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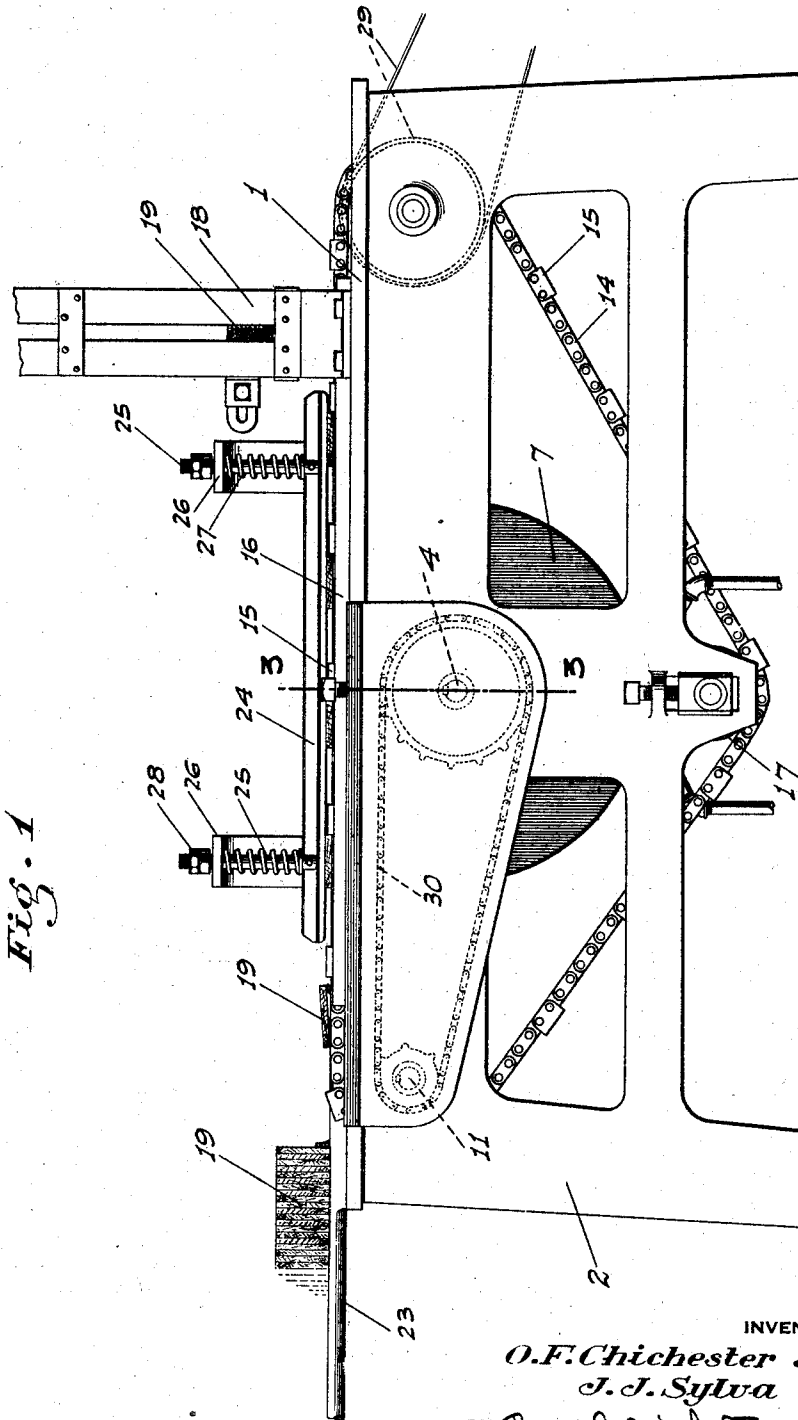
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SLAT WAXING AND STACKING MACHINE

