Jan. 20, 1925. 1,523,819

J. McCLINTOCK

DISPENSING APPARATUS

Filed Nov. 18, 1922

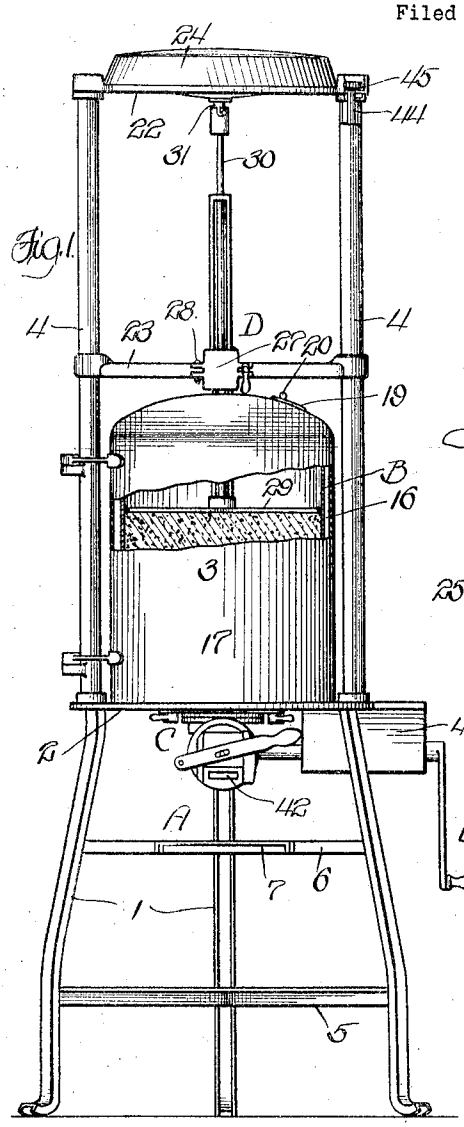


Fig. 1.

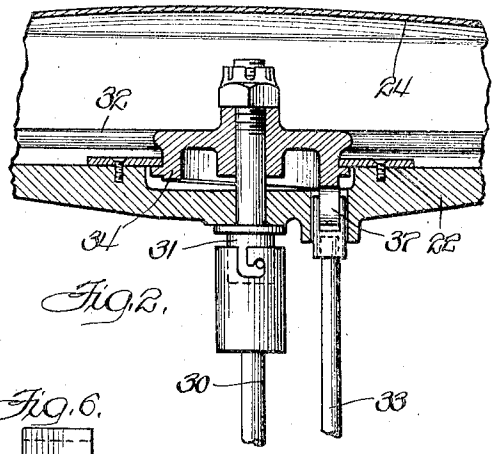


Fig. 2.

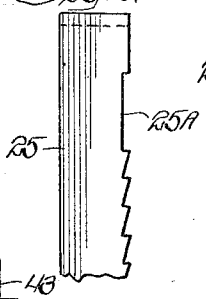
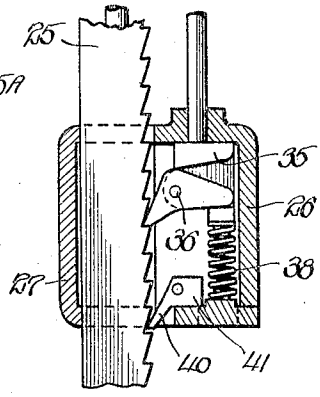


Fig. 6.



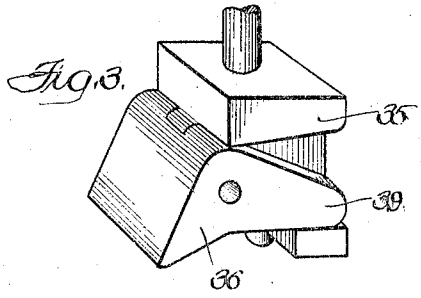


Fig. 3.

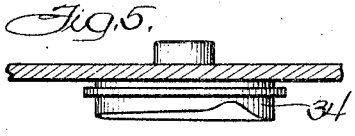


Fig. 5.

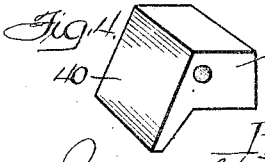


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOSEPH McCLINTOCK, OF CHICAGO, ILLINOIS, ASSIGNOR TO LUKE JOHN FAIRBANKS, OF LOS ANGELES, CALIFORNIA.

DISPENSING APPARATUS.

Application filed November 18, 1922. Serial No. 601,748.

To all whom it may concern:

Be it known that I, JOSEPH McCLINTOCK, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Dispensing Apparatus, of which the following is a specification.

The main objects of this invention are to provide a dispensing apparatus of that character with improved means for pressing the contents of the receptacle down toward and into the delivery mechanism; to provide improved mechanism for automatically arresting the action of the pressure means when all of the contents have been removed from the receptacle; and to provide means of this kind which is positive in operation and comparatively simple in construction.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a dispensing apparatus of the type shown in the aforesaid application equipped with pressure feeding means constructed in accordance with this invention.

Figure 2 is an enlarged fragmentary sectional detail of the part of the mechanism which controls the operation of the pressure feeding means.

Figure 3 is an enlarged detail view of the pawl which engages the pressure plate rack.

Figure 4 is a perspective view of the latch which holds the rack as it is shifted downwardly.

Figure 5 is a perspective view of the cam by means of which the pawl is reciprocated.

Figure 6 is a detail view of the upper end of the pressure plate rack.

