

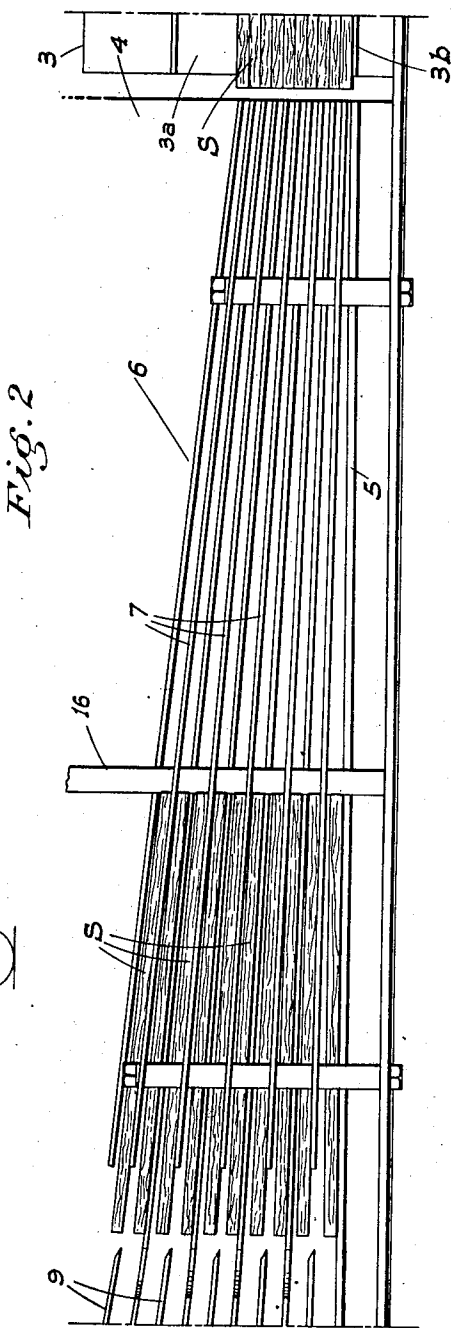
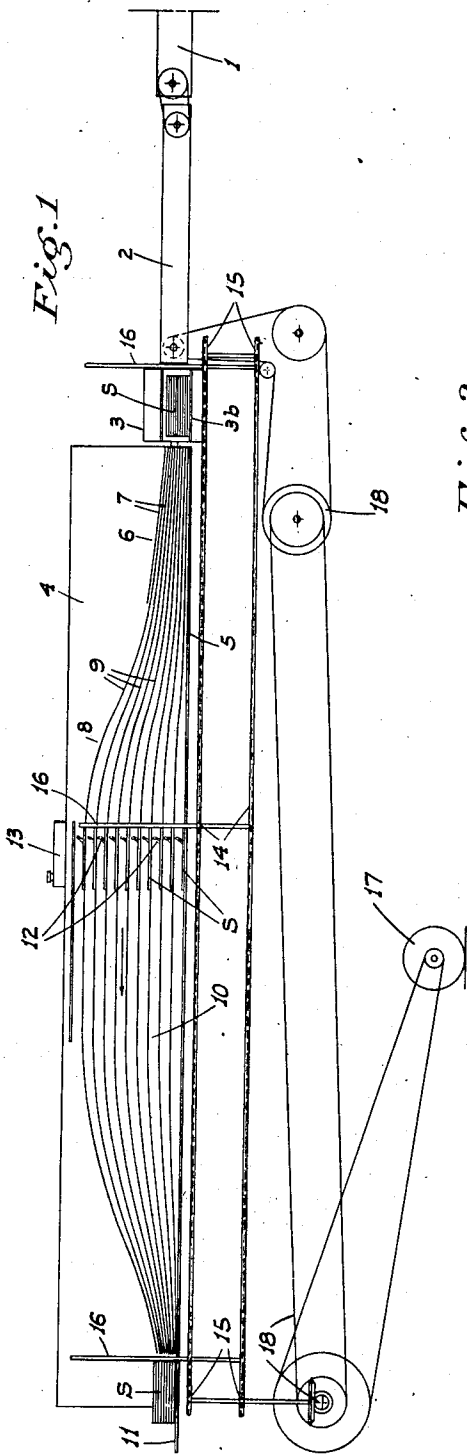
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W. H. WILCOX

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METHOD OF TREATING ARTICLES

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INVENTOR
W. H. Wilcox
BY *Robert R. Wilcox*
ATTORNEYS

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METHOD OF TREATING ARTICLES

William H. Wilcox, Stockton, Calif., assignor to
California Cedar Products Company, a corporation

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7 Claims. (Cl. 144—309)

This invention relates to an improved method of treating articles in a manufacturing process, and in particular is directed to a novel method of treating pencil slats during the course of manufacture; this application being a division of my application for United States Letters Patent on "Slat feeding apparatus," Ser. No. 351,562, filed August 6, 1940, now United States Letters Patent No. 2,275,709.

