July 10, 1928. 1,676,639

W. S. ELLIOT ET AL

HANDLE FEEDING MECHANISM FOR BRUSH MACHINES

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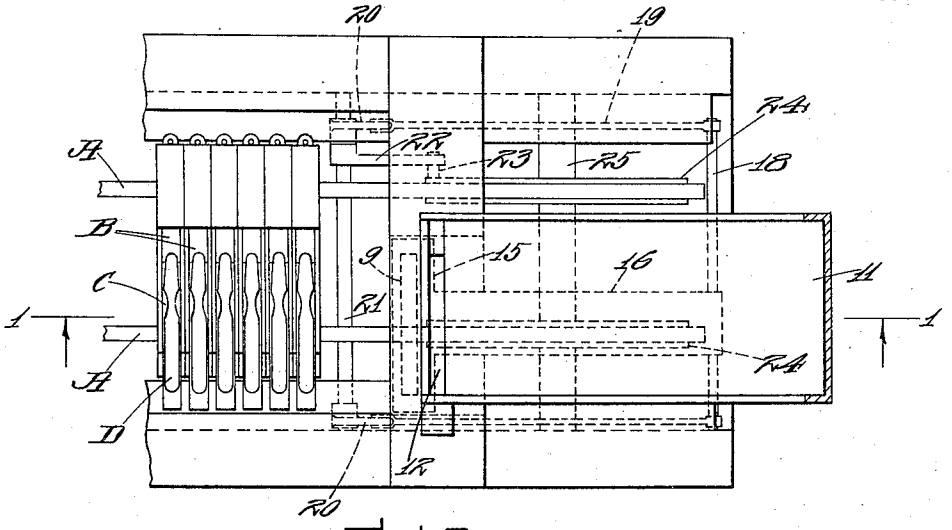



Fig. 2.

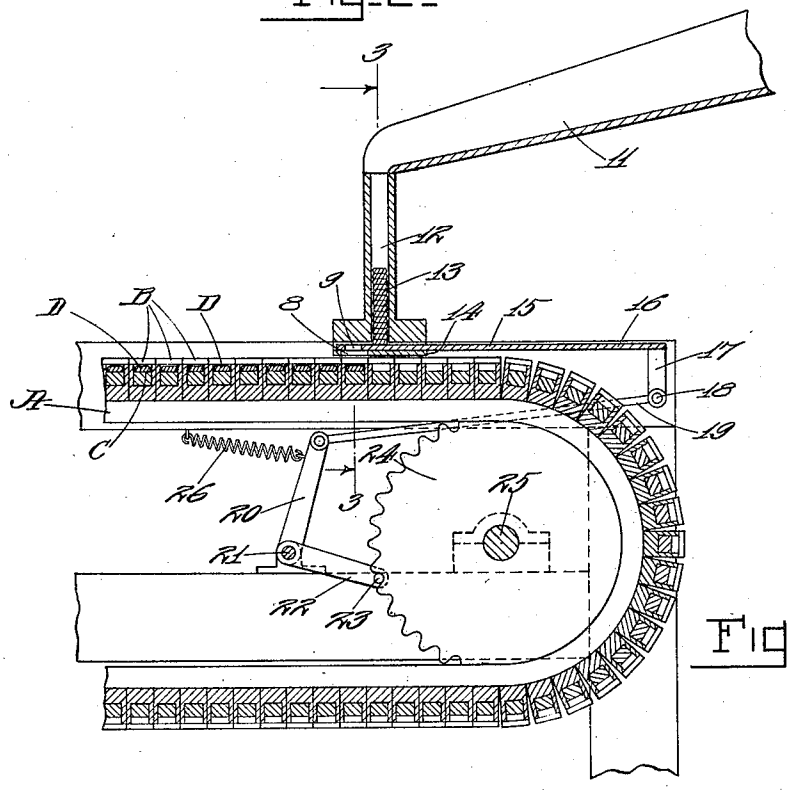



Fig. 1.

