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POWER-OPERATED ROOF PLANER

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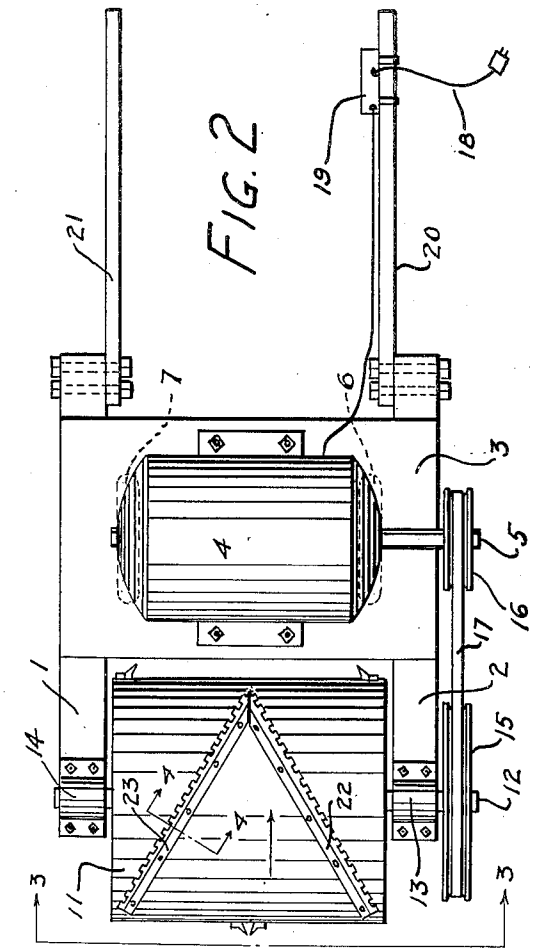


FIG. 2

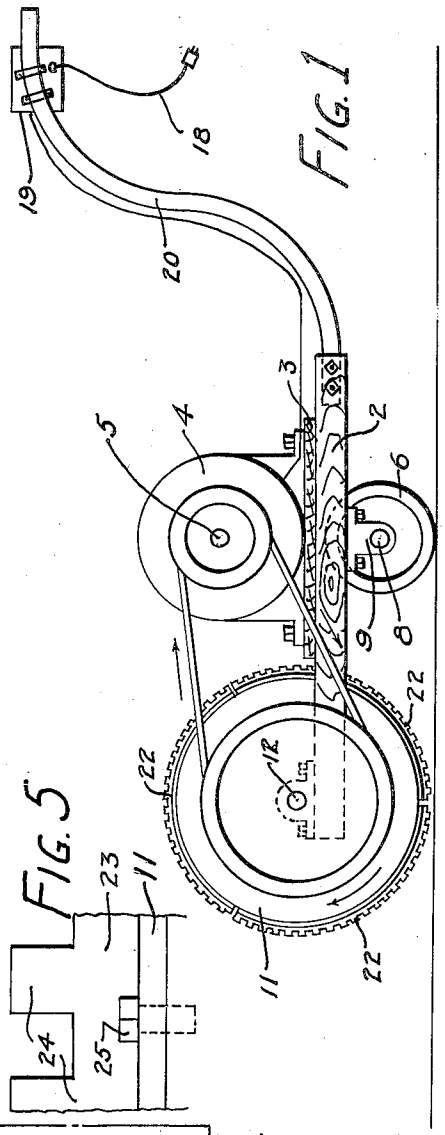


FIG. 1

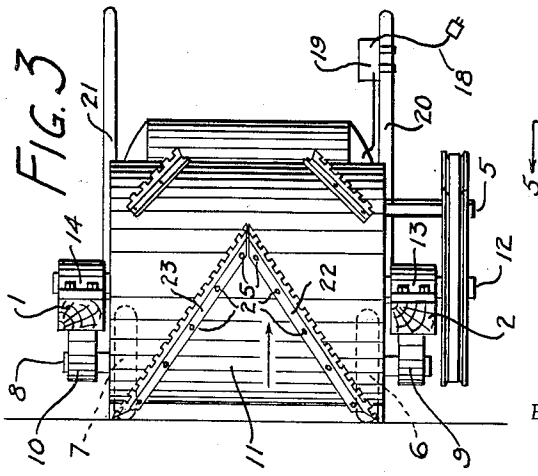


FIG. 3

FIG. 5

FIG. 4

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POWER-OPERATED ROOF PLANER

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2 Claims. (Cl. 144—114)

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Our invention relates to mechanism for planing off the old used surfaces of worn-out roofing, preparatory to replacement by new roofing materials. It is suitable for other kindred services.

A further object is to provide for quick, easy and complete manual control of the starting, stopping, and speed variation of the drive motor, and the direction, speed and depth of cut of the planer cylinder and blades.

This invention is accurately and fully disclosed in the following detailed description, and the accompanying drawing to whose several views it refers distinctly and specifically; but it is to be understood that the invention is not confined to this specific disclosure, being intended to cover such changes and modifications as constitute no material departure from the salient features of the invention, as expressed in the appended claims.

