. A machine for sanding shingles and the like as claimed in claim 2, wherein the swinging platform is spring mounted upon the rock shaft member and means are provided for varying the movement of said platform relative to the member.

4. A machine for sanding shingles and the like comprising a main frame having a bed provided with a transverse opening across which work pieces are adapted to be moved, an idler and a driven shaft each having a pulley and projecting under the bed, a pair of non-rotative shafts rigidly supported from one side of the main frame and projecting across said bed, one of said shafts having a swinging platform supporting a resilient surfaced pulley, means for supporting the platform from a main frame member to project said pulley into the opening of the bed, said means being adjustable to lower the pulley and to separate said means from the main frame member, an endless sander belt trained around the several pulleys, and means for driving the driven shaft, and an idler carried adjustably by one of the non-rotative shafts adapted to bear upon the endless sander belt to tension it.

No references cited.