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DEVICE FOR MAKING STRINGS OF PRESSED ARTICLES

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It is an object of the invention to produce as a new article of manufacture pressed articles, e.g., the well-known moth balls, which are arranged on a thread, a wire, a cord, a ribbon or tape or in general a line in regular distances. Moth balls in such an arrangement can be handled easily. They can be hung up e.g. in greater numbers together in cabinets, on clothes etc.

It is a further object of the invention to provide for a machine for producing the said strings of pressed articles in which the line is guided in such a manner that it really will lie in the axis of each pressed article, whereas at the same time a regular succession of articles at regular distances will be obtained.

Another object of the invention is to provide for a machine as indicated which will have a high capacity, i.e., in which the articles are pressed and the strings are manufactured at a high velocity.

In the drawings:

Fig. 1 is an elevational view of the main part of the machine.

Fig. 2 is a side view from the left in Fig. 1.

Figure 3 is a vertical sectional view of the machine taken along broken lines A—B in Figure 1.

On a horizontal shaft 1 a wheel- or disk-shaped cylinder is mounted, which is composed of two parts 2 and 3, which are put one against the other and are interconnected e.g. by screws 4. Each of the members 2 and 3 has in regular distribution on the common plane of contact half cylindrical cavities, which form together the matrix cavities 5 in the circumference of the cylinder 2, 3. There is no contact between the cylinder members 2 and 3 along the circumference, i.e., between two successive cavities 5 there is only contact in the area 6 adjacent the screw 4 and outside of this area a slot 7 is left free.

In each of the cavities 5 lies a plunger 8, which is made as a matrix. The inner ends of the plunger 8 abut against a stationary disk 9, which has a somewhat eccentric position relative to the cylinder 2, 3 and its shaft 1 (centre 10). The plungers 8 are kept in contact with the said guiding disk 9 by means of springs 11. During rotation of the cylinder 2, 3 the plungers 8 will glide along the periphery of the guiding disk 9 and as a result they will be moved periodically inwardly and outwardly in the cylinder 2, 3 in such a manner, however, that at the top (corresponding with the filling and pressing position) they will have their maximum inward position, whereas at the bottom (at the delivery point of the tablet), they are moved outwardly to their maximum extent. By means of rotating the guiding disk 9 exact dosing can be obtained, i.e. the dimensions of the tablets can be controlled.

At the top a filling hopper 12 fits on the cylinder 2, 3. This hopper is provided with a stirring device 13. The hopper 12 is filled with powdered material and every time a cavity 5 in the cylinder 2, 3 passes underneath this hopper 12, it will be filled up with this powder substance.

The cylinder 2, 3 is rotated in a step by step movement in the direction of the arrow 14. The driving mechanism therefore is not shown. It may be constituted by a pawl device. Each step must be exact so as to bring periodically a cavity 5 opposite the die 15 moving up and down continuously. In this position the cylinder 2, 3 also must be latched during the working stroke. The latch mechanism is not shown.

In the direction of rotation of the cylinder 2, 3 (arrow 14) a thread 17 coming from a bobbin is introduced into the slot 7 between the members 2, 3, before the hopper 12. This thread thus always will pass through the axis of the cavities 5 and will be supplied with material at the bottom (at the delivery point 16).

After these cavities 5 are filled up from the hopper 12 the contents are compressed immediately by the die 15 so that a tablet will be formed, which sticks to the thread. During further rotation of the cylinder 2, 3 the tablets thus formed are pushed outwardly until they leave the cavities 5 at 16. The string 20 is delivered here.

When a very inextensible thread 17 is used, the stroke of the die 15 may increase the tension in this thread to such an extent that the thread could break. Then it will be necessary to take care that always some play will be in the thread between two successive cavities. This may be obtained by means of thread guiding members as are diagrammatically illustrated at 21. Such a member is formed by a pin, which is movable against the thrust of a spring 24 in a direction transverse to that of the thread. This pin comprises a projection 22, which engages the thread 17. Just after a tablet has been pressed and still before the next tablet will be pressed, the pin immediately following the tablet pressed already meets a cam ridge, which causes the pin to be lifted with the result that the projection 22 draws some play into the thread 17.

What we claim is:

1. A machine for the manufacture of pressed articles arranged on a string-like member in regular distances, comprising a cylinder arranged for step by step rotation about its axis and pro-
vided in its circumferential surface with matrix-cavities and with an uninterrupted slot running across the said cavities, a stationary filling station opposite one point of the said surface and a reciprocable die at a stationary position opposite another point of the said surface acting radially to said surface, and guiding members for the string-like member being provided within the said slot between successive matrix-cavities, said guiding members being arranged for movement in a transverse direction of the slot, so as to provide for some play in the string-like member between two matrix-cavities.

2. In a machine for the manufacture of pressed articles on a string, in combination, a rotatable cylinder having matrix-holes arranged along its surface, feeding means disposed to face said surface and said holes, a channel in said surface disposed concentrically to said cylinder and arranged to traverse said holes, means for feeding a string element into said channel, said element being adapted to travel with and in the direction of the rotation of said cylinder, a reciprocable die located in a stationary position opposite said surface and said holes, said die being adapted to radially, intermittently enter in, and withdraw from successive ones of said holes, spring plungers in said holes acting radially outward against said die, string guiding means in said cylinder, said string guiding means being disposed at and transversely to said channel, and ejection means stationarily disposed within said cylinder adapted to glidingly engage the inner ends of said spring plungers.

3. In a machine for the manufacture of pressed articles on a string, the combination according to claim 2 wherein said string guiding means comprise a plurality of pins having pinheads adapted to be movable resiliently against the thrust of respective springs, said pins and said springs being disposed so as to project transversely into said channel, said pinheads engaging said string element so as to draw play into the same.

4. In a machine for the manufacture of pressed articles arranged on a string the combination according to claim 2 wherein said ejecting means comprise a drum stationarily disposed within said cylinder so as to be placed eccentrically and stationary with respect to said cylinder, the inner ends of said plungers glidingly abutting the surface of said drum whereby said plungers are gradually radially raised towards said surface of said cylinder, expelling articles which may be located in said matrix holes together with said string element connected thereto.

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