Jan. 30, 1923. 1,443,481.

J. P. LAVIGNE ET AL.

ADJUSTABLE COIN HOPPER.

FILED JULY 18, 1921. 2 SHEETS—SHEET 1.

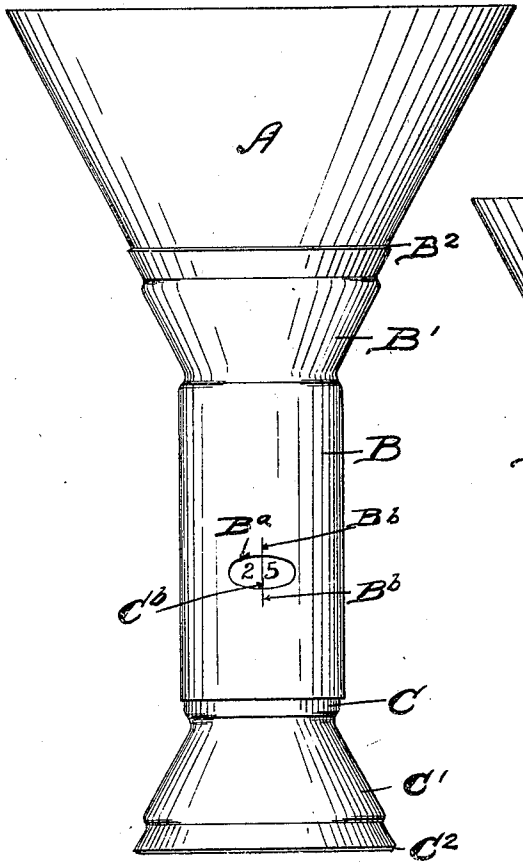


Fig 1

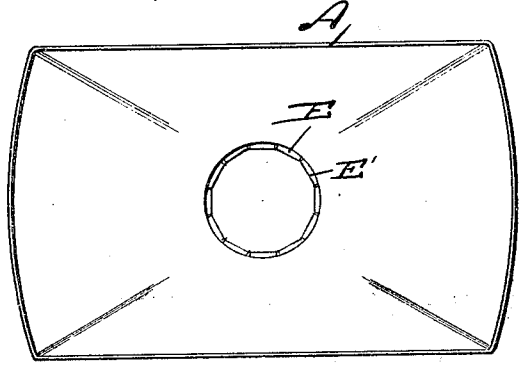


Fig 3

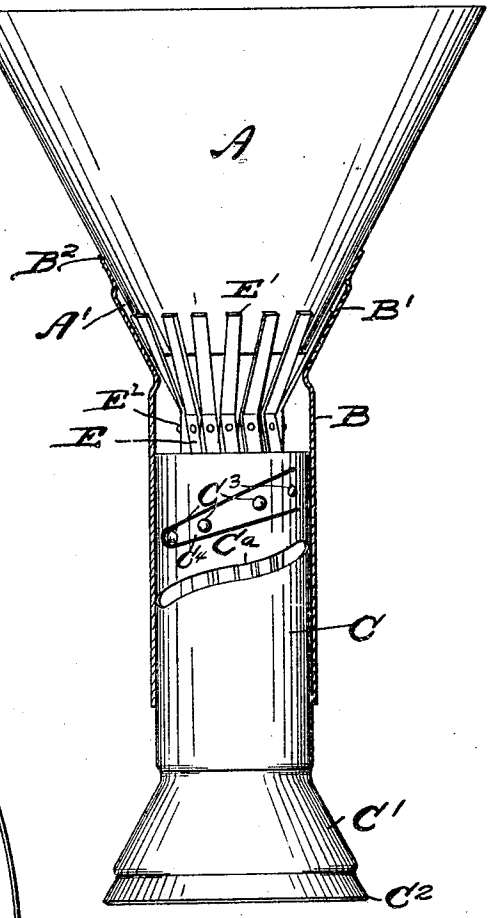


Fig 2

Inventor

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Luff Spinks

By L. L. Thomas

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ADJUSTABLE COIN HOPPER.

FILED JULY 18, 1921. 2 SHEETS—SHEET 2.

