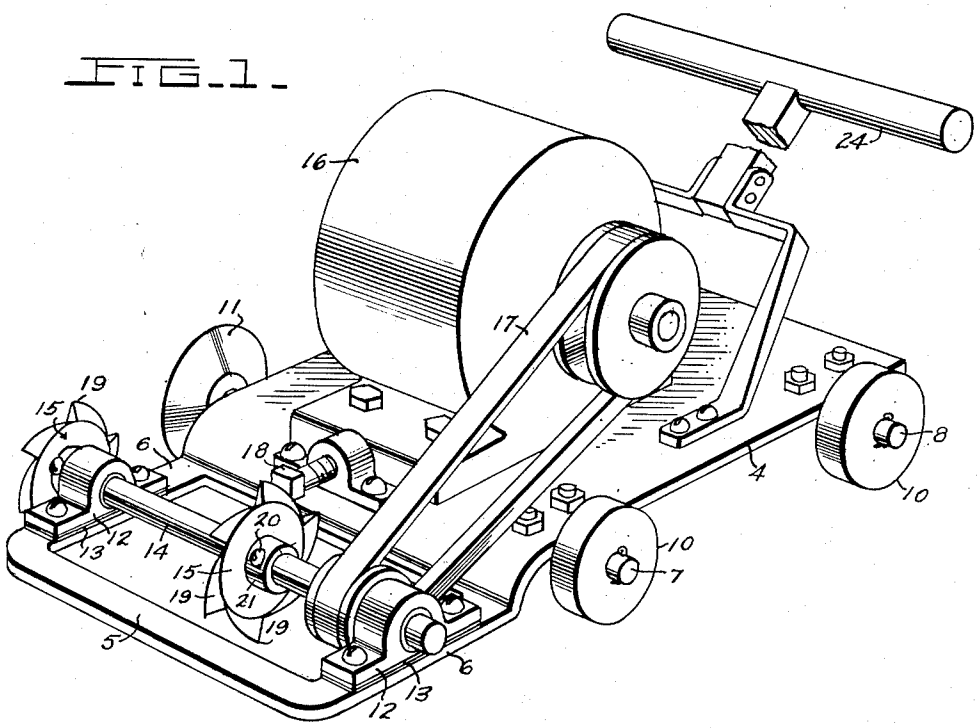
Jan. 8, 1952 J. H. FRANKS 2,581,477

DECAULKING APPARATUS

Filed May 31, 1949

FIG. 1.



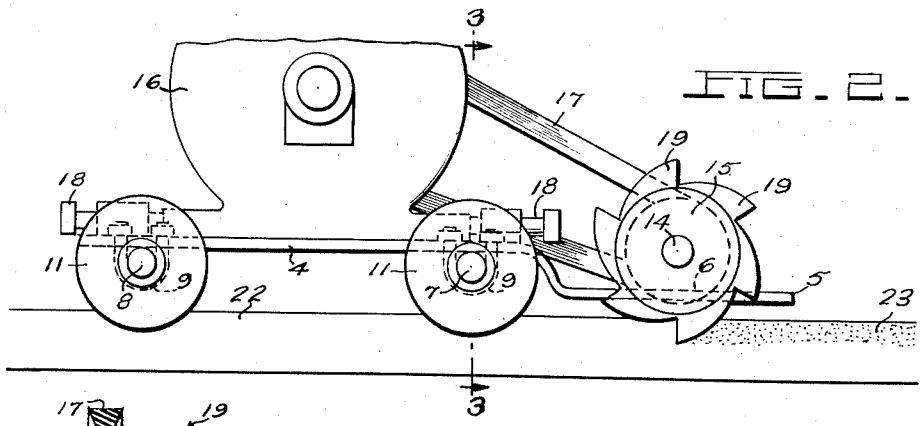


FIG. 2.

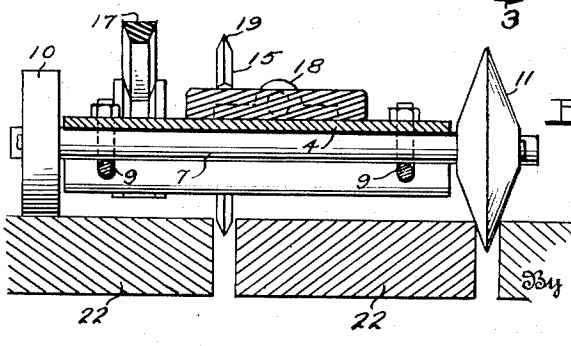


FIG. 3.

