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This invention relates to vertical presses for packing loose materials, such as strip tobacco, into containers, such as hogsheads and the like. More particularly, the invention is concerned with novel means in such presses for feeding and distributing the loose material just prior to the pressing action.

This apparatus provides for the filling and pressing of a hogshead without any moving of the hogshead, whereas in some prior installations it has been the practice to substantially fill the hogshead and then remove it from the press to weigh it. Such procedure has sometimes required a repetition of such steps. According to this invention, the hogshead need not be moved upwardly as in some installations. Instead the press plunger travels and this arrangement reduces to a minimum the task of incorporating a weighing scale with the hogshead supporting and pressing means.

In pressing loose material into containers, and especially in the packing of strip tobacco into hogsheads, it has been found that if the material is merely fed uniformly into the container, the finished pack often has a central portion of greater density than the outer portion. Where the pressed material is to be subsequently treated with a fluid, the development of a more dense central portion or core is particularly disadvantageous because it prevents the treating fluid from contacting the material uniformly throughout the entire pack. To overcome this disadvantage, it has been proposed to distribute the loose material around the sides of the container into which it is to be pressed, thus compensating for the aforementioned tendency of the material to build up at the center of the pack.

The present invention provides novel means in a vertical press whereby the loose material to be packed is distributed annularly about the presser head, when the presser head is at the end of its stroke, so that the material is thus fed into its container along a tubular path concentric with the presser head. Unlike previous devices proposed for feeding material in vertical presses, the present invention is unique in that the distributor of the feeding means is never interposed in the path of the presser head, but at all times is located above the presser head.

The invention includes a rotary distributor or guide which is arranged for rotation about the vertical press shaft as a central axis, this guide being positioned above the presser head and having a lateral discharge opening which is preferably on a vertical line above the periphery of the presser head. The invention further includes means for feeding the loose material into the guide and directing the material outwardly through the discharge opening, and driving means for rotating said guide as the material is fed thereto.

In a preferred embodiment of the invention, the presser head is rotatable on the press shaft, and the distributor or guide is carried directly by the presser head, so that both the guide and the presser head are rotated.

In order that the invention may be understood in detail, reference is had to the accompanying drawings which form a part of this specification, and wherein:

Fig. 1 is a front elevational view of a pair of tobacco packing presses constructed in accordance with a preferred embodiment of the invention;

Fig. 2 is a side elevation, on somewhat larger scale, of the structure shown in Fig. 1;

Fig. 3 is a partial plan view of the structure shown in Fig. 1;

Fig. 4 is a vertical sectional view of the presser head and distributor assembly employed in each of the presses shown in Fig. 1;

Fig. 5 is a horizontal sectional view taken on the line 5–5, Fig. 4;

Fig. 6 is a front elevational view of a material directing partition or trough employed in the assembly shown in Fig. 4;

Fig. 7 is a vertical elevational view, partially in section, of a portion of a press unit similar to Fig. 1, but including a modified form of rotary distributor and distributor driving means, and

Fig. 8 is a plan view of the device shown in Fig. 7.

In Fig. 1, a preferred embodiment of the invention is illustrated as applied to a dual down press strip tobacco packing assembly. Each press A and B of the assembly comprises a vertical charging tube or cylinder 1, a vertically reciprocable press shaft 2 coaxially aligned with the charging tube, a presser head 3 carried by the shaft 2 for reciprocation therewith through the charging tube, and a conventional hydraulic cylinder 4 arranged to reciprocate the shaft and presser head relative to the charging tube. A hogshead 5 to be filled is supported beneath the charging tube 1 by a dolly 6, the dolly resting on a weighing scale platform 7 so that the hogshead and its contents can be weighed while being packed. It is thus clear that the hogshead need not be removed for weighing, which has been a troublesome requirement heretofore.
As will be hereinafter more fully described, loose tobacco is fed into the charging tube around the raised presser head, so that the charging tube guides the tobacco into the hoghead. In order that the tobacco may not escape, and so that, before each press stroke, a relatively large volume of loose tobacco may be built up in the charging tube above the hoghead, as well as in the hoghead, the bottom 3 of the charging tube must engage with the top of the hoghead. Thus, the charging tube must be capable of being raised to allow the hoghead to be moved in and out. Accordingly, the tube 1 is supported entirely by two sets of four side flanges 9 arranged with one set at the upper portion and the other set at the lower portion of the tube. Each of these flanges 9 is equipped with a pair of rollers 10 engaging in an inwardly facing surface of one of the vertical angle iron frame members 11 of which latter there are four arranged in a rectangular group, considered in plan. Each of two of the frame members 11 on opposite sides of the tube 1 carries a hydraulic motor cylinder 12 having a piston rod 13 engaging an extension 14 on the inner charging tube flanges 9. Thus, the vertical frame members 11 constitute trackways which guide the charging cylinder 1, and the charging cylinder can be raised and lowered by means of the hydraulic motor cylinders 12, to allow the hoghead 5 and its dolly 6 to be moved into and out of position in the press.