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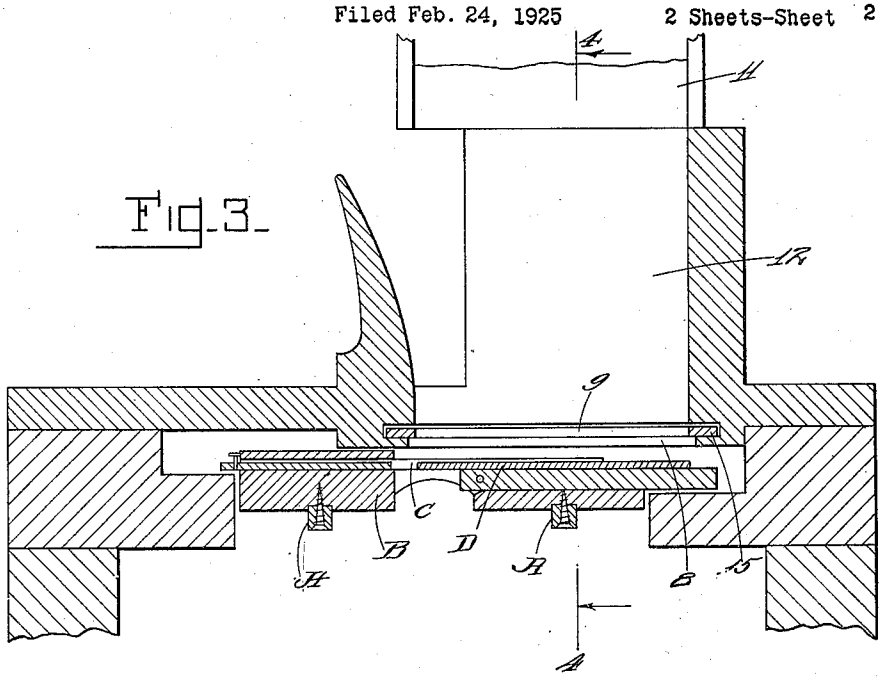
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Fig. 3.



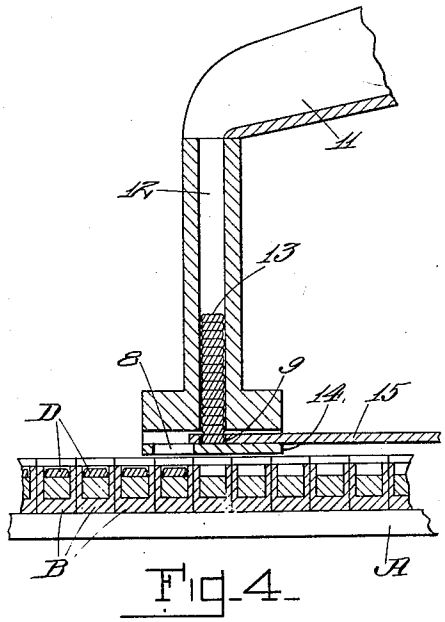




Fig. 4.

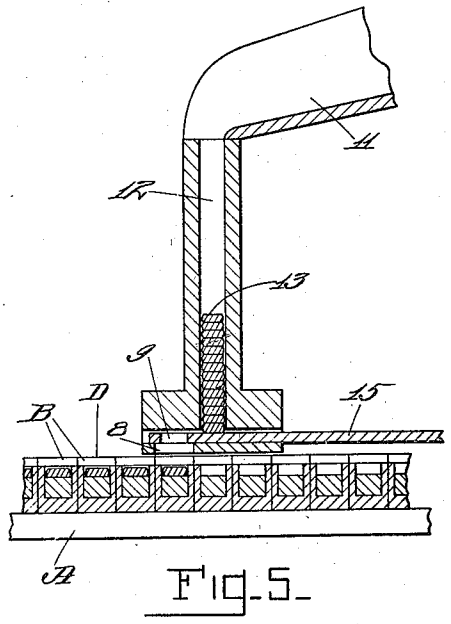



Fig. 5.

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# UNITED STATES PATENT OFFICE.

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## HANDLE-FEEDING MECHANISM FOR BRUSH MACHINES.