Inventor

JOHN H. FRANKS

Lee F. Thurberry

ATTORNEY

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DECAULKING APPARATUS

John H. Franks, Daytona Beach, Fla.

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4 Claims. (Cl. 262—20)

1

This invention relates to devices for removing old caulking material from the seams of deck planking and the like. Although it is primarily intended for such use, it may equally as well be employed on any flooring or paving installation in which filler or spacer material is to be removed from linear divisions between spaced, coplanar structural units.

An object of the invention is to provide a portable apparatus capable of manual propulsion over the surface of a deck or the like in a direction longitudinally of the seams, and having self-contained power means operative to rip out material from one or more seams in a continuing operation as the apparatus is moved along the deck.

Another object is to provide such an apparatus having self-aligning guide means by which it is automatically maintained in proper registry with the seams during its travel along the deck.

Other objects will be apparent to those skilled in the art. In the accompanying drawings:

Figure 1 is a perspective view of an operative embodiment of the invention,

Figure 2 is a fragmentary side elevation of the apparatus in service,

Figure 3 is a vertical section taken substantially on line 3—3 of Figure 2.

As herein disclosed, the apparatus comprises a wheeled platform 4 consisting of a flat rectangular plate having a downwardly offset front end portion 5 that is centrally cut out to provide a relatively deep and wide open area transversely across the plate. This relief of the plate leaves an integral bridge strip 6 at each side edge of its depressed front end portion. Rearwardly of its offset front portion the plate mounts a transverse front axle 7 and rear axle 8 journaled in bearings 9 on the under face of the plate. These bearings are here shown as U-bolts passed upwardly through receiving apertures in the plate in threaded engagement with securing nuts engaging the upper face of the plate.

The ends of the axles extend laterally beyond the side edges of the plate, and at one side edge thereof carry flat rim ground wheels 10. Each axle at its opposite end on the other side edge of the plate mounts a bevel guide wheel 11 which, when the device is in operation, enters between adjacent deck planks with a bearing on the upper side edge of each; thus cooperating with the wheels 10 for ground support of the apparatus.

The bridge strips 6 provide supports for a pair of bearing blocks 12 secured thereto on height

2

adjusting shims 13. These bearings journal a driven shaft 14 that is parallel to the wheel axles and which extends across the cut out area of the end portion 5 of the plate. At the guide wheel side of the plate the end of the shaft extends laterally and has affixed thereto for rotation therewith a rotary stripper 15 that is aligned with the guide wheels 11 longitudinally with respect to the plate. At least one other stripper 15 is carried by and rotatable with the shaft 14 in the cut out area of the plate end.

An electric motor or other suitable power source 16 is secured on and to the main body portion of the plate 4 and has an operating connection 17, here shown as a belt and pulley drive, with the shaft 14 whereby to rotate the shaft and its attached strippers in a direction clockwise with respect to Figure 2. The base of the motor is shiftable longitudinally of the plate between screw threaded take-up means 18 for adjusting tension of the driving belt.

Each stripper element 15 consists of a metal wheel having flat side faces, and a bevel rim that is peripherally relieved to provide a series of picker teeth 19. The leading edge of each tooth is flat in a plane radial with respect to the wheel, and its following edge is decreased gradually inward to the base of the leading edge of the next following tooth. The wheel is adjustable axially on its mounting shaft and is anchored to the shaft in positions of adjustment by securing means 20 engaged with the shaft through a hub 21 on one face of the wheel.

As the strippers are required to operate in the seam spaces between adjacent deck planks, they are relatively thin as compared to the mean thickness of the guide wheels 11, whose rims also enter the seam spaces. As shown in Figure 3, the inclined sides of the guide wheels have line bearing contact on the top side edges of adjacent planks 22 with their rims disposed within the seam space appreciably below the plane of the plank top faces. The teeth of the rotary strippers 15 also extend down into the seam space but out of contact with the sides of the planks. The thickness of a stripper wheel between its parallel side faces is less than the distance between adjacent planks. The ground wheels 10 are sufficiently wide at their rims to span a seam space, and no portion of these wheels enters a space between adjacent planks during operation of the apparatus.