It will be noted that the charging tube 1 includes a main body portion 15 having an internal diameter only very slightly larger than the diameter of the presser head 3, so that the presser head subassembly can be moved in and out of the tube 15, and also is provided with an enlarged top portion 16 having an internal diameter considerably greater than the diameter of the presser head and being arranged concentrically with the main body portion 15.

As shown in detail in Fig. 4, the presser head 3 is mounted on the press shaft 2 by means of a bearing such that the presser head is reciprocable with the press shaft but is rotatable about the shaft as an axis. The presser head itself includes an upstanding central tubular collar 17, an outer annular upstanding flange 18, and radially extending reinforcing ribs 19. A tubular bearing sleeve 20 is fitted into the collar 17 as shown, and is provided with a flange 21 secured to the collar 17, as by the screws 22. At its upper end, the bearing sleeve 20 is provided with an interior plain bearing surface 23 engaging the press shaft 2. In a suitable annular recess in the lower end of the sleeve 20 there is mounted a conventional radial-thrust ball bearing assembly 24 secured by a locknut 25. As shown, the bearing 24 is capable of supporting the downward thrust of the presser head when the presser head is free from the work, but allows relative longitudinal movement between the presser head 3 and the shaft 2 on the downstroke of the press, so that the working load is transmitted between the presser head and the shaft by substantially direct contact, rather than through an interposed bearing. An antifriction shim 26 may be provided between the lower end of the shaft and the presser head.

Secured to the outer annular flange 18, and extending vertically above the presser head, is an open-top cylindrical distributor hopper or chute 27. This hopper 27 is so named because it receives and distributes the material to be packed or treated. Its outer vertical wall is a cylindrical shell. Its floor 28 in the lower portion of the cylindrical wall. It will be understood that the hopper 27 not only distributes but it also guides the material to a peripheral packing zone. The hopper is in fact a rotatable chute located within the charging tube. At its lowest point, the opening is positioned on the periphery of the presser head 3. In order that the opening 28 may be so positioned, the annular flange 18 is cut away at the corresponding location as shown.

The floor 29 of the hopper 27 is a partition extending across the hopper and arranged to receive the loose tobacco fed through the top of the hopper 27 and to direct the tobacco outwardly through the discharge opening 28 as the hopper is rotated. As seen in Figs. 4–6, the floor 29 constitutes an oblique trough which is generally circular in plan, having a high point located at the upper rim of the hopper 27 diametrically across from the discharge opening 28, and slanting downward sharply toward the discharge opening. At its lowermost portion, the floor 29 includes a semi-circular lip 30 which coincides with the lower half of extension 14 on the inner charging tube flanges 9. From this lip the side walls of the trough extend vertically upward, as at 31, lying snugly against the inner surface of the hopper 27. At its center, the floor 29 is provided with an opening 32 and an upstanding tube 33, both being free from but coaxial with the press shaft 2. Thus, loose material fed through the top of the hopper 27 passes freely downward across the sloping floor 29 and is directed thereby outwardly through the discharge opening 28.

It will be noted that, in this embodiment of the invention, the hopper 27 is rigidly supported so to, and travels with, the presser head 3. It is therefore necessary to provide driving means for rotating the presser head and the hopper, which drive means must be operatively engaged when the presser head is in its initial position, at the top of its stroke, but capable of being automatically disengaged as the presser head begins its downstroke. To accomplish this, a tapered friction ring 34 is secured to the upper rim of the hopper 27 as shown in Fig. 4. As seen in Figs. 2 and 3, a conventional gearhead electric motor 35 is suitably engaged with the frame of the press and carries on its driving shaft a generally conical friction drive member 36. It will be understood that reciprocation of the press shaft 2 causes the hopper 27 to move vertically in substantially a straight line. Thus, the motor 35 and its drive element or cone 36 are so located by the motor mounting on the press frame that, as the presser head completes its upward stroke, the tapered friction ring 34 on the upper rim of the hopper 27 is automatically brought into frictional engagement with the driving cone 36, so that rotation of the cone 36 by the motor 35 accordingly results in rotation of the hopper 27 and presser head 3 about the shaft 2. An idler roller or cone 37 with its shaft freely rotatable in a suitable bearing mounted on the upper frame of the press, is provided at a point diametrically opposite to the hopper 27 from the drive cone 36, to assist in positioning the upper rim of the hopper 27.

