Nov. 2, 1943. H. A. WELLNITZ 2,333,285

BLOCK-MOLD PALLET CLEANING MACHINE

Filed July 16, 1941

Fig. 1.

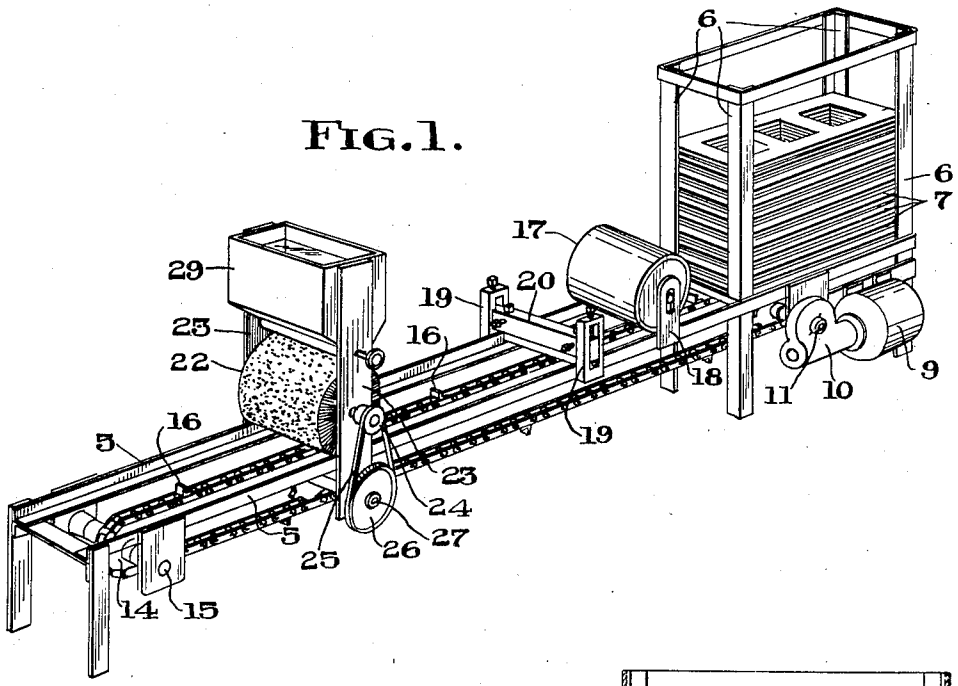
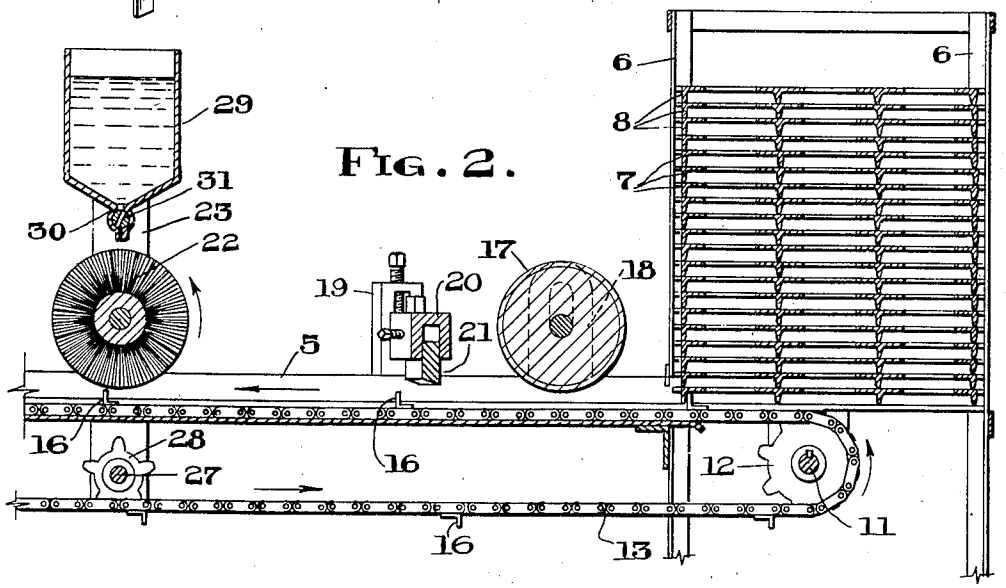


Fig. 2.



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BLOCK-MOLD PALLET CLEANING MACHINE

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5 Claims. (Cl. 15—4)

This invention relates to an improved machine for cleaning pallets of the type employed in the molding of cementitious blocks or bodies. Such pallets, in use, collect deposits or encrustations of cementitious material, which must be removed before the pallets can be again used in molding operations. Hitherto, the removal of such deposits has been done by slow time-consuming hand methods which are laborious and relatively costly. It is, therefore, the object of the present invention to provide a cleaning machine for effecting the removal of such deposits from mold pallets in a thorough, expeditious and automatic manner.

Another object of the invention resides in the provision of a pallet cleaning machine in which the pallets to be cleaned are positively advanced along a longitudinally extending guideway, and while being so advanced are scraped, brushed and oiled and thereby effectively conditioned for further use.

With these and other objects in view, the invention consists in the novel features of construction, combinations of elements and arrangements of parts, hereinafter more fully described and defined in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of the improved pallet cleaning machine;

Fig. 2 is a vertical longitudinal sectional view taken through the machine.

Referring more particularly to the drawing, my improved cleaning machine comprises a frame composed of structural steel elements and which frame is formed to include a pair of longitudinally extending, parallel, transversely spaced angle members 5—5, the latter being suitably supported to constitute a guide. At one end the frame is provided with upstanding vertical legs 6, which are appropriately spaced to form a magazine or hopper in which may be placed in superposed relationship a plurality of molding pallets 7. These pallets are usually formed from cast iron and include depending reenforcing flanges 8 which, when the pallets are stacked in the magazine, will be so disposed that the flanges 8 of the lowermost pallet will engage with and rest on the horizontal legs of the angle members 5.