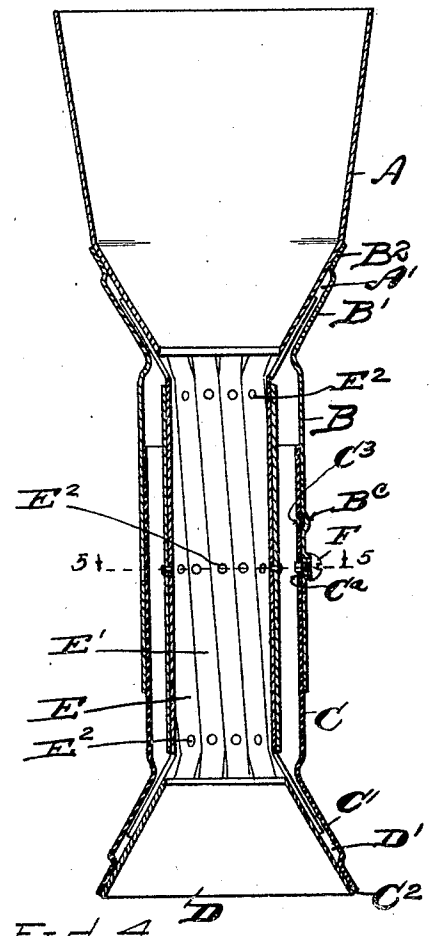


Fig 4

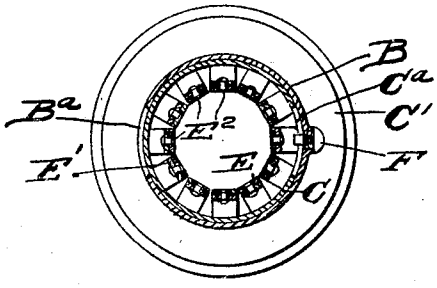


Fig 5

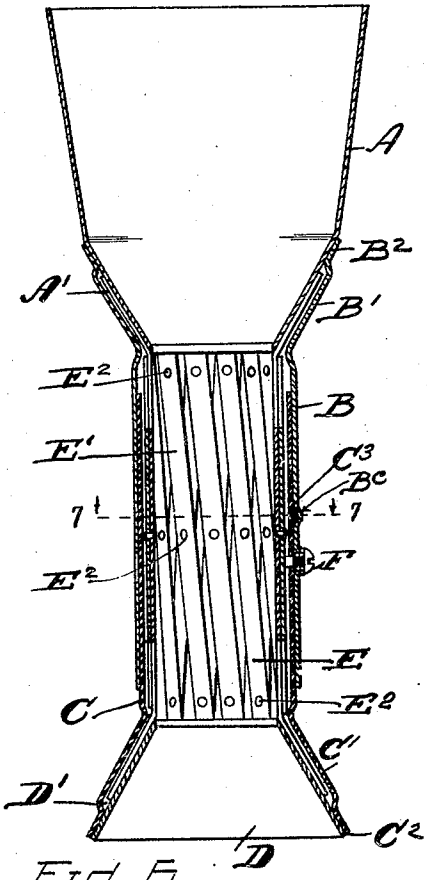


Fig 6

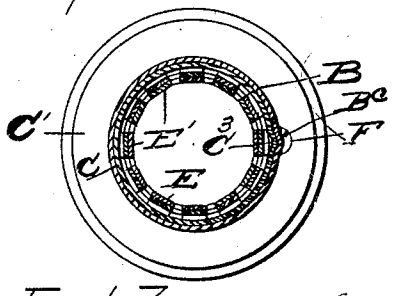


Fig 7

Inventor

Joseph P. Lavigne

and Luff Spinks

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Patented Jan. 30, 1923. 1,443,481

UNITED STATES PATENT OFFICE.

JOSEPH P. LAVIGNE AND LUFF SPINKS, OF DETROIT, MICHIGAN; SAID LAVIGNE ASSIGNOR TO SAID SPINKS.

ADJUSTABLE COIN HOPPER.

Application filed July 18, 1921. Serial No. 485,537.

To all whom it may concern:

Be it known that we, JOSEPH P. LAVIGNE and LUFF SPINKS, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Adjustable Coin Hoppers, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to an adjustable coin hopper shown in the accompanying drawings and more particularly described in the following specification and claims.

The object of the present invention is to reduce the cost of manufacture and to perfect the general construction and operation of the device described and claimed in the application for patent filed by Luff Spinks, on the 17th day of January, 1921, Serial No. 478,337.

In the drawings accompanying this specification:

Figure 1 is a side elevation of the device, showing an opening in the outer tube or shell through which is displayed numerals stamped upon the inner co-acting tube,—indicating the denomination of the coin for which it has been adjusted to receive.

Figure 2 is a side elevation partly in section as viewed from the opposite side of the device, showing a plurality of locking studs or projections adapted to register with corresponding depressions in the outer co-acting tube or shell to yieldingly secure the device when adjusted for coins of different denominations.

Figure 3 is a plan view of the hopper.

Figure 4 is a vertical cross-sectional view through the device, showing the adjustable tube contracted.

Figure 5 is a horizontal cross-sectional view on or about line 5—5 of Figure 4 showing the projecting pin carried by the outer tube extending into an inclined or slotted cam-way for expanding and contracting the lattice tube.

Figure 6 is a vertical cross-sectional view through the device, showing the tube of the hopper expanded.

