May 6, 1952 A. L. HAND 2,595,576

SMOKING PIPE FILLING MACHINE

Filed Dec. 22, 1949 2 SHEETS—SHEET 1

Fig. 1.

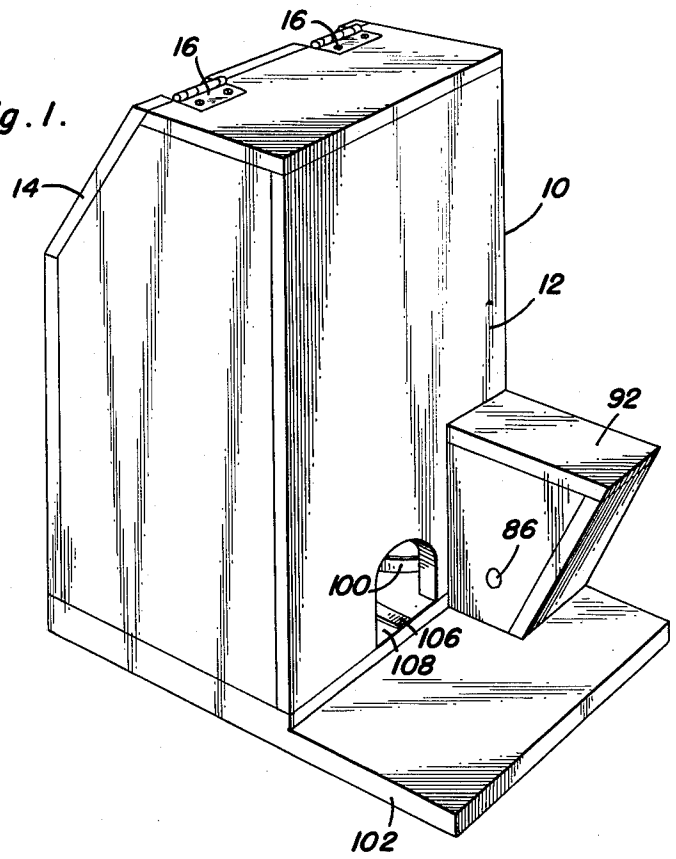


Fig. 6.

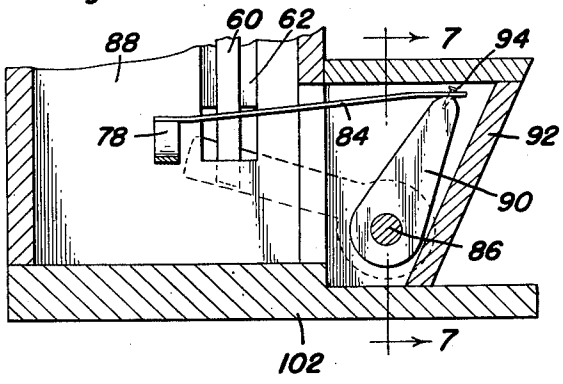
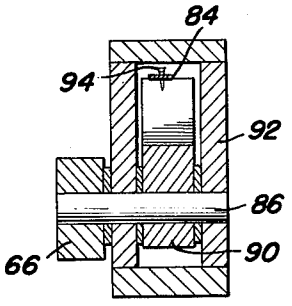


Fig. 7.



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Fig. 2.

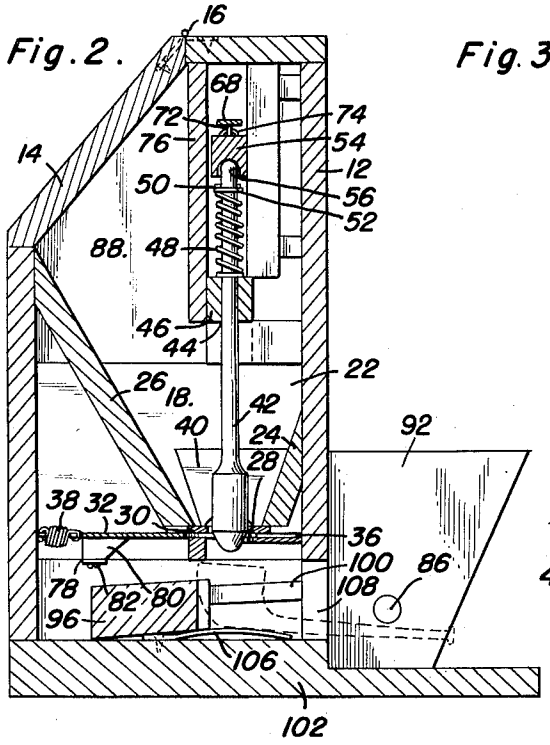


Fig. 3.

