Dec. 29, 1931. A. F. NICOLAI 1,838,701

DEVICE FOR ASSEMBLING ELEMENTS FOR COATING IN MASS PRODUCTION

Filed Oct. 24, 1929

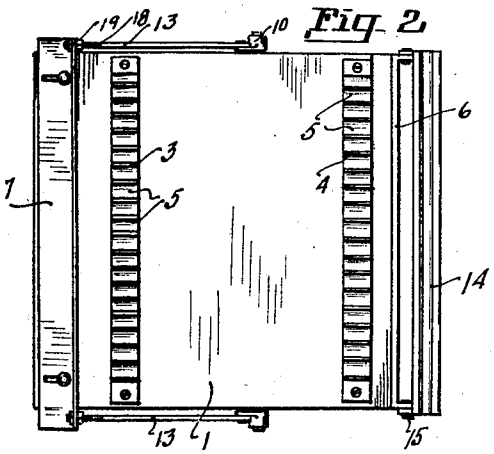


Fig. 2

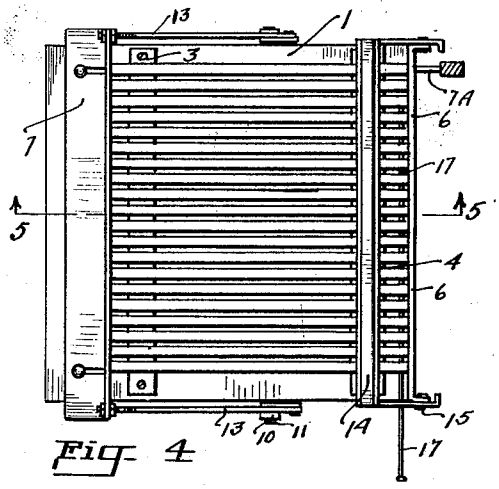


Fig. 4

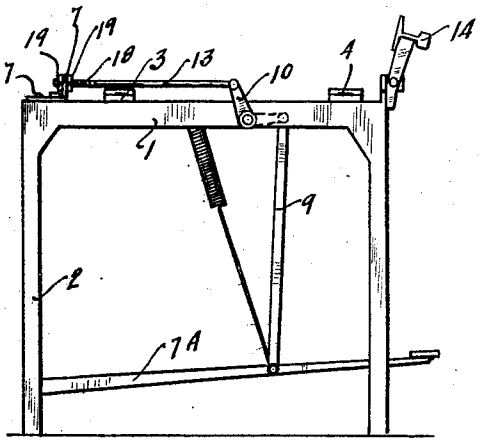


Fig. 3

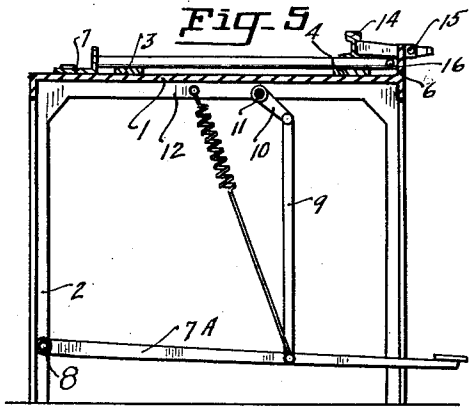


Fig. 5

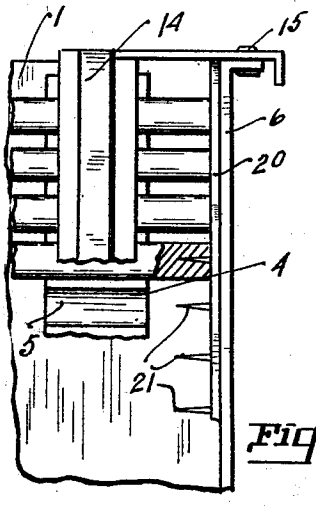


Fig. 7

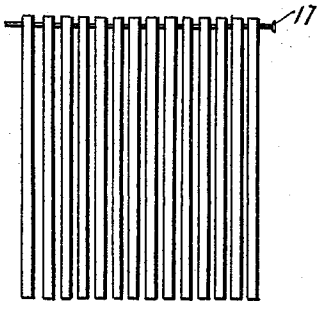


Fig. 1

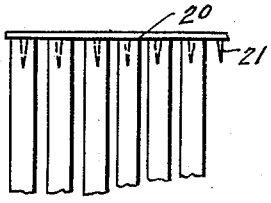


Fig. 6

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UNITED STATES PATENT OFFICE

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DEVICE FOR ASSEMBLING ELEMENTS FOR COATING IN MASS PRODUCTION

Application filed October 24, 1929. Serial No. 402,299.

My invention is for use in the assembly of articles to be treated for mass production, and consists primarily of a frame having disposed thereupon cross bars having spaced slots or receiving holes into which the articles to be treated are to be placed. Means are provided for maintaining the articles in horizontal and end alignment and in spaced relationship with each other. This is necessary in order that the support upon which the assembly is to be strung may be passed through the individual units composing the assembly for suspension during treatment.

My invention is primarily intended for painting, nickel plating, enameling, and coating of articles of uniform size and dimension such as broom handles, slats for baby cages, component parts for articles of manufacture and the like, that are to be treated, coated, surfaced, finished, or refinished.