In the assembly illustrated in Fig. 1, the two press units A and B are employed, in order that one unit may be operated through a pressing cycle while material is being fed into the other. Both press units are fed by a single conveyor system which, as seen in Figs. 1 and 3, includes a main endless delivery conveyor 38 and an end-
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less cross-conveyor 39 arranged to receive the tobacco from the conveyor 38 and deliver it to one or the other of the press units. While the conveyor 35 is driven continuously in one direction, the conveyor 39 is driven selectively in either direction, as by the belt drive 40 and reversible motor unit 41, Fig. 1. Beneath each end of the cross-conveyor 39 is a stationary chute 42 positioned to receive the tobacco from the cross-conveyor and feed it into the open top of the corresponding hopper 27. The arrangement of the invention just described as used in packing strip tobacco is as follows: Tobacco is fed continuously to the cross-conveyor 39 by the conveyor 38. Assuming that the motor unit 41 is controlled to drive the conveyor 38 to feed to the press unit A, shown at the left, it will be seen that the tobacco is then fed through the corresponding chute 42 into the open top distributing hopper 27. The presser head 3 being in its raised or initial position, the friction ring 34 is in contact with the driving cone 36. Motor 35 being driven, the driving cone 36 operates to rotate the hopper 27 and the presser head 3 about the shaft 2. As the loose tobacco descends from the chute 42, it falls upon the sloping floor 29 and is thereby directed outwardly through the discharge opening 28 into the enlarged portion 16 of the charging cylinder, from whence it falls through the main portion 15 of the charging cylinder into the hoghead 5. Since the hopper 27 is being continuously rotated as the tobacco is directed out of the discharge opening, it will be seen that the point of discharge of the tobacco is continuously moved in a circular path, so that the discharged tobacco then falls in a tubular stream through the charging cylinder. Stated differently, the point of discharge of the hopper continually traverses the annular space between the annularities of the presser head 3 and the inner surface of the enlarged portion 16 of the charging cylinder, thus distributing the tobacco in a tubular stream. Feeding of the tobacco in this manner is continued until a sufficient mass is built up in the hoghead 5 and the portion 15 of the charging cylinder, the flange 8 of the cylinder of course being engaged with the top of the hoghead. The cross-conveyor 39 is then reversed, so as to feed tobacco similarly to the opposite press unit B. Upon reversal of the cross-conveyor, and resultant stopping of the feeding in press unit A, the hydraulic cylinder 4 is then actuated to force the press shaft and its presser head downwardly through the charging tube, so that the presser head enters the hoghead and packs the collected mass of tobacco. The hydraulic cylinder 4 is then operated to withdraw the presser head to its initial raised position. When a sufficient mass of loose tobacco has collected in press unit B, the cross-conveyor 39 is again reversed, feeding to press unit A, and the same pressing cycle just described is carried out in unit B. This procedure is continued until the two hogheads are completely filled.

Since the loose tobacco is fed through the annular space between the presser head 3 and the enlarged portion 16 of the charging cylinder, the tobacco falls in a tubular stream concentrically about the walls of the charging tube and hoghead. Thus, in the hoghead, the tobacco builds up annularly, and after pressing, the resulting compacted mass of tobacco is not only free from the undesirable hard central core previously mentioned but definitely has a soft core.

As seen in Fig. 3, the press unit is provided with a head frame 43 comprising side members 44, and central cross members 46. The power cylinder 4 is mounted in any suitable conventional manner on the cross members 46, so as to center the press shaft 2 relative to the charging cylinder 1. The head frame 43 also carries the motor assembly 35 and the idle roller 37, these elements being properly positioned on the head frame for alignment along the line of travel of the friction ring 34 on the distributing hopper 27, so that, when the presser head is at the top of the upstroke, the rollers 36 and 37 are brought into operative engagement with the friction ring 34. The cross-conveyor 39 and the delivery chute 42 may be supported in any suitable conventional manner by the head frames of the two press units A and B, in the position seen in Fig. 1.