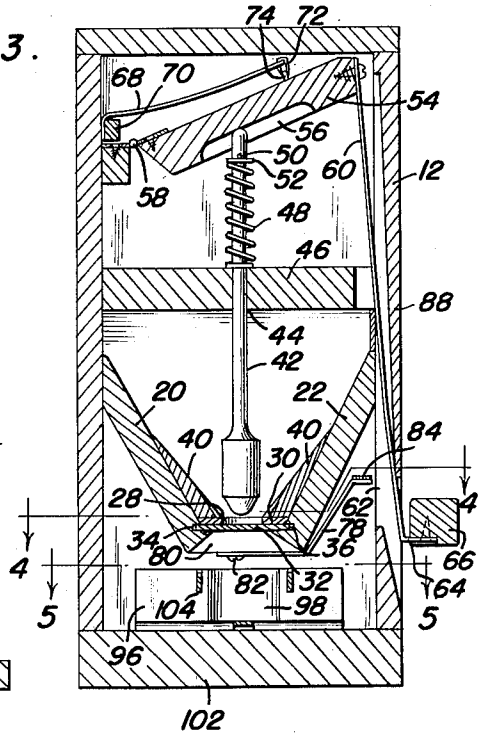


Fig. 4.

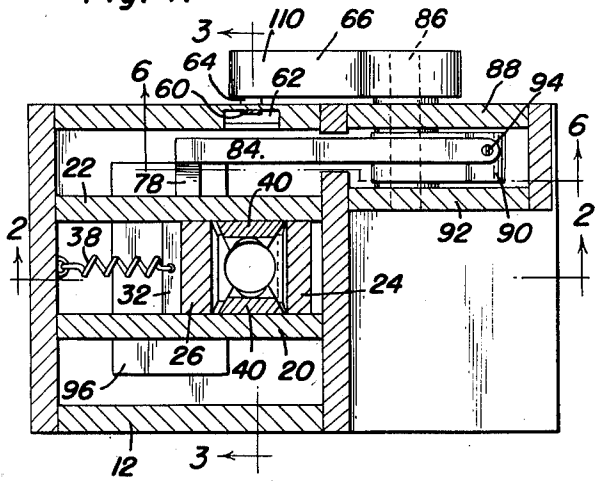
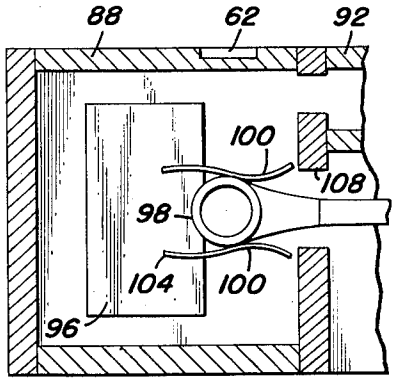


Fig. 5.



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SMOKING PIPE FILLING MACHINE

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10 Claims. (Cl. 226—125)

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This invention comprises novel and useful improvements in smoking pipe filling devices.

An important object of this invention is to provide a smoking pipe filling device which will store the tobacco for filling a pipe.

Another important object of this invention is to provide a smoking pipe filling device, in accordance with the foregoing object, which will retain a pipe in tobacco receiving position.

Yet another important object of this invention is to provide a pipe filling device, in accordance with the foregoing objects, which will tamp the tobacco in a pipe.

A further object of this invention is to provide a pipe filling device, in accordance with the foregoing objects, which is of simple construction, yet durable and highly efficient for the purposes intended.

An important feature of this invention resides in the provision for a pipe filling device having a pipe filling aperture in the lower end thereof, and a tobacco tamper in alignment with the aperture and reciprocable therethrough to tamp the tobacco in a pipe positioned below the aperture.

Another important feature of this invention resides in the provision for a closure for the aperture, and common means for sequentially actuating the closure and the tamper.

Another important feature of this invention resides in the provision for a pipe retaining means for holding a pipe in tobacco receiving position below the aperture.

These, together with various ancillary objects and features are attained by this device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings wherein:

Figure 1 is a perspective elevational view of the pipe filling device;

Figure 2 is a vertical sectional side view taken substantially on the plane 2—2 of Figure 4;

Figure 3 is a vertical sectional front view of the pipe filling device taken substantially on the plane 3—3 of Figure 4;

Figure 4 is a horizontal sectional top view of the pipe filling device taken substantially on the plane 4—4 of Figure 3;

Figure 5 is a fragmentary horizontal sectional view taken substantially on the plane 5—5 of Figure 3, showing the details of the pipe retaining means;

Figure 6 is a fragmentary vertical sectional view taken substantially on the plane 6—6 of Figure 4 showing the rod which reciprocates the aperture closure.