Filed June 29, 1927

3 Sheets-Sheet 1



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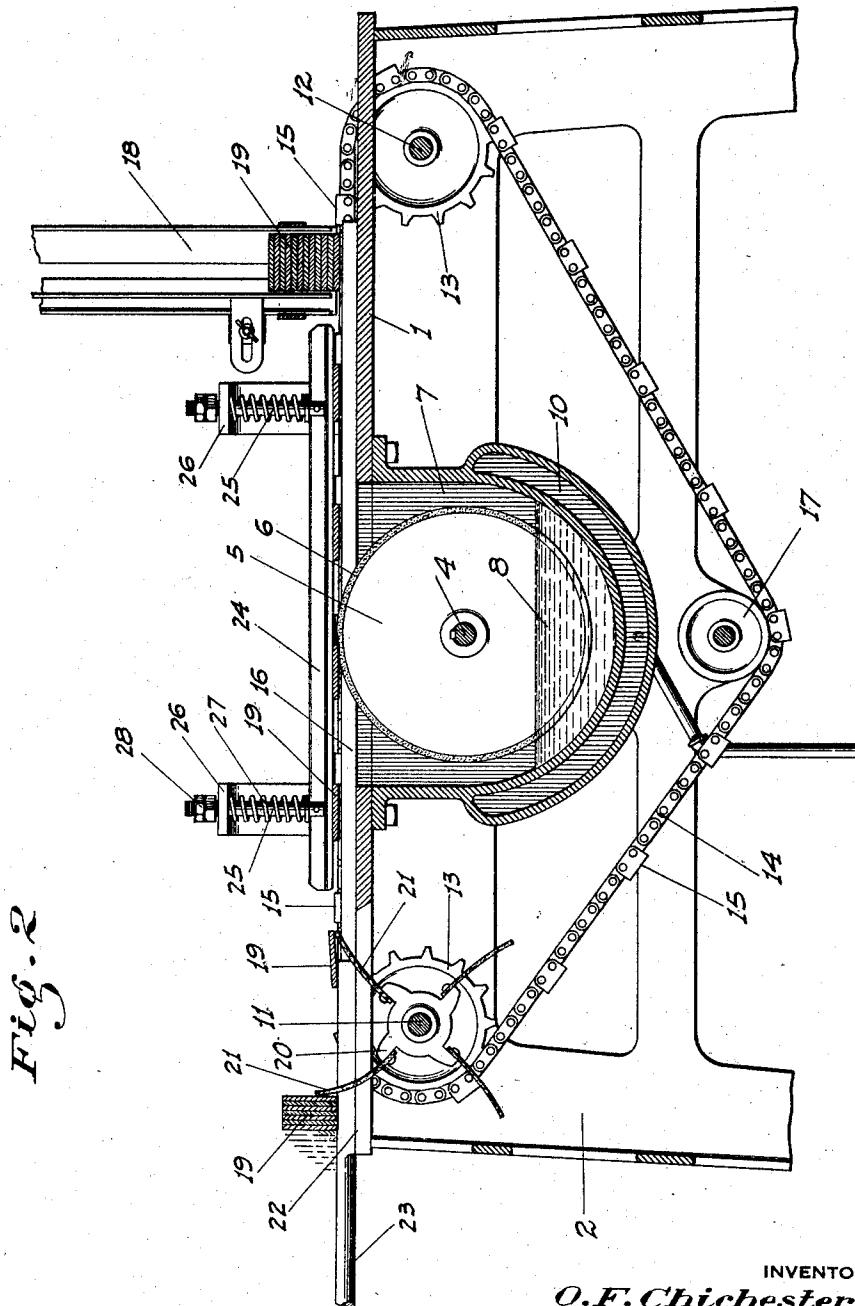
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Fig. 3

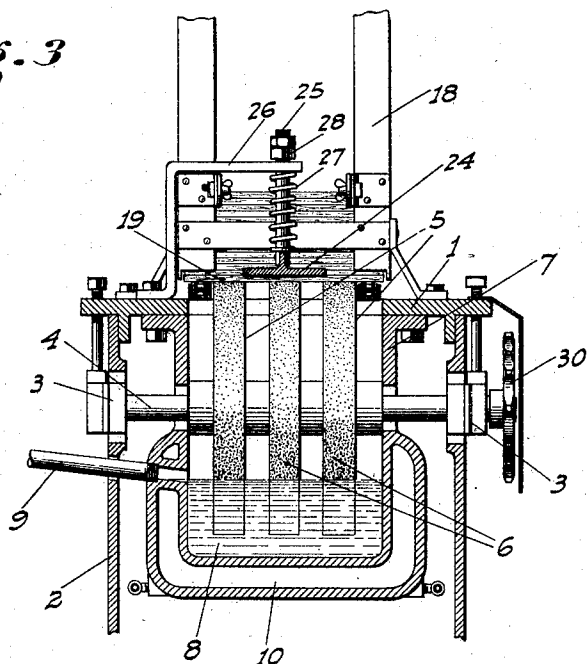
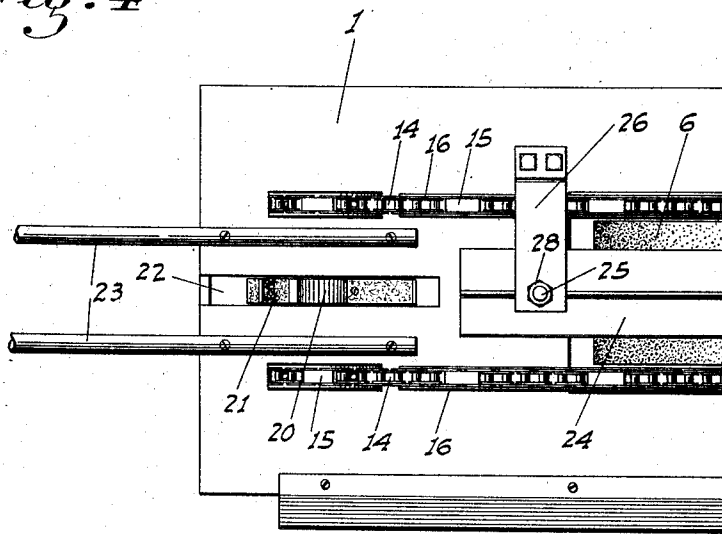