Supported by the frame of the machine at one side thereof is an electric motor 9 which, through speed reducing gearing disposed in the casing 10, effects the rotation of a horizontally journaled drive shaft 11. The shaft 11 is equipped with a sprocket 12, around which is trained an endless chain 13. This chain also passes around a sprocket 14 mounted upon a horizontally journaled foot shaft 15. The links of the chain 13 have connected therewith at spaced intervals a plurality of fingers 16, so that when the chain is in motion and a stack of pallets arranged in the magazine, the said fingers will engage with the flanges 8 of the lowermost pallet, moving the latter from beneath the stack of pallets and causing positive movement of the withdrawn pallet along the guide furnished by the angle members 5. This action takes place at successive intervals, allowing each pallet to be separately withdrawn from the magazine, as will be clearly understood.

Supported above the annular members 5 adjacent to the front of the magazine is a heavy pressure roll 17, the horizontal shaft of said roll having its ends movably mounted in elongated slots provided in stationary side brackets 18.

Beyond the roll 17, the angle members 5 have fixed to the sides thereof upstanding bearing boxes 19, and adjustably mounted in the vertical slots of these boxes are the ends of a knife bar 20. The under side of this bar is formed with a longitudinally extending recess in which is mounted for vertical adjustment a knife or scraper 21, the latter being disposed at a slight angle to the transverse perpendicular of the machine bed or frame, in order to render the cutting action of the knife or scraper more effective in removing cementitious deposits from the upper surfaces of the pallets 7. The pressure roll 17 serves to maintain the pallets against vertical movement while they are in engagement with the knife or scraper 21.

Following the scraping of the pallets, the latter are advanced by the continued movement of the conveyor 13 into engagement with a rotary brush 22. The shaft of this brush has its ends journaled in bearings provided in connection with a pair of spaced uprights 23 arising from the angle members 5. One end of the brush shaft is provided with a pulley 24 around which is trained a belt 25, the latter being also trained over a second pulley 26. This pulley is carried by a shaft 27, journaled in connection with said uprights, and a sprocket 28 is fixed to the shaft 27, having its teeth engaged with the links of the conveyor chain 13. By this means, when the chain is in motion, rotary movement is imparted to the brush.

Supported by the upper portions of the uprights 23 is an oil container 29. The bottom of

this container is provided with an outlet **30**, in which is arranged an oil flow control valve **31**. Oil discharged from the container **29** is deposited on the relatively stiff bristles of the brush **22** and by the action of the latter is deposited in a uniformly distributed manner over the upper surfaces of the pallets **7**. After engagement with the brush, the pallets are removed from the discharge or foot end of the machine.

In view of the foregoing, it will be seen that the present invention provides a simple, effective and rapidly operating means for removing adhering deposits of cement and the like from the surfaces of mold pallets. The operation of the machine is substantially automatic insofar as its cleaning, brushing and oiling operations are concerned. Through its use, a large number of pallets may be quickly conditioned for further service, manual labor is greatly reduced and savings effected in the cost of such operations over prior practices.

While I have described what I consider to be a preferred embodiment of the present invention, nevertheless, it will be understood that the same is subject to considerable variation or modification without departing from the essential features of the machine as defined in the following claims.

What is claimed is:

1. In a pallet cleaning machine of the type having a bed frame with a longitudinally extending way, means for positively moving the pallets to be cleaned along the way, and scraper means disposed for engagement with the pallets in their movement along the way, the combination of a pressure roll supported by the bed frame in advance of said scraper means and engageable with the pallets to maintain the same against vertical movement while in contact with said scraper means.

2. In a pallet cleaning machine of the type having a bed frame with a longitudinally extending way, means for positively moving the pallets to be cleaned along the way, scraper means disposed for engagement with the pallets in their movement along the way, and brush means engaging said pallets after contact thereof with said scraper, the combination of means for applying an oleaginous liquid to the brush during the operation thereof.

3. In a pallet cleaning machine of the type having a bed frame with a longitudinally extending way, means for positively moving the pallets to be cleaned along the way, and scraper means disposed for engagement with the pallets in their movement along the way, the combination of weighted roll means supported by the bed frame in advance of said scraper means for yieldable engagement with the pallets to maintain the same against vertical movement while in contact with said scraper means.

4. A machine for cleaning pallets employed in the molding of cementitious block, comprising a longitudinally extending bed frame for advancing pallets along a longitudinally extending guideway formed with said frame, an adjustable normally stationary scraper bar extending substantially transversely of said frame over said guideway, said bar being formed with a cutting edge for dislodging adhering cementitious deposits from the upper surfaces of said pallets, a weighted pressure roll rotatably journaled in connection with said bed frame, said roll being disposed above the guideway for engagement with the pallets, and rotary brush means supported above said guideway for removing loosened deposits from said pallets following the engagement of the latter with the scraper bar.

5. A machine for cleaning pallets employed in the molding of cementitious block, comprising a longitudinally extending bed frame for advancing pallets along a longitudinally extending guideway formed with said frame, an adjustable normally stationary scraper bar extending substantially transversely of said frame over said guideway, said bar being formed with a cutting edge for dislodging adhering cementitious deposits from the upper surfaces of said pallets, a weighted pressure roll rotatably journaled in connection with said bed frame, said roll being disposed above the guideway for engagement with the pallets, rotary brush means supported above said guideway for removing loosened deposits from said pallets following the engagement of the latter with the scraper bar, and means for applying an oleaginous liquid to said rotary brush means and the pallets engaged thereby.

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