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Figure 7 is a fragmentary vertical sectional view taken substantially on the plane 7—7 of Figure 6.

Referring now more specifically to the accompanying drawings wherein like numerals designate similar parts throughout the various views, the tobacco filling device, indicated generally by the numeral 10 consists of a container 12 of any desired configuration, which container has a cover 14 thereon. The cover may conveniently be attached, as by hinges 16, or may be retained, in any other desired manner, on the container.

Within the container 12 there is provided a hopper 18 having downwardly converging side walls 20 and 22, and downwardly converging front and rear walls 24 and 26 respectively. A transverse wall 30 is secured to the lower extremity of the hopper 18, and an aperture 28 is provided in the transverse wall for reasons which will later become apparent.

A closure 32 is provided for the aperture 28, which closure is reciprocably mounted in horizontal slops or tracks 34 and 36 in the depending side walls 20 and 22 respectively of the hopper 18. Obviously the closure 32 may be otherwise mounted on to the container 12, but for the purposes of this device the reciprocating closure 32 has been found satisfactory. A spring 38 is provided to yieldingly urge the closure 32 to its open position.

In order to prevent the tobacco from piling up on the edge of the transverse wall 30 around the aperture 28 tapered inserts 40 may be provided.

Reciprocably mounted in the container 12, in alignment with the aperture 28 is a tobacco tamping plunger 42. The plunger 42 is slidably received in a bore 44 in the supporting bracket 46, and is yieldingly urged upwardly by a spring 48 which rests upon the bracket 46 and is retained in compression by pin 50 and washer 52 carried by the plunger 42. A lever arm 54, having a longitudinal medial slot 56 therein is secured to the container 12 as by hinge 58 for vertical pivotal movement relative thereto, the lever arm 54 being so positioned that the vertical plane in which the slot 56 moves is in alignment with the vertical axis of the plunger 42. An actuating link 60 is secured to the free end of the arm 54 and passes through the downwardly and outwardly inclined slot 62 in the wall 30 of the container, the link 60 terminating in an angularly attached portion 64 which is secured to the operating handle 66. An additional spring, such as the leaf spring 68, may be provided to yieldingly urge the lever arm 54 downwardly. This spring 68, as more clearly shown in Figure 3, is secured to one wall of the container 12, as by

the block 70 and preferably on the same wall to which the lever arm 54 is pivoted, the other end of spring 68 having a hook 72 thereon, the hook being receivable in an eye 74 on the arm 54. In order to separate the above described plunger actuating mechanism from the tobacco in the container 12, a plate or shield 76 may be provided.

An operating mechanism for the closure 32 is provided, which mechanism consists of an offset operating arm 78, one end of which arm is secured to the closure 32 as by the block 80 and suitable fastener 82. The arm 78 extends transversely of the path of reciprocatory travel of the closure 32, and has a tie rod 84 secured to its other end.

Journaled in the casing 12 is a rocker shaft 86, the operating handle 66 being secured to one end of the shaft 86, externally of the wall 88 of the casing 12, a rocker arm or lever 90 being secured at the other end of the shaft 86. In the embodiment shown, the rocker arm 90 is housed in a casing 92, which is external to the container 12, but it is believed obvious that the container may be so constructed as to include the casing 92 within it. The free end of the rocker arm 90 is flexibly attached as by the fastener 94 to the tie rod 84.

A block 96 having an arcuate recess 98 therein is positioned below the aperture 28 so as to form part of a pipe retaining member. Curved resilient fingers 100 are secured to the block 96 so as to extend outwardly and parallel to the base 102, the fingers 100 forming a constriction which will yieldingly engage a pipe thrust therebetween. The fingers 100 may conveniently be press-fitted into slots 104 in the block 96, in order to secure the fingers to the block. A resilient seat 106 is secured to the base 102 so as to guidingly receive a pipe thereabove, and to limit excessive tamping of the tobacco in the pipe by the plunger 42. An aperture 108 of suitable dimensions to permit the bowl of a pipe to be passed therethrough is provided in one wall of the container 12.