Application filed February 24, 1925. Serial No. 11,091.

The present invention has for its object to provide automatic means for feeding handles of brushes or other similar articles to machines, which machines have an inlet belt or conveyor carrying pockets or cells within which the articles to be operated upon are loosely received. Heretofore the work performed by this mechanism has been done by hand and has, therefore, been a source of expense.

The invention will be fully understood from the following description when taken in connection with the accompanying drawings and the novel features thereof will be pointed out and clearly defined in the claims at the close of this specification.

In the drawings:

Fig. 1 is a vertical section (taken on line 1—1 Fig. 2) of the mechanism embodying our invention, the same being shown in connection with the endless chain of the machine with which it is employed.

Fig. 2 is a top plan view of the parts shown in Fig. 1.

Fig. 3 is a section taken on line 3—3 of Fig. 1.

Figs. 4 and 5 are sections on line 4—4, Fig. 3, to illustrate the different positions of parts of the machines.

Referring now to the drawings:

At A is shown a conveyor in the form of an endless belt or chain provided with a series of cells or containers B each of which is open on the top as shown at C to receive a brush handle or back D, the same being loosely contained in the cell. Being open on the top the brush back can be dropped into the cell.

In the drawings, we have shown the machine as operating on tooth brush handles but it will be understood that it is capable of use in connection with articles of other forms. The brush handles pass down a spout 11 to a vertical passage 12 in which they are stacked, as shown at 13. The stack is located over the conveyor A at one end thereof and beneath the stack is a fixed supporting plate 14 having a slot 3 which is not in line with the stack. It will, therefore, be seen, see Fig. 4, that the stack rests on a supporting plate 14 and cannot fall by gravity into the cells in the endless chain. At 15 is shown a slide having a slot 9 therethrough which slot is of the size and shape to permit one of the brush handles to pass through it bodily. The slide is provided with a tail or guiding member 16 on the underside of which is a lug 17 connected by a rod 18 to links 19. The forward ends of the links 19 are connected to arms 20 of a rock shaft 21, the other arm 22 of said rock shaft being provided with a cam roll 23 which engages the teeth of one of the sprockets 24 which move the endless chain A, said sprocket being mounted on shaft 25. The sprocket therefore acts as a cam to move the slide in one direction, the return movement being effected by a spring 26. The slide 15 is moved from the position underneath the stack 13, see Fig. 4, to the position in registration with the slot 8 once while the shaft 25 moves the endless chain the width of one cell. The bottom handle in the stack 13 drops into the slot 9 in the forward end of the slide 15 and the stack then rests on the plate 14. The forward movement of the slide 15 pushes one of the handles D out from under the stack, and the stack then rests on the slide 15, as shown in Fig. 5. Just as the slide 15 reaches the forward limit of its movement it comes over the slot 8 in the plate 14 and the handle drops through into whichever cell B there happens to be below the slot 8. The slide then returns to its former position and the operation is repeated.

Since the handles are slightly rounded on the edge, as shown in the figures, and since the slide 15 has a thickness exactly equal or slightly less than the thickness of the handle, the slide does not strike any blow on the handle and the machine operates smoothly and very rapidly.

What we claim is:

1. The feeding mechanism for a machine of the character described comprising a continuously moving endless chain having a series of cells to receive the articles to be fed, a stack for said articles, a rest for the articles in the stack interposed between the stack and the endless chain and having a slot therein out of line with the stack but in registration with one of said cells, and a slide between the stack and the rest, said slide being moved in time with the conveyor to register in one position with the stack and in another position with the slot in the rest, the articles in the stack in said

second position being supported on the slide.

2. The feeding mechanism for a machine of the character described comprising a continuously moving endless chain having a series of cells to receive the articles to be fed, a cam rotatable in time with the movement of said endless chain, a stack for said articles, a rest for the articles in the stack interposed between the stack and the endless chain and having a slot therein, a slide between the stack and the rest having a slot, and means actuated by said cam to move the slide to bring the slot therein out of registration with the stack and into registration with the slot in the rest.

In testimony whereof we affix our signatures.

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