Fig. 4



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SLAT WAXING AND STACKING MACHINE

Application filed June 29, 1927. Serial No. 202,270.

This invention relates to improvements in means for waxing pencil-stock slats which, as is well known to those in the industry, are coated with wax prior to their being formed into pencils.

The principal object of our invention is to provide a machine for the purpose arranged to continuously feed a supply of slats from a stack across the path of waxing rollers or drums; arranging the drums so that only a certain portion of the area of one side face of the slats will be coated with the wax; and providing means for then gathering up the slats and automatically causing them to be stacked in flat abutting relation with the waxed side of one slat against the unwaxed side of an adjacent slat. The waxing of only a portion of the surface of the slat initially distributes the wax over a relatively large portion of the area of the slat, while at the same time avoiding the use of an excessive amount of wax to accompany the operation. Stacking the slats in the particular manner above indicated has two important advantages. For one thing it enables the slats after they are stacked to be then manually handled with great ease, conserving the time and labor of the workers. The other and even more important advantage lies in the fact that the wax initially applied to only one face of the slats by the waxing drums of the machine will be automatically applied to the other face as well. This not only serves to take care of any excessive wax which may lie on the initially waxed faces, but distributes the wax more completely over the entire exterior area of the slats, so that when the latter are subsequently treated to cause the wax to penetrate and be permeated throughout the body of the slats, this operation will not take so long and the permeation will be more thoroughly and evenly accomplished than would otherwise be the case.

A further object of the invention is to provide a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects we accomplish by means of such structure and relative arrangement of

parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of our improved machine.

Fig. 2 is a longitudinal section of the same.

Fig. 3 is a cross section on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary top plan view of the apparatus.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes a horizontal table of suitable dimensions supported at a convenient distance from the ground by a standard or frame 2. Journaled in vertically adjustable boxes 3 mounted in the frame 2 intermediate the ends of the table is a transverse shaft 4 on which are fixed a plurality of narrow transversely spaced drums 5 edged with felt 6 or similar absorbent and yieldable material. A receptacle 7 into which the drums project is mounted in connection with and under the table, the latter having an opening to allow the drums to extend thereabove. A supply of coating wax 8 such as paraffin or the like is continuously fed into the receptacle through a pipe 9 so as to maintain the supply in said receptacle at a suitable level, or so that the drums will be only partially submerged. A steam jacket 10 is formed in connection with the receptacle to surround the wax containing portion thereof and keep the wax in a melted and readily flowing condition.

Journaled under the table adjacent the opposite ends thereof are transverse shafts 11 and 12 on which are fixed pairs of transversely spaced sprocket wheels 13. Endless chains 14 pass about the sprockets, said chains having upstanding lugs 15 at intervals. The upper runs of the chains ride in channels 16 supported by the table, the lugs projecting above said channels and the latter being preferably disposed outwardly of the drums and disposed on a level so that the tops of the chains are slightly below the tops of the

drums. The lower runs of the chains pass about vertically adjustable idlers 17 mounted below the wax receptacle so as to enable the transverse space between the chains to be maintained somewhat close without interfering with the receptacle and so as to enable the chains being kept at a proper tension.

Supported and projecting above the table between the shaft 12 and the drums and straddling the chains is a hopper 18 for a stack of slats 19. The slats are set in the hopper so that their width extends longitudinally of the table and chains and their length transversely thereof. The spacing of the chains is of course less than the length of the slats so that the slats will ride on both chains.

Fixed on the opposite shaft 11 centrally between the sprockets thereon is a spider 20 from which flexible radial arms 21 project outwardly, these arms being preferably made of fairly stiff leather or the like. The length of the arms is considerably greater than the radius of the sprocket wheels so that they will project thereabove, the table having a central slot 22 cut therethrough to permit of the free passage of the arms. Horizontal and transversely spaced bars 23, to support the slats after leaving the chains, are mounted on and project beyond the table at the spider end thereof, the top of the bars being the same level as the top of the chains.