In the embodiment of the invention just described, it will be noted that the distributing hopper 27 is rigidly secured to the presser head 3, and reciprocates with the presser head during operation of the press, being disengaged from the driving means for rotating the hopper when the down-stroke of the press begins, and automatically engaged therewith when the up-stroke is completed.

In Figs. 7 and 8 there is illustrated a modification of the distributing hopper and drive means, wherein the shell is supported at all times by its rotary driving means and entirely free from the presser head. Referring in detail to Figs. 7 and 8, it will be seen that the main vertical frame elements 111 of the press, the press shaft 102, the hydraulic cylinder 104, and the head frame 145 remain just as described in the earlier embodiment. The distributing hopper 127 again comprises an open top vertical cylindrical shell having a lateral discharge opening 128. An oblique floor 129 is again situated within the hopper 127 in a position to receive loose tobacco or the like fed through the open top of the hopper and direct the tobacco outwardly through the discharge opening. But, in the present embodiment of the invention, the hopper 127 is entirely disconnected from the presser shaft 102.

As seen in Fig. 7, the friction ring 134 at the upper edge or rim of the hopper 127 is located on the outside of the hopper and is tapered outwardly from the bottom to the top. Mounted on the head frame 143 in suitable bearings are short vertical shafts carrying a pair of idle roller or cones 137. Also carried by the head frame is the rotary driving motor 135, the vertical shaft of which carries a friction roller or cone 136. The rollers 136 and 137 taper oppositely from the friction ring 134, that is, outwardly from top to bottom. As best illustrated in Fig. 8, the three rollers 136 and 137 are spaced equidistant about the periphery of the friction ring 134 in such a manner that the weight of the hopper 127 maintains the friction ring continually in operative engagement with the three rollers, and the hopper is thus supported from the head frame 143 through the friction ring, the rollers, and the respective vertical shafts carrying the rollers. The position of the rollers 136 and 137 is made such that they locate the hopper coaxially with the press shaft 102, with the lower edge of the hopper 127 maintained at a point just above the maximum raised position of the presser head 103. Thus, at the end of the up-stroke of the
press, the presser head is positioned immediately below the hopper 127, and loose material may be fed through the open top of the hopper, the hopper simultaneously being rotated by the motor 135 and the friction drive comprising rollers 131 and 136 and the friction ring 134, so that the loose material will be fed or distributed about the periphery of the presser head adjacent the enlarged portion 116 of the charging cylinder 101. Thus, the tobacco, or other loose material which is to be packed, falls in an annular path adjacent the walls of the charging cylinder, just as was the case with the embodiment of the invention described with reference to Fig. 1. However, as can be seen in Fig. 7, the presser head is entirely free, and, on the down-stroke of the press, the distributing mechanism remains dependent from the head frame 143.

It will be noted that, in both the embodiment of the invention shown in Figs. 1–6, and that illustrated in Figs. 7–8, the rotary distributing hopper is always located coaxially with the pressure shaft and above the presser head, so that when the presser head is in raised position at the top of the up-stroke, rotation of the hopper about the pressure shaft as an axis feeds the tobacco or other loose material downwardly in a tubular path past the presser head and adjacent the walls of the charging tube. In both cases, the entire distributing means is maintained at all times completely out of the path of travel of the presser head. In this connection, it will be noted that no manipulation of the distributor is necessary, other than simple rotation of the hopper, and this is accomplished simply by energizing the electric driving motor.

It will further be noted that according to both forms of this apparatus, as shown in Figs. 1–6 and Figs. 7–8, the distributor is housed within the apparatus and interiorly of the charging cylinders 18 and 116, and is positioned between the machine to which the loose material is fed to the machine and the presser head. It will also be observed that the distributor covers the upper surface of the presser head and prevents loose material from accumulating on the head.

What is claimed is:

1. In a vertical press for packing loose material, the combination of a vertical charging tube having a cylindrical body and an enlarged top portion concentric with said body, a vertically reciprocable shaft aligned coaxially with said charging tube and carrying a presser head which substantially closes the body of said charging tube, power means for reciprocating said shaft from an initial position, wherein said pressure head is within said enlarged top portion of said charging tube, downwardly through said charging tube and return, a rotary driving guide for rotation of said shaft about the axis of said shaft, means for feeding the loose material into said guide, and means for rotating said guide as the material is fed thereto.