In service, a portion of the seam caulking material 23 is manually removed from a seam over a length sufficient to provide clearance for the

guide wheels 11, which then are engaged in the cleared space with the aligned stripper 15 resting on the caulking in advance of the front wheel axle 7. The stripper 15 in the cut out area of the front end portion is adjusted axially on the shaft 14 to register with and rest upon the caulking of the next adjacent seam. Several strippers may be mounted on the shaft if the planking is narrow, so that several seams may be operated upon simultaneously. A handle assembly 24 is secured to the plate 4 for manual propulsion of the apparatus. It is within the scope of the invention, however, that one or both of the ground wheels may be driven from the motor to provide a self-propelled machine. As the apparatus is moved along a deck the guide wheels insure that the strippers will be held in proper working alignment with the deck seams with which they are registered. The teeth of the rapidly rotating strippers penetrate and forcibly engage the seam caulking and rip it upwardly and rearwardly out of the seams. The stripper mounting end 5 of the plate and the bridge strips 6 are of heavy construction to minimize vibration and to insure constant bite of the stripper teeth in the caulking. The shims 13 may be increased or decreased in number to vary the entrant depth of the stripper teeth by adjustment of the height of the driven shaft 14 relative to a surface to be operated upon.

When the end of a seam in which the guide wheels are engaged is reached, the apparatus is turned around with the guide wheels reengaged in the same seam and is returned along the deck to rip the old caulking from another seam. Prior to the return travel the stripper that is aligned with the guide wheels may, if desired, be removed. It functions only to clear the first seam in which the guide wheels are engaged, and thereafter runs free. At the completion of the return travel the apparatus is again turned and shifted laterally to engage the guide wheels in the last cleared seam, after which the cycle is repeated and continued until all seams are cleared.

It is to be understood that the present disclosure is illustrative and not restrictive, and that the invention may be practiced in any form consistent with its scope as claimed.

I claim:

1. Decaulking apparatus comprising a portable platform, front and rear axles thereon, ground wheels on the axles at one side edge of the platform, seam entrant and bearing guide wheels on the axles at the opposite side edge of the platform cooperating with said ground wheels to provide wheeled support for the platform, a driven shaft journaled on the platform in advance of the front axle, stripper means on said shaft and rotatable therewith for engaging and removing seam caulking from at least one seam determined by the entrant location of the guide wheels, and power means on the platform in driving connection with said driven shaft.

2. Decaulking apparatus comprising a portable platform, front and rear axles thereon, ground wheels on the axles at one side edge of the platform, seam entrant and bearing guide wheels at the opposite side edge of the platform cooperating with said ground wheels to provide wheeled support for the platform, said platform having a front end portion downwardly offset in advance of the front axles, said offset portion having an open central area, a driven shaft journaled on said offset portion and extending transversely of the apparatus across said open area, a stripper on and rotatable with said driven shaft in the open area to engage and pull out caulking from deck seams over which the platform is moved, said stripper being shiftable axially on the shaft to positions of adjustment for seam alignment, and driving means on the platform in operating connection with said driven shaft.

3. Decaulking apparatus comprising a portable platform, front and rear axles thereon, ground wheels on the axles adjacent one side edge of the platform, seam entrant guide wheels on the axles adjacent the opposite side edge of the platform and having inclined sides adapted for line bearing contact with the top side edges of spaced planks defining a seam whereby to provide in cooperation with said ground wheels complete wheeled support for the platform, a driven shaft journalled on the platform in advance of the front axle, stripper means on the shaft and rotatable therewith for engaging and removing caulking from at least one seam determined by the entrant location of the guide wheels, and power means on the platform in driving connection with said driven shaft.

4. Decaulking apparatus comprising a portable platform, front and rear axles thereon, ground wheels on the axles adjacent one side edge of the platform, seam entrant guide wheels on the axles adjacent the opposite side edge of the platform and having oppositely inclined sides adapted for line bearing contact with the top side edges of spaced planks defining a seam whereby to provide in cooperation with said ground wheels complete wheeled support for the platform, a driven shaft journalled on the platform in advance of the front axle, a caulking stripper wheel on and rotatable with the shaft for removing caulking from at least one seam determined by the entrant location of the guide wheels, the thickness of said stripper wheel being less than the width of a seam, and power means on the platform in driving connection with said driven shaft.

JOHN H. FRANKS.

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