The object of my invention is to place articles to be treated in uniform end and surface alignment and in spaced relationship with each other.

A further object of my invention consists in providing means for the maintaining of the articles to be treated in uniform alignment and in spaced relationship with each other during treatment, and to deliver the same for disassembly in uniform alignment and in spaced relationship when the treatment has been completed.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a top, plan view of a plurality of elements of uniform size disposed upon a supporting element for treatment and drying.

Fig. 2 is a top, plan view of the assembled device.

Fig. 3 is a side elevation of the device illustrated in Fig. 2.

Fig. 4 is a top, plan view of the assembled device and illustrating a plurality of elements to be treated disposed within the device and illustrating the device in operating condition.

Fig. 5 is a cross section view, taken on line 5—5 of Fig. 4 looking in the direction indicated.

Fig. 6 is a fragmentary view of the engaging head and illustrating a plurality of elements, as broom handles, being supported thereby and in spaced relationship with each other.

Fig. 7 is a fragmentary, top, plan view of the engaging head illustrating a part of the head as being in position for supporting the elements to be treated and illustrating the remainder of the head as being out of engagement and free for receiving the articles to be treated.

Like reference characters refer to like parts throughout the several views.

I preferably form my device of a rectangular frame 1 having leg supports 2. The assembly is preferably made of structural members to afford portability. Bars 3 and 4 are disposed laterally of the frame and each of the bars have spaced slots 5 disposed therein. The spaced slots are of sufficient width and dimension to facilitate the placing of articles therein to be treated. An end stop 6 is provided at the forward end of the machine and an abutting, movable end 7 is provided at the oppositely disposed end of the machine. The articles to be assembled for treatment are placed within the slots in substantially end alignment. After the proper number have been placed within the device, the foot lever 7A is actuated to place the elements in precise end alignment. The lever 7A is supported about a supporting pin 8 and a link 9 connects the foot lever 7A with the bell crank 10. The bell crank 10 is fixedly positioned upon the shaft 11 that is journaled within one of the side frames 12 of the machine and a link 13 also connects the bell crank with the abutting head 7. When the articles to be treated are placed substantially

in alignment within the cross bars 3 and 4 the foot lever 7A is manipulated and the abutting head 7 engages the ends of the articles to be treated and forces the same in intimate end engagement with the stop 6, thus placing the articles in end alignment. A weighted bar 14 is pivotally supported about pins 15 and the same is of sufficient weight to force the bars into horizontal alignment, in which position holes 16 disposed within the bars to be treated, become in registerable alignment with each other, in which position a supporting rod 17 may be inserted therein to lift the entire assembly from the machine. In this position the same may be maintained in spaced relationship during the treating process. In order to compensate for varying lengths of materials to be treated, the end 18 of the link 13 is threaded and locking nuts 19 are threadably disposed upon the threaded end 18 of the link to position the abutting bar 7 relative to the length of the materials to be treated. In the assembling of broom handles or other wooden articles in which holes are not provided through the piece, supporting pins 21 are disposed within a removable abutting head 20 that is adapted for placement within the machine and in intimate engagement with the abutting head 6. The pins 21 are in registerable alignment with the slots disposed within the cross bars 3 and 4 and when so positioned each of the articles to be treated may be made to centrally engage the supporting pin 21 and the manipulation of the foot lever will force the articles to be treated upon the supporting pin 21, in which position the articles to be treated are supported upon the pins 20 of the removable head and the articles may thus be treated and handled for treatment and drying. The elements are held depending from the pins until sufficiently dried to permit removal from the pins.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What I claim is:

1. In a device of the class described, the combination of a fabricated frame support, spaced cross bars laterally and parallelly disposed within the frame, spaced slots disposed within the upper surface of the cross bars, an abutting head disposed within one end of the machine and a removable head disposed within the oppositely disposed end of the machine, a foot actuator for said movable head to move the articles to be treated within the spaced slots to move the articles to end alignment and means for pressing the article to be treated into horizontal alignment.

2. In a device of the class described, the combination of a fabricated frame, bars disposed laterally of the upper surface of the frame and in spaced relation with each other, uniformly spaced slots disposed within the upper surface of the cross bars, a fixed and a movable head disposed at oppositely disposed ends of the upper surface of the frame, a foot actuator for the movable head and means for placing each of the articles to be placed within the spaced slots into horizontal alignment.

3. In a device of the class described, the combination of a fabricated frame, spacer bars, having slots disposed in the upper surface thereof, disposed laterally of the upper surface of the frame, means including a slidable head for positioning the articles to be treated into end and horizontal alignment, manual means for actuating the said means, and means for fixedly positioning the article to be treated relative to one of the end aligning elements.

4. In a device of the class described, the combination of a fabricated frame, bars in spaced relationship parallelly disposed upon the upper surface of the frame, a plurality of slots disposed in each of the bars in registerable alignment with each other, a fixed head disposed at one end of the frame, a movable head slidably disposed on the oppositely disposed end of the frame, manual means for actuating the movable head, and means for placing the articles to be treated into horizontal alignment.

ARTHUR F. NICOLAI.