2. In a vertical press for packing loose material, the combination of a vertical shaft, power means for reciprocating said shaft, a presser head mounted on said shaft for reciprocation therewith but being capable of rotation about said shaft as an axis, a material distributor fixed to and extending above said presser head and capable of rotating therewith, and releasable driving means for rotating said distributor and presser head.

3. In a vertical press for packing loose material, the combination of a vertical shaft, power means for reciprocating said shaft, a presser head, bearing means mounting said presser head on said shaft, said bearing means allowing said presser head to rotate about said shaft as an axis but substantially preventing relative axial movement between said presser head and shaft, a material distributing shell fixedly attached upwardly from said presser head, and driving means for rotating said distributing shell and presser head, said driving means being automatically disengageable on the downstroke of the presser head.

4. In a vertical press for packing loose material, the combination of a vertical charging tube, a vertical shaft coaxially aligned with said charging tube, power means for reciprocating said shaft through said charging tube, a presser head secured to said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis, a material distributor mounted on and extending above said presser head, said distributor being capable of free rotation about said shaft, and disengageable driving means for rotating said presser head and distributor.

5. In a vertical press for packing loose material, the combination of a vertical charging tube; a vertical shaft coaxially aligned with said charging tube; power means for reciprocating said shaft relative to said charging tubes; a presser head secured to said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis; an open top material distributing shell secured to said presser head and extending upwardly therefrom, said distributing shell having a lateral discharge opening and means mounted within said shell for directing material outwardly through said opening; means for feeding material into the open top of said distributing shell, and driving means for rotating said presser head and distributing shell.

6. In a vertical press for packing loose material, a vertical charging tube; a vertically reciprocable shaft coaxially aligned with said charging tube; a presser head secured to said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis; power means for reciprocating said shaft from an initial position, wherein said presser head is adjacent the top of said charging tube, downwardly through said charging tube and return, a material distributing guide carried by said presser head, said guide being free to rotate about said shaft with said presser head and being constructed to distribute material downwardly past said presser head in a tubular path; means for feeding material to said guide when said shaft is in said initial position, and driving means for rotating said presser head and guide as material is fed to said guide.

7. In a vertical press for packing loose material, the combination of a vertical charging tube having a cylindrical body and an enlarged top portion concentric with said body; a vertically reciprocable shaft aligned coaxially with said charging tube; a presser head mounted on said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis, a presser head substantially closing the body of said charging tube; power means for reciproc-
8. In a vertical press for packing strip tobacco, a vertical charging tube for directing tobacco to a hoghead or the like, a vertically reciprocable shaft coaxially aligned with said charging tube; a presser head secured to said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis; power means for reciprocating said shaft and presser head through said charging tube; an open top shell secured to said presser head and extending upwardly therefrom, said shell having a lateral discharge opening; means for feeding tobacco into the top of said shell and presser head while tobacco is fed into said shell.

9. In a vertical press for packing strip tobacco, a vertical charging tube for directing tobacco to a hoghead or the like, a vertically reciprocable shaft coaxially aligned with said charging tube; a presser head secured to said shaft for reciprocation therewith but being capable of rotating about said shaft as an axis; power means for reciprocating said shaft from a raised position downwardly through said charging tube and return; an open top cylindrical shell mounted on said shaft and extending upwardly therefrom, said shell having a lateral discharge opening; means mounted within said shell for directing tobacco outwardly through said discharge opening; means for feeding tobacco into the top of said shell and presser head while tobacco is fed into said shell.

10. In a vertical press for packing strip tobacco, the combination of a vertical charging tube; a vertically reciprocable press shaft and presser head assembly, the presser head of said assembly being freely rotatable about its press shaft; frame means guiding the press shaft of said assembly for movement coaxially about said charging tube; a rotary tobacco distributing guide mounted on said presser head and extending therefrom, and rotary driving mechanism carried by said frame means and operativelyengageable with a part of said distributing guide, upon termination of the upstroke of said shaft, for rotating said guide and said presser head.

11. In a vertical press for packing strip tobacco, the combination of a vertical charging tube for directing tobacco to a hoghead or the like; a vertically reciprocable press shaft and presser head assembly arranged coaxially with said charging tube, the presser head of said assembly being freely rotatable about its press shaft; a head frame located above said charging tube; power means mounted on said head frame for reciprocating said press shaft; a rotary distributing guide coaxially with said charging tube, the presser head of said assembly and capable of freely rotating about said press shaft, said head including a lateral discharge opening; means for feeding tobacco outwardly through said discharge opening; a tapered friction ring secured to said shell; friction driving means depending from said head frame and automatically engageable in driving relation with said friction ring upon termination of the up-stroke of said press shaft and presser head assembly; means for rotating said friction driving means to rotate said shell, and means for feeding tobacco into the open top of said shell as said shell is rotated.