In the manufacture of pencil slats, the individual slats are cut from blocks by gang saws; the individual slats emerging from the saws in block shaped groups wherein the slats engage each other in face to face relation. While the individual slats emerge from the saws in groups wherein the slats are in the same relation to each other as the material forming the slats existed in the uncut block, it has not heretofore been the practice to carry out any subsequent processing step in a manner to maintain the slats, before and after such step, in said groups with the slats of each group bearing such relationship to each other.

I have now found it desirable to maintain the individual slats in such groups to the extent possible in the course of manufacture whereby to effectuate improved handling technique, inspection and grading by block characteristics rather than individual slat characteristics, and similar advanced manufacturing operations. However, during manufacture there are one or more operations which may preferably be carried out with the individual slats of said groups separated from each other; one such operation being the application of the wax to the slats, individual wax application assuring proper wax impregnation when the slats are subsequently kiln treated.

It is therefore the principal object of this invention to provide a method of treating articles, such as pencil slats, which comprises the steps of separating the individual but initially engaged articles of a group, then performing a further step such as individual inspection or treatment of the separated articles, and thereafter returning the articles into such initial position of engagement as a group.

Another object of the invention is to provide, in a method as recited above, the step of continuously advancing the articles throughout the separating, processing, and return steps; the articles, when separated, advancing a predetermined distance in such relation.

A further object of the invention is to provide a method which includes the steps of separating the individual but initially engaged slats of a group, then applying a quantity of fluid to each individual slat while thus separated, and thereafter returning the slats to such initial position of engagement as a group.

It is also an object to provide a method, in the

manufacture of pencil slats, which comprises the steps of separating the individual but initially engaged slats of a group cut from a block and remaining in the same group relationship that they existed in the uncut block; then applying a quantity of fluid but solidifiable wax to each individual slat while thus separated; and thereafter returning the waxed slats into such initial position of engagement and as a group. Such method may also include, as a feature thereof, the re-engagement of the separated slats while the wax is fluid or plastic whereby, upon solidification thereof, the slats are adhered together.

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

These objects are accomplished in the manner as will fully appear by a perusal of the following specification and claims.

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

Figure 1 is a diagrammatic side elevation of one form of apparatus which may be employed to practice the method.

Figure 2 is a fragmentary, enlarged elevation of a portion of the slat separating unit.

Referring now more particularly to the characters of reference on the drawing, a group of slats S in face to face engagement and as cut from a block, are conveyed from the gang saw (not shown) by means of conveyors 1 and 2 into a slat or group turn-over device indicated at 3 which rotates the group 90° from its initial position with the engaged slats vertical and resting on their side edges to a horizontal or stacked position as shown in Fig. 1.

This slat or group turn-over device, together with the remainder of the apparatus, is shown and described in full in the above identified co-pending application, and therefore a general description of the structural assembly will suffice for the purpose of this application.

When the group of slats S is turned to and supported in horizontal position, the then vertical side 3a of turn-over device 3 against which the group rests, is aligned with a fixed upstanding back plate 4 which extends some distance beyond device 3. A full length slat supporting strip 5 projects laterally and horizontally from the back plate in a plane to receive the lowermost slat of the group when advanced from the then horizontal group supporting flange 3b of device 3.

As a group of slats S so advance, they are engaged and received by an initial slat guiding and separating unit, indicated generally at 6, which includes, with strip 5, a plurality of vertically spaced, horizontal, and diverging strips 7 projecting laterally in fixed relation from back plate 4

above said strip 5. From this unit 6, the advancing slats are fed into the main or final slat separating unit, indicated generally at 8, which includes, with strip 5, a plurality of other similar strips 9 which project from the back plate and extend from adjacent unit 6 to substantially the remote end of said back plate; said strips 9 diverging from each other for some distance, then extending straight and parallel for some distance, as indicated at 10, and then converging to a termination in such closely spaced relation as to return the slats practically together again. From this termination the slats advance, again in a group and in the same relation as at the start, onto a receiving platform 11, which may be one end of strip 5.