The shape and arrangements of these blades constitutes an important feature of the invention and resides in the novel form of the blades and their manner of assembly upon the rotative cylinder 11. Each blade is of elongated form, arcuate in the direction of its length and shaped to conform to and fit snugly upon the face of the cylinder. The blades are arranged in a plurality of groups, each group consisting of a pair of blades arranged in V formation, with the apices of the V's at about the center of the cylinder, and with the blades of the pairs diverging therefrom toward the sides of the cylinder. The blades comprise base portions which are traversed by the bolts 25, by which the blades are secured to the cylinder. Forwardly inclined portions 23 extend outwardly from the base portions and terminate in toothed planing edges.

In the drawing:

Fig. 1 is a side elevation of the roof planer as seen from the left side, with the planer cylinder at left.

Fig. 2 is a plan view looking down on Fig. 1, with the planer cylinder at the left.

Fig. 3 is a front elevation of the roof planer as indicated on Fig. 2.

Fig. 4 is a sectional elevation through the planer blade as indicated on Fig. 2.

Fig. 5 is a side elevation of the planer blade as indicated on Fig. 4.

Referring to the features of this invention shown on the drawing:

In Figs. 1, 2 and 3, is shown the platform assembly, comprising right-hand joist 1, and left-hand joist 2, to which is nailed securely, or bolted, the motor-platform 3. To this platform the drive-motor 4 is bolted in such position that its

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shaft 5 is fixed in horizontal relation to the roof or ground, and transverse to the longitudinal axis of the platform. The planer assembly is carried along the roof, or ground, on wheels 6 and 7, whose axle 8 is journaled in bearings 9 and 10 respectively, located beneath the center of gravity of the drive-motor 4, meaning, practically, vertically beneath the axis of the drive shaft 5, so that these wheels carry the weight of the drive-motor and keep it from taxing the strength of the operator.

In Figs. 1, 2 and 3, also is shown the planer cylinder 11, whose shaft 12 is journaled in bearings 13 and 14, which are bolted securely to the front ends of joists, 2 and 1 respectively, in such positions that shaft 12 is horizontal to the roof or ground surface, and extends transversely to the longitudinal axis of the platform. At the left end of the planer cylinder shaft 12 is keyed, or similarly secured, V-belt pulley 15 which is driven by V-belt 17, from V-belt pulley 16, similarly keyed or secured, to drive-motor shaft 5. drive motor 4, is attached to some source of electric power supply by flexible cord connector 18 through control-box 19, which carries "on" and "off" switch and standard means (not shown) for varying the speed of the drive-motor.

In Figs. 1, 2 and 3, also are shown the steering handles 20 and 21, which are securely bolted to joists 2 and 1, respectively. The electric control box 19 is clamped to steering handle 20 in such position as to be most convenient for manipulation during planer operation.

To the planer cylinder 11, as shown in Figs. 1, 2 and 3, are securely bolted the planer cutting blades, 22 and 23, three of each being mounted peripherally on the cylinder in an arcuate spiral position on the left-hand and right-hand portions of the cylinder, respectively, each blade covering an arc of about 120° and extending longitudinally of the cylinder from near its side diameter to its center diameter.

In Fig. 4 is shown an enlarged section through blade 23, as indicated on Fig. 2, which is sloped forward in the direction of cylinder rotation, pointed for increased cutting effect, and provided with teeth 24, as shown in Fig. 5, for further increased cutting efficiency. The planer blades 22 and 23 are secured to planer cylinder periphery by bolts 25.

The operation of this roof planer is both simple and versatile. The standard power supply cord is plugged into any convenient standard receptacle and the motor switch moved to the ON position. The motor speed is then adjusted to

the character of the duty impending. While this is being done, the planer assembly may be tipped backward so that the steering handles rest on the roof or ground, leaving the rotating planer cylinder clear of the roof, or ground surface. The handles are then lifted and the planer assembly wheeled to its starting position. When the planer cylinder is lowered until its cutting blades engage the worn surface to be removed, the course of the planer, the speed of advance and the depth of cut into the roof surface are all controlled manually through the steering handles, in accordance with the operator's estimate of the duty to be performed.

What is claimed is:

1. A planer head assembly comprising a rotative cylinder and a plurality of groups of blades mounted upon the periphery thereof, each group comprising a pair of said blades, and said blades being, as a whole, of elongated arcuate formation to fit the periphery of the cylinder, the blades of each pair extending from the center of the cylinder, outwardly, in opposite directions to the opposite sides of the cylinder, whereby said pairs of blades complementally present V-shaped planing elements, there being enough of said V-shaped pairs to extend entirely around the cylinder, each blade comprising a base portion, means for securing said base portion to the cylinder and an upstanding forwardly inclined portion, said forwardly inclined portion being serrated to provide row of teeth along the outer edge of the blade, said teeth having cutting edges which lie in substantial parallelism with the face of the cylinder.

2. A planer head assembly comprising a rotative cylinder and a plurality of groups of blades mounted upon the periphery thereof, each group comprising a pair of said blades, and said blades being, as a whole, of elongated arcuate formation to fit the periphery of the cylinder, the blades of each pair extending from the center of the cylinder, outwardly, in opposite directions to the opposite sides of the cylinder, whereby said pairs of blades complementally present V-shaped planing elements, there being three of said pairs of blades, each extending approximately 120° around the cylinder, so that complementally the three pairs occupy the entire space around the cylinder, each blade comprising a base portion, bolts traversing the base portion and binding the same to the cylinder and a forwardly inclined portion upstanding from the base portion and terminating in an outer edge that is serrated to provide a row of planing teeth.

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