12. In a vertical press for packing loose material, the combination of a vertical charging tube having a cylindrical body and an enlarged top portion concentric with said body; a vertically reciprocable shaft coaxially aligned with said charging tube and carrying a presser head which substantially closes the body of said charging tube; a head frame located above said charging tube; power means mounted on said head frame for reciprocating said shaft from an initial position, wherein said presser head is within said enlarged top portion of said charging tube, downwardly through said charging tube and return; a rotary distributing spout having an open top and a lateral discharge opening; means mounting said spout on said frame for rotation about said shaft as an axis, said mounting means positioning said spout in said enlarged top portion of said charging tube at a point above the initial position of said presser head, means for feeding loose material into the open top of said spout, and drive means for rotating said spout.

13. In a vertical press for packing loose tobacco, the combination of a vertical charging tube for directing tobacco to a hoghead or the like, said tube including a cylindrical main body portion and an enlarged top portion of said main body portion, a vertically reciprocable shaft arranged coaxially with said charging tube and carrying a presser head, a head frame located above the enlarged top portion of said charging tube, power means mounted on said head frame for reciprocating said shaft to move said presser head from an initial position within said enlarged top portion of said charging tube downwardly through said charging tube and return, an open top rotary distributing spout depending from said head frame and positioned concentrically within the enlarged top portion of said charging tube, said spout having a lateral discharge opening and being capable of rotating freely about said press shaft as an axis, means for feeding loose tobacco into the open top of said spout, and driving means on said head frame for rotating said spout as tobacco is fed thereto.

14. In a vertical press for packing loose material, the combination of a vertical charging tube having a cylindrical body portion and an enlarged top portion; a vertically reciprocable press shaft arranged coaxially with said tube and carrying a presser head which substantially closes the main body portion of said tube, a head frame located above said tube, power means mounted
on said head frame for reciprocating said shaft to move said presser head from an initial position within said enlarged top portion of said tube downwardly through said tube and return, a rotary distributing spout positioned above said presser head in said enlarged top portion of said tube and having an open circular top and a lateral discharge opening, a friction ring secured about the top of said spout, said ring tapering in cross section from a wide top to a narrow bottom, a plurality of vertical shafts carried on said head frame and extending past said friction rings at points peripherally spaced relative to said rings, conical rollers carried each by one of said shafts and tapering oppositely to said ring, each of said rollers engaging the tapered surface of said friction ring in supporting and driving relation, means for rotating one of said rollers to rotate said spout, and means for feeding loose material into the open top of said spout as said spout is rotated.

15. In a vertical press for packing loose tobacco into hogsheads, a vertical charging tube having a cylindrical main body portion engageable with the open top of a hogshead to feed tobacco thereto, said tube also including an enlarged top portion concentric with said main body portion, a vertically reciprocable press shaft carrying a presser head which substantially closes said main body portion of said tube, power means for reciprocating said shaft to move said presser head from an initial position within said enlarged top portion of said tube downwardly through the main body of said tube and return, a rotary distributing spout having a lateral discharge opening, said spout being located within said enlarged top portion of said tube above said initial position of said presser head with the discharge opening of said spout substantially vertically aligned with the periphery of said presser head, means for feeding material into the open top of said tube and having an open top and a lateral discharge opening, said discharge opening being vertically aligned with the periphery of said presser head, means for rotating said spout for free rotation about said shaft as an axis, drive means for rotating said spout, and means for feeding loose tobacco to said spout as the spout is rotated.

16. In a vertical press for packing loose material, the combination of a vertical charging tube having a cylindrical body and an enlarged top portion concentric with said body, a vertically reciprocable press shaft aligned coaxially with said tube and carrying a presser head which substantially closes the body of said tube, power means for reciprocating said shaft from an initial position, in which said presser head is within the enlarged top portion of said charging tube, downwardly through said charging tube and return, a rotary distributing guide mounted on said presser head for free rotation about said shaft, said guide being positioned above said presser head and constructed to distribute material downwardly past said presser head in a tubular stream as said guide rotates, means for feeding material to said guide when said presser head is in the enlarged top portion of said tube, and driving means for rotating said guide only when said shaft is in said initial position.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

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</tr>
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<td>2,215,736</td>
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<td>Sept. 24, 1940</td>
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