The present invention relates to an improvement in string molding presses for pasty masses, and especially brick material. According to the invention, the string molding press comprises a casing open on top and provided with plane cross walls, partly curved side walls, a nozzle, a rotary drum nearly filling up the casing, slides adapted to move in longitudinal slots of the drum, and guiding paths on the cross walls of the casing, by means of which, during the rotation of the drum, the slides are moved out against the curved portion of the side walls and back against the drum.

The string press according to the invention affords the advantage of being suited for pasty masses of any kind, and another feature is that it can be operated without regard to the properties of the clay used for making bricks. The material is not heated during its passage through the string press, and the consumption of power is, therefore, relatively low. Lateral tightening of the drum offers no difficulties, and other features will become apparent in the course of the description of the machine appended below.

Four embodiments of the invention are illustrated in the accompanying drawing, in which Figure 1 is a cross section of a string molding press according to the invention; Fig. 2, a longitudinal section thereof; Fig. 3, a plan of the same; Fig. 4, a cross section of the drum of a modification, Fig. 5, a cross section of a double string press according to the invention; Fig. 6, a front view of the drum rotating in the casing of a fourth modification and a side view of a guiding path controlling the slides; and Fig. 7, a side view of the drum shown in Fig. 6 with the guiding paths cut in the vertical plane of the axis of the drum and positioned on both sides of the latter.

Referring to the drawings, the casing of the string press according to Figs. 1 to 3 comprises two plane cross walls 1 secured by angle irons to the support and side walls 2, 3, 4, 5 and 6 which are arranged so that the casing remains open on top at 7. The portion 4 is curved cylindrically while the part 5 is partly curved cylindrically and partly plane. The plane portion of 5 and the part 6 limit the conduit leading to the nozzle 3 above and below. Within the casing, in lateral positioned bearings 8 and in bushings 10, a shaft 11 is placed to which a cylindrical drum 12 is keyed on firmly. Between the shell of the drum and the curved portion of the side wall 5 of the casing a clearance is provided. The drum possesses the longitudinal slots 13 extending from one cross surface to the other up to the boss of the drum. In the longitudinal slots the slides 14 are movably arranged and provided with the lateral pins 15. The slides 14 are permitted considerable play in the slots 13, every two oppositely positioned slides being connected by bolts or rods 16. In the walls of the longitudinal slots of the drum the rolls or balls 17 are disposed which are hugged by the slides 14, two pairs of rolls or balls being provided for each pair of slides near the outer edges of the slots. The closed guiding paths 18 are arranged between the cross surfaces of the drum 12 and those of the casing, and the pins 15 of the slides move in the said paths, which are shaped so that the outer edges of the slides are caused to hug the curved portion of the side wall 5, to move back opposite the side wall 6 to the jacket of the drum 12, and thence to push out again from the drum up to the curved portion of the side wall 5.

A stripper 19 is positioned between the conduit leading to the nozzle 3 and the opening 7 of the casing. A feed roller 20 is placed in the bearings 21 and the bushings 22 within the portion 4 of the side wall in the casing and approaches the drum 12 as far as the side wall 5. A stripper 23 hugs the feed roller 20. The two rollers 12 and 20 are rotated in the direction indicated by the arrows 24 and 25 by a gear consisting of the pulleys 26 and the cogwheels 27 and 28.

The string molding press functions as follows:

The mass to be pressed, for instance material to be made into bricks, is charged through the opening 7 and caught and driven in the direction of the arrows 24 and 25 by the roller 20.
tary drum 12 and the feed roller 20 with the cooperation of the slides moving from the stripper 19 to the stripper 23. During further operation, the slides drive the material into the clearance between the drum 12 and the side wall 5 of the casing and, finally, into the conduit in front of the nozzle and through the latter out of the casing. The stripper 19 prevents the material from returning to the opening 7 through which it is discharged in a uniform string owing to the constant motion of a slide in the conduit between the drum 12 and the side wall 5, the angle between the slides, which in the example shown, amounts to 90 degrees, depending on the portion of the casing enclosed by the clearance.

The modification shown in Fig. 4 differs from the one just described in so far as the slides 14 move inwardly from the stripper 19 to the opposite position in the slots, and the curved portion of the side wall 5 almost hugs the circumference of the drum. The amount of material conveyed at each quarter turn corresponds to the holding capacity of the outer portion of the longitudinal slot 13 left free by the slide.