A flat presser bar 24 is mounted over the chains and drums intermediate the hopper and spider to engage the slats carried by the chains, said bar terminating some distance ahead of the spider. Rods 25 are secured to and project upwardly from the bar, and are slidable through brackets 26 mounted on the table. Springs 27 about the rods between the brackets and bar tend to force the bar downwardly, the movement of the bar being limited by nuts 28 on the rods above the brackets.

The chains are driven at any predetermined speed in a suitable manner such as by a belt drive 29 applied to one of the sprocket wheel shafts. The drum shaft 4 is driven at a speed somewhat less than that of the chains by a chain drive 30 or the like from one of the sprocket shafts.

In operation with the driving of the chains so that the upper runs thereof travel from the hopper toward the spider the chain lugs will successively engage the lowermost slats in the hopper and will carry them out of said hopper and past the drums. The slats coming in contact with the revolving drums whose peripheral surfaces are constantly engaged with the melted wax, some of such wax will of course be imparted to the under surface of the slats, the necessary pressure of the slats with the drum being had by reason of the presser bar. Just as each slot after passing the drums leaves the presser bar itself engaged on its under surface by

one of the rotating spider arms, it acts to raise said slat from a horizontal to a vertical position and then push it a certain distance horizontally, and, while it is standing on edge, onto the bars 23 and against the slat ahead, and of course already vertically disposed, as shown. The arms being flexible they can yield when moving downwardly and clear of the slat after the latter has been moved into stacked relation with the ones beyond, while at the same time having sufficient rigidity to readily raise the light slats from their horizontal positions on the chains. The spider arms are set relative to the chain lugs which engage and move the slats forward, so that they are in position to engage each slat as it is advanced by the chains in continuous and synchronized relation with the movement of the chains and slats.

The raising and stacking of the slats causes the waxed face of one slat to be abutted against the unwaxed face of an adjacent slat in the stack, as will be evident, so that some of the wax will adhere to the previously unwaxed face, and will cause a quick and even permeation or penetration of the wax throughout the entire body of the slats to be had when they are subsequently treated. This stacking also makes it easy for the workers to gather up a batch at a time from the supporting bars, as will be evident. By the use of several narrow drums instead of one wide one the wax is more widely distributed over the area of the slats than would otherwise be the case, and with the use of a minimum amount of wax. This also aids in causing the wax to more readily permeate the entire area of the slats.

From the foregoing description it will be readily seen that we have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations therefrom may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:

1. A slat waxing and stacking machine including a waxing means, means for conveying the slats successively past the waxing means so that one face of each slat is waxed, horizontal slat conveying means including transversely spaced endless elements and upstanding lugs thereon at intervals to engage the edges of the slats, slat supporting bars extending beyond and disposed parallel to said elements, a rotatable spider member having radial arms, spaced proportionate to the spacing between the conveyor-lugs, disposed between the conveyor elements beyond the waxing means for engaging the under faces

of the slats successively, and causing them to be raised on edge and then shifted clear of the conveying means and onto said supporting bars.

5 2. A slat waxing and stacking machine comprising a waxing means, means to successively pass slats over the waxing means to deposit a coating of wax on a single face of each slat, and means to then turn each
10 slat on edge and stack the slats together with the uncoated face of one slat in face to face contact with the coated face of the adjacent slat.

15 3. A slat waxing and stacking machine comprising a waxing means, a yieldable presser plate spaced from the waxing means, means to successively pass slats between the waxing means and plate whereby a coating of wax will be deposited on a single face of
20 each slat, and means to then turn each slat on edge and stack the slats together with the uncoated face of one slat in contact with the coated face of the adjacent slat.

25 4. A slat waxing and stacking machine comprising a supporting table, a waxing drum projecting slightly above the table surface, a conveyor chain moving on each side of the drum longitudinally of the table, means on the chains for moving slats successively along
30 the table and over the drum, and means movable in time with the chains and engageable with the slats to stack them edgewise in face to face relation.

35 5. A slat waxing and stacking machine comprising a supporting table, a waxing drum projecting slightly above the table surface, a pair of spaced shafts, one on each side of the drum, means to drive one shaft, a pair of sprockets on each shaft, chains mounted
40 on and driven by the sprockets to carry slats successively into contact with said drum, and a spider on one shaft having radial arms to successively engage the slats and turn them on edge.

45 6. A slat waxing and stacking machine comprising a supporting table, a waxing means associated with the table, means to successively advance slats along the table into contact with the waxing means, a rotating member having radial arms to then
50 successively engage the slats and turn them on edge, such arms being yieldable whereby they will move past the slats after turning them on edge.

55 In testimony whereof we affix our signatures.

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