FIG. 2
POWDER-COMPRESSING MACHINES
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1 Claim. (Cl. 18—16)

This invention relates to powder-compressing machines, such as are used for example in the compression of cosmetic powders into cakes for putting into powder compacts.

In the compressing of powder, it is necessary in the compressing device to provide means for escape of the air contained in the loose powder, when the bulk of the powder is reduced during the compression action. It is the object of the present invention to provide an improved construction of compression head whereby an escape path for the expelled air is provided in a simple and convenient manner.

According to the present invention, a compression head for a powder compressing machine, that is to say a fixed member against which a quantity of powder may be compressed by any suitable compressing device, comprises a rigid block, and two or more layers of sheet material arranged in contact and against a pressure face of the block to receive the powder forced against it, the layer adjacent the powder being made of porous material. When pressure is applied to the loose powder to force it into a cake, for example in a shallow receptacle known in the art as a "godaet," the air escapes laterally through the layer of porous material and emerges at the edges thereof.

In order that the powder-contacting layer may be made of relatively thin material, without preventing the escape of the air, the second layer is preferably also made of porous material. By way of example, the powder-contacting layer may be made of thin and relatively cheap paper strip, and the second layer of a strip of woven nylon.

Means are advantageously provided for presenting a fresh portion of the powder-contacting layer from time to time, e.g. at each time of compression of powder against the block. Such layer may be in the form for example of a roll fed from a feed roll past the pressure face of the block to a take-up roll, means being provided to shift the layer at each time of operation of the compressing means.

In one convenient form of construction the take-up roll is coupled by a uni-directional drive device to a member reciprocated in synchronism with the compression of the powder.

The second layer may also be shiftable to present a fresh portion at the pressure face of the block from time to time. However, it is not normally necessary to change the working position of the second layer except at infrequent intervals, and as the nylon which is conveniently used for this purpose is costly a considerable reduction in working costs is thereby obtained.

In order that the nature of the invention may be readily ascertained, part of a construction of powder-filling machine is hereinafter particularly described with reference to the figures of the accompanying drawings, wherein: Fig. 1 is a front elevation; Fig. 2 is a side elevation, partially in section.

In these figures, the apparatus includes a stationary machine frame having a front portion 2 arranged to over-hang the edge area of a rotary horizontal platform or table 3 rotatable about an axis situated at a point off the extreme
It is found in practice that the nylon strip 17 can stand up to a large number of operations before it becomes cut or otherwise damaged, and accordingly need only be shifted from time to time by the operator of the machine, this being performed for instance by turning the take-up roller 16 by hand.

In this way, the relatively expensive nylon strip is preserved to the utmost. On the other hand, the paper strip 18 can be of a common type readily available on the market at a low price which is such that there is no appreciable extra cost in production involved in the use of a fresh portion for each time of filling a receptacle with powder.

I claim:

In a machine for the filling of godets with a cake of compressed cosmetic powder, a machine frame, a horizontal rotatable table, mounted on the frame and having a plurality of bores with vertical axes, a plurality of compression plungers arranged one in each bore of the table and serving to carry a godet, means for inserting a charge of loose cosmetic powder in the bores above the godet, a block arranged above the table and positioned so that by rotation of the table the bores therein may be brought in turn in alignment beneath a face of the block to close the upper end of the bore, means for raising the plungers in their bores to compress the powder therein, a strip of paper arranged across the closing face of the block to be contacted by the powder, said paper permitting the passage of air normal to its surface over the whole area of the end of the bore but preventing the passage of powder, means for moving said strip in step by step motion across the face of the block in synchronism with the rotation of the table to present a fresh piece of paper at each compression operation, and a second layer of porous woven material disposed between the paper and the block to support the paper strip during compression and allow escape latterally of air forced through the paper during compression of the powder.

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