While the separated slats are moving along the straight portions 10, they may be inspected or treated individually, and in the present embodiment the slats are individually waxed on their upper face with a wood lubricant such as paraffin wax. This wax is applied by suitable means here diagrammatically shown as being a brush 12 for each slat, receiving normally solid wax in a molten condition from a tank 13 supported behind the back plate. The speed of advance of the slats from brushes 12 to platform 11 is such that the slats reengage as a group before the wax solidifies, whereby upon solidification thereof the slats of each group are firmly adhered together in unitary relation, facilitating handling, bundling, etc.

The slats are transferred from turn-over device 3 onto the unit 6, and carried through guiding and separating units 6 and 8, by means of mechanism which includes a vertically spaced pair of driven chains 14 mounted on end sprockets 15 and having their runs horizontal, parallel to, and laterally out from back plate 4; said runs extending from ahead of device 3 to a point adjacent and below platform 11. Upstanding rods 16 are mounted at intervals on the chains; such rods being of a height somewhat greater than unit 8 and engaging each group of slats on device 3 and advancing said slats through units 6 and 8. The slats overhang the strips of the units, and the rods engage the rear end of the overhanging portion of said slats.

The chains 14, together with conveyors 1 and 2, are driven in timed relation from a motor 17 through the medium of a drive assembly indicated generally at 18.

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

While this specification sets forth in detail the present and preferred details of the method, still in practice such deviations from such detail 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 my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. In the processing of individual non-flexible articles arranged in separate groups, the articles of each group being initially engaged in matching face to face relation; that method comprising the steps of advancing the groups in spaced order, separating the individual articles of each group as the latter advances, treating said individual articles while separated, and then re-engaging the articles of each group.

2. In the processing of flat non-flexible pencil slats arranged in separate vertical stacks, the slats in each stack being initially engaged in matching face to face and symmetrical relation; that method comprising the steps of advancing the vertical stacks in horizontally spaced order, separating the individual slats of each stack as the latter advances, applying wax to the individual slats while separated and then re-engaging the slats of each stack.

3. In the processing of wooden pencil slats, a method comprising the steps of separating a plurality of individual slats initially engaged in face to face relation as a group, thereafter applying a fluid but solidifiable wood lubricant to faces of the separated slats, and then regrouping said slats in face to face relation prior to solidification of the lubricant whereby the same, upon subsequent solidification, adheres the regrouped slats in unitary relation.

4. In the processing of wooden pencil slats, a method comprising the steps of separating a plurality of individual slats initially engaged in face to face relation as a group, thereafter applying a fluid but solidifiable wood lubricant to one face only of the separated slats, and then regrouping said slats in face to face relation prior to solidification of the lubricant whereby the same, upon subsequent solidification, adheres the regrouped slats in unitary relation.

5. In the processing of wooden pencil slats, a method comprising the steps of advancing a plurality of individual slats engaged in face to face relation as a group, separating the individual slats of the group as the same advances, thereafter applying a fluid but solidifiable wood lubricant to faces of the separated and advancing slats, and then regrouping said slats in face to face relation prior to solidification of the lubricant, whereby the same, upon subsequent solidification, adheres the regrouped slats in unitary relation.

6. In the processing of wooden pencil slats arranged in separate groups, the slats in each group being initially engaged in matching face to face relation; a method comprising the steps of advancing the groups in spaced order, separating the individual slats of each group as the same advances and at a predetermined point, thereafter applying a fluid but solidifiable wood lubricant to faces of the separated and advancing slats, and then consecutively regrouping the slats of the groups in said matching face to face relation prior to solidification of the lubricant, whereby the same, upon subsequent solidification, adheres the regrouped slats of each group in unitary relation.

7. In the processing of wooden pencil slats arranged in separate vertical stacks, the slats in each stack being initially engaged in matching face to face relation; a method comprising the steps of advancing the vertical stacks in horizontally spaced order, separating the individual slats of each stack as the latter advances, thereafter applying a fluid but solidifiable wood lubricant to faces of the separated and advancing slats, and then consecutively restacking the slats of the stacks in said matching face to face relation prior to solidification of the lubricant, whereby the same, upon subsequent solidification, adheres the restacked slats of each stack in unitary relation.

WILLIAM H. WILCOX.