A dispensing apparatus constructed in accordance with this invention involves the use of a supporting housing, within which is placed a receptacle in an inverted position from which the contents are forced out into a delivery mechanism by a pressure plate gradually moved downwardly, by the operating mechanism, until it reaches the bottom of the receptacle whereupon it is released from being further acted upon by said operating mechanism.

In the specific embodiment herein shown, the dispensing apparatus comprises a supporting frame A, adapted to receive a specially constructed removable receptacle B, from which the contents are adapted to be forced into the delivery mechanism C, through the action of a feeding mechanism D controlled by an operating mechanism E.

Referring to the drawings, the supporting frame A includes a tripod 1 upon which is mounted a platform 2 and a housing 3 for the receptacle B and above which project the uprights 4, affording a support for the feeding mechanism D. Extending between the legs of the tripod 1 is a cross brace 5 near the bottom, and a shelf 6 about half way between the brace and the platform 2. Hinged to the front edge of the shelf is a ledge 7 for supporting a suitable container (not shown) in position to receive the product as discharged by the delivery mechanism C.

The platform 2 is substantially circular in form, and is provided with a suitable opening (not shown) affording communication between the receptacle B and the delivery mechanism C.

The housing 3 comprises a pair of semi-cylindrical sections 16 and 17 having dome-shaped tops. The section 16 is rigidly mounted on the platform 2 whereas the section 17 is hinged to one of the uprights 4 so as to permit it to be swung back to allow the receptacle with its feeding mechanism D to be readily placed upon and removed from the supporting frame A. The top of the section 16 has a latch 19 for engaging a pin 20 on the section 17 and locking the hinged section in its closed position.

The uprights 4 are in the form of tubes and are screwed into or otherwise secured to the platform 2 and connected at their upper ends by a member 22, and intermediate their ends by a brace or bracket 23. The member 22 is disk-shaped and arranged to coact with a hood 24 to provide a housing for a gear connected to the operating mechanism. The bracket 23 has its middle part constructed to provide a housing embracing the rack 25 of the feeding mechanism D. This housing is made up of two complementary parts 26 and 27, the former of which is preferably integral with the remaining part of the bracket and the latter of which is hinged at 28 so as to be swung into and out of position to coact with the part 26 to embrace the said rack 25.

The receptacle B is in the form of a specially constructed can, the semi-plastic

contents of which are to be dispensed. It is adapted to fit upon the platform 2 within the housing 3. The bottom of the can is cut out before the receptacle is placed in the apparatus in an inverted position so as to permit the insertion of the feeding mechanism D.

The feeding mechanism D includes a suitable agitator (not shown) and a pressure plate 29. The agitator is secured at the lower end of the shaft 30 which is adapted to be operatively connected to a stud shaft 31 on a gear 32 located within the housing formed by the member 22 and hood 24. The pressure plate 29 is carried at the lower end of the rack 25, slidably supported upon the shaft 30.

The downward movement of the pressure plate 29 is effected by the action of the reciprocating member or bar 33 and a cam 34. The bar 33 is slidably supported at its ends in the housing part 26 and on the member 22. The lower end of the bar is provided with a head 35 which carries a pawl 36 adapted for engagement with the rack 25. The upper end of the bar carries a roller 37 bearing against the cam 34. A spring 38 arranged within the housing part 26 normally urges the reciprocating bar 33 upwardly to retain the roller 36 in contact with the cam 34.

The pawl 36 is pivotally mounted on the head 35 and shaped to provide a counter-weight 39 whereby the pawl 36 is normally urged by gravity into position to engage the teeth on the rack 25. A latch 40 pivotally mounted within the housing part 26 and shaped to provide a counter-weight 41 is likewise normally urged by gravity to engage the teeth on the rack 25 and hold the same depressed when the pawl 36 is moving upwardly along the rack from one tooth to another.

The cam 34, as herein shown, is integrally formed on a gear 32 and so shaped that during the rotation of said gear the rod 33 is gradually depressed and then suddenly retracted under the action of the spring 38.

The rack 25 has the teeth eliminated from the upper end thereof and a depression or recess 25^a formed therein. This depression 25^a is so arranged that when the pressure plate 29 reaches the bottom of the receptacle B the pawl 36 will have engaged the last tooth on the rack and further reciprocation of the bar 33 will simply result in an idling of the pawl back and forth along the recess or depression 25^a.

The delivery mechanism C although not shown in detail, is similar to that illustrated in the aforesaid copending application and embodies the usual conveyer, which, through the medium of suitable gearing, is rotated by the operating mechanism E for forcing the plastic contents out through the delivery outlet 42 into a container (not shown) adapted to rest upon the ledge 7.

The operating mechanism through the medium of suitable gears arranged within the casing 43 is connected to a shaft 44 which carries a pinion 45 meshing with the gear 32, and which is located in the housing formed by the member 22 and the hood 24.

The operation of the device herein shown, so far as it pertains to the pressure plate 29, is believed to be obvious from the foregoing, so as to render a further detailed description unnecessary.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claim.

I claim:

A feeding mechanism for dispensing apparatus comprising an advancing element, a rack on said advancing element, a bracket providing a housing embracing said rack, said housing comprising two complementary parts, one of which is hingedly mounted upon the other so as to swing into and out of position to co-act with said other part to embrace said rack, a bar reciprocatingly mounted alongside of said rack, a head located within said housing and connected to said bar, a pawl carried by said head and normally urged by gravity into engagement with said rack, a spring normally urging said head toward one end of its movement, a horizontally disposed rotatable plate mounted above said bar, a cam formed on said plate and engaging said bar for depressing the same against the action of said spring, and a latch arranged in said housing and normally urged by gravity to engage said rack and hold the same in its depressed position.

Signed at Chicago this 13th day of November 1922.

JOSEPH McCLINTOCK.