In operation, the bowl of the pipe to be filled is inserted into the aperture 108 between the fingers 100, the fingers retaining it in its tobacco receiving position below the aperture 28. The handle 66 is then depressed at the end 110 which is attached to the link 60. The depression of the handle 66 will tension the link 60 and pivot the arm 54 about the hinge 58 thereby causing the plunger 42 to be lowered into its tobacco tamping position. As the handle 66 is secured to the shaft 86, the shaft will be rotated, thereby actuating the rocker arm 90, which will release the tie rod 84 and the operating arm 78 and permit the spring 38 to reciprocate the closure 32 to its open position. Obviously the closure operating mechanism and the plunger operating mechanism can be so constructed as to reciprocate the closure to its open position before the plunger 42 passes through the aperture 28, thereby permitting the tobacco in the container 12 to fill the pipe. It is also believed apparent that the inserts 40 will serve to guide the plunger 42 through the aperture 28 as well as serving to prevent the accumulation of tobacco on the transverse wall 30.

Upon release of the handle 66, the spring 48 overrides the springs 38 and 68 to urge the handle 66 upwardly and consequently urge the closure 28 to its closed position.

From the foregoing, it is believed that the operation and construction of the device will be readily apparent and further discussion is believed to be unnecessary. However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to that shown and described, but all suitable modifications may be resorted to, falling within the scope of the appended claims.

Having described the invention what is claimed as new is:

1. A pipe filling device comprising a tobacco container, a hopper in said container having an aperture in the lower end thereof, closure means for said aperture horizontally movably attached to said container, pipe retaining means attached to said container below said aperture, tobacco tamping means vertically reciprocably mounted in said container for movement through said aperture, common means for sequentially moving said closure means into its aperture opening position and said pipe tamping means through said aperture.

2. The combination of claim 1 including means yieldingly urging said tobacco tamping means upwardly and said closure means into its aperture closing position.

3. The combination of claim 1 wherein said common means includes means yieldingly urging said closure means to its open position.

4. The combination of claim 1 wherein said common means includes an arm vertically movably mounted in said container, said arm operatively engaging said tobacco tamping means to cause movement of the latter in response to vertical movement of the arm, and means operatively connected to said arm for vertically moving said arm to reciprocate said tobacco tamping means.

5. The combination of claim 1 wherein said common means includes an arm vertically movably mounted in said container, said arm operatively engaging said tobacco tamping means to cause reciprocatory movement of the latter in response to vertical movement of the arm, a lever vertically pivotally attached to said container, means operatively connected to said lever and to said closure means to horizontally move said closure means in response to pivotal movement of said lever, and means operatively connected to said lever and said arm for simultaneously pivoting said lever and vertically moving said arm.

6. A pipe filling device comprising a tobacco container, a hopper in said container having an aperture in the lower end thereof, closure means for said aperture horizontally movably attached to said container, tobacco tamping means vertically reciprocably attached to said container for movement through said aperture, an operating handle vertically pivotally attached to said container, and actuating means operatively connecting said closure means and said tamping means to said handle, said actuating means being so constructed and arranged that said closure means is horizontally moved into and out of aperture closing position and said tamping means is vertically reciprocated through the aperture in response to vertical pivotal movement of said handle.

7. A pipe filling device comprising a tobacco container, a hopper in said container having an aperture in the lower end thereof, closure means for said aperture horizontally movably attached to said container, tobacco tamping means vertically reciprocably attached to said container

for movement through said aperture, an operating handle vertically pivotally attached to said container, and a lever operatively connected to said handle for vertical pivotal movement therewith, a link attached to said closure means and to said lever for horizontally moving said closure means in response to pivotal movement of said lever, means operatively connecting said handle to said tamping means to vertically reciprocate said tamping means in response to pivotal movement of said handle.

8. The combination of claim 7 including means yieldingly urging said closure means to its open position, means yieldingly urging said tamping means out of said aperture, said last mentioned means overriding said means for urging said closure to its open position when said handle is released to move said closure means into its aperture closing position.

9. A pipe filling device comprising a tobacco container, a hopper in said container having an aperture in the lower end thereof, closure means for said aperture horizontally movably attached to said container, tobacco tamping means vertically reciprocably attached to said container for movement through said aperture, an operating handle vertically pivotally attached to said container, and a lever operatively connected to said handle for vertical pivotal movement therewith, a link attached to said closure means and to said lever for horizontally moving said closure means in response to pivotal movement of said lever, an arm vertically movably mounted in said casing and operatively engaging said tamping

means to reciprocate the latter in response to movement of the arm, an actuator rod operatively connecting the arm to the end of the handle remote from the pivoted end thereof whereby said tamping means is vertically reciprocated in response to pivotal movement of said handle.

10. The combination of claim 9 including means yieldingly urging said closure means to its open position, means yieldingly urging said tamping means out of said aperture, said last mentioned means overriding said means for urging said closure to its open position when said handle is released to move said closure means into its aperture closing position.

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