Figure 7 is a cross-sectional view taken on or about line 7—7 of Figure 6.

Referring now to the letters of reference placed upon the drawings:

A, denotes a hopper and B, a sleeve extending downwardly from the inclined throat of the hopper having a cone-shaped wall B′ spaced from the hopper to form an annular chamber A′ between the throat of the hopper and the sleeve;—the sleeve being soldered or spot-welded to the hopper, as at B^2. C, denotes a tube rotatable within the sleeve B having a lower flaring end C′ spaced from the cone-shaped discharge throat D, to which it is soldered or welded as at C^2,—forming an annular chamber D′ between it and the discharge throat. E, is an expansible and contractible tubular member concentrically supported within the members B and C, comprising a plurality of lattice-like strips E′ respectively pivoted together as indicated at E^2. The upper and lower ends of the strips forming the expansible and contractible tube being bent to provide flaring cone-shaped ends extending into the respective annular chambers A′ and D′. C^a is a cam-shaped slot in the tube C, into which projects the end of a screw F, supported in the wall of the sleeve B. B^a is an opening in the sleeve B, and C^b designate numerals on the tube C indicating the denomination of the coin which the expansible tube is adapted to receive upon adjusting the tube C so that the indicating mark adjacent to the numerals will register with the mark B^b on the sleeve B. C^3 denotes a plurality of studs or projections, formed upon a spring tongue C^4 integral with the tube C, adapted to enter a depression B^c, in the sleeve B to yieldingly secure the expansible tube in its adjusted relation upon the numerals indicating the coin for which the tube is adjusted being exposed through the opening in the sleeve.

It will be apparent that in place of a screw F projecting into the cam way C^a, any other suitable device may be employed adapted upon the rotation of the tube C within the sleeve B, to force the sleeve outwardly or inwardly in accordance with the direction of the rotation of the tube, which acting upon the inclined ends of the lattice members forming the expansible and contractible tubular member forces the latter to expand or contract as may be required to receive coins of different diameters.

In the operation of the device following

the adjustment of the tubular member to receive coins of certain predetermined denomination; a tubular paper wrapper of corresponding diameter is inserted in the tubular member with its lower margin bent inwardly to prevent the discharge of the coins through the paper wrapper. A predetermined number of coins of proper denomination are then brushed into the hopper and thereby directed into the paper wrapper, filling the latter to its proper capacity. The package may then be withdrawn from the hopper and the end of the wrapper bent over the coins to secure them against accidental dislodgment.

Having thus described our invention what we claim is:

1. In a device of the character described, a hopper, a sleeve extending downwardly from the hopper having an inclined portion concentric to the inclined wall of the hopper and spaced from the latter to form an annular cone-shaped pocket, a tube rotatable within the sleeve having a lower flaring cone shaped end, a cone-shaped member secured in concentric relation to the cone-shaped end of the tube forming an annular pocket or chamber, an expansible and contractible tubular member having flaring ends respectively extending into the cone-shaped pockets, and means adapted upon the manual rotation of the tube to shift said tube longitudinally within the sleeve in either direction, whereby the expansible and contractible tubular member may be adjusted for coins of different denominations.

2. In a device of the character described, a hopper, a sleeve extending downwardly from the hopper having an inclined portion concentric to the inclined wall of the hopper and spaced from the latter to form an annular cone-shaped pocket, a tube rotatable within the sleeve having a cam-shaped slot and a lower flaring cone-shaped end, a cone-shaped member secured in concentric relation to the cone-shaped end of the tube forming an annular pocket or chamber, an expansible and contractible tubular member having flaring ends respectively extending into the cone-shaped pockets, and a member carried by the sleeve adapted to project into the cam-shaped slot of the tube, whereby when the tube is manually rotated it may be shifted longitudinally in either direction within the sleeve to adjust the expansible and contractible tubular member.

3. In a device of the character described, a hopper, a sleeve extending downwardly from the throat of the hopper having an inclined portion concentric with the inclined wall of the hopper and spaced from the latter to form an annular cone-shaped pocket or chamber, a tube rotatable within the sleeve having a flaring lower end, a cone-shaped member concentrically secured in spaced relation to the flaring end of the tube to form an annular cone-shaped pocket or chamber, an expansible and contractible latticed tubular member having open flaring ends respectively extending into the cone-shaped pockets or chambers, and means adapted to direct the tube outwardly or inwardly with reference to the sleeve upon manually rotating the tube, whereby the diameter of the expansible and contractible latticed tubular member may be adjusted as required.

In testimony whereof, we sign this specification in the presence of two witnesses.

JOSEPH P. LAVIGNE.
LUFF SPINKS.

Witnesses:
S. E. THOMAS,
P. J. MURPHY.