Fig. 5 illustrates a press having two drums, 12, and the paths of the outer edges of the slides 14 of both drums touch one another. The slides of one drum are arranged in staggered relation to those of the other and in this way two string presses, as shown in Fig. 1, are positioned in one casing without a feed roller. The drums rotate in opposite directions and convey to separate nozzles.

In the drum 12 rotating in the casing and illustrated in Figs. 6 and 7 the slides 14 are radially movable in the slots 13 and connected by the rods 16. The slides are controlled by the cams 15 sliding during the rotation of the drum on the guide paths 18 which extend over the lower half and a portion of the upper half of the casing and consist of internally curveform rim pieces positioned on annular ribs 35 of the cross walls of the casing so that they can be displaced in circumferential direction and held in the desired position by means of the clamp screws 36 screwed into the face walls of the casing and passing through slots 37 in the rim pieces 18. By means of the thrust screws 38 screwed through the face walls of the casing the rims 18 can be pressed more or less on to the faces of the drum 12 so that sufficient tightness is provided for.

As the oppositely arranged slides are rigidly connected with one another, each slide need to be moved by the guide paths into the inside of the drum at the circumferential distance A—B only, whereby, simultaneously, a radial displacement of the oppositely positioned slide out of the drum takes place. As the guide paths exceed in length the necessary control paths, wear of the surfaces sliding on one another can be compensated by adjusting the rims 18 on the annular grooves 35 in a direction opposite to that of the rotation of the drum so that point A of the guide path rims occupies, for example, the position of point A' and point B that of point B'. By a similar displacement of the guide path rims in, or opposite to, the direction of rotation of the drum, the position of the slides relative to a certain position of the drum 12 can be altered to adapt the positions of the slides to the nature of the material to be worked.

I claim:

1. String molding press for pasty masses, especially brick-material, comprising a casing open on top with plane cross walls, partly curved side walls, a nozzle, a rotary drum nearly filling up the said casing, slides adapted to move in longitudinal slots of the said drum and being smaller than the width of the said slots, and guide paths provided on the cross walls of the casing and adapted to move said slides during rotation of the said drum out against the curved portion of the side walls and back again into the said drum.

2. String molding press for pasty masses, especially brick-material, comprising a casing open on top with plane cross walls, partly curved side walls, a nozzle, a rotary drum nearly filling up the said casing, slides adapted to move in longitudinal slots of the said drum and being smaller than the width of the said slots and guided by rolls or balls arranged in the walls of the longitudinal slots of the said drum, and guide paths provided on the cross walls of the said casing and adapted to move the said slides during the rotation of the said drum out against the curved portion of the side walls and back again into the said drum.

3. String molding press for pasty masses according to claim 2, in which every two oppositely arranged slides are connected by rigid rods and each pair of slides so connected is guided only by two pairs of rolls or balls.

4. String molding press for pasty masses, especially brick-material, comprising a casing open on top with plane cross walls, partly curved side walls, a nozzle, a rotary drum nearly filling up the said casing, slides adapted to move in longitudinal slots of the said drum and being smaller than the width of the said slots, guide paths provided on the cross walls of the said casing and adapted to move the said slides during the rotation of the said drum out against the curved portion of the side walls and back again into the said drum, a feed roller arranged at the upper edge of the curved portion of the cross wall of the casing, and means for rotating the feed roller in a direction opposite to that of the said drum.

5. String molding press according to claim
4 with a stripper hugging the feed roller on the edge of the casing.

6. String molding press for pasty masses, especially brick material, comprising a casing open on top with plane cross walls, partly curved side walls, two nozzles facing in opposite directions, two drums in said casing and rotating in opposite directions and provided with slides disposed in staggered relation to one another and adapted to move in longitudinal slots in said drums, and guide paths provided on the cross walls of the casing and adapted to move said slides during rotation of said drums out against the curved portion of the side walls and back again into said drums.

7. String molding press according to claim 1, the guiding paths of which are adjustable relative to the face walls of the casing.

8. String molding press according to claim 1, the guide paths of which consist of internally curviform rims positioned on annular guides on the face walls of the casing and adapted to be displaced and fixed in circumferential direction.

9. String molding press according to claim 1, the guide paths of which consist of internally curviform rim pieces positioned on annular guides on the face walls of the casing and adapted to be displaced and fixed in circumferential direction.

10. String molding press according to claim 1, the guide paths of which consist of internally curviform rim pieces occupying only a portion of the circumference of the casing and being positioned on annular guides on the face walls of the casing and adapted to be displaced and fixed in circumferential direction, and in which every two oppositely arranged slides are rigidly connected with one another.

In testimony whereof I affix my signature.

KARL HÄNDLE.