J. C. EDWARDS.

MEANS FOR HOLDING AND DELIVERING RING TRAVELERS.

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931,690.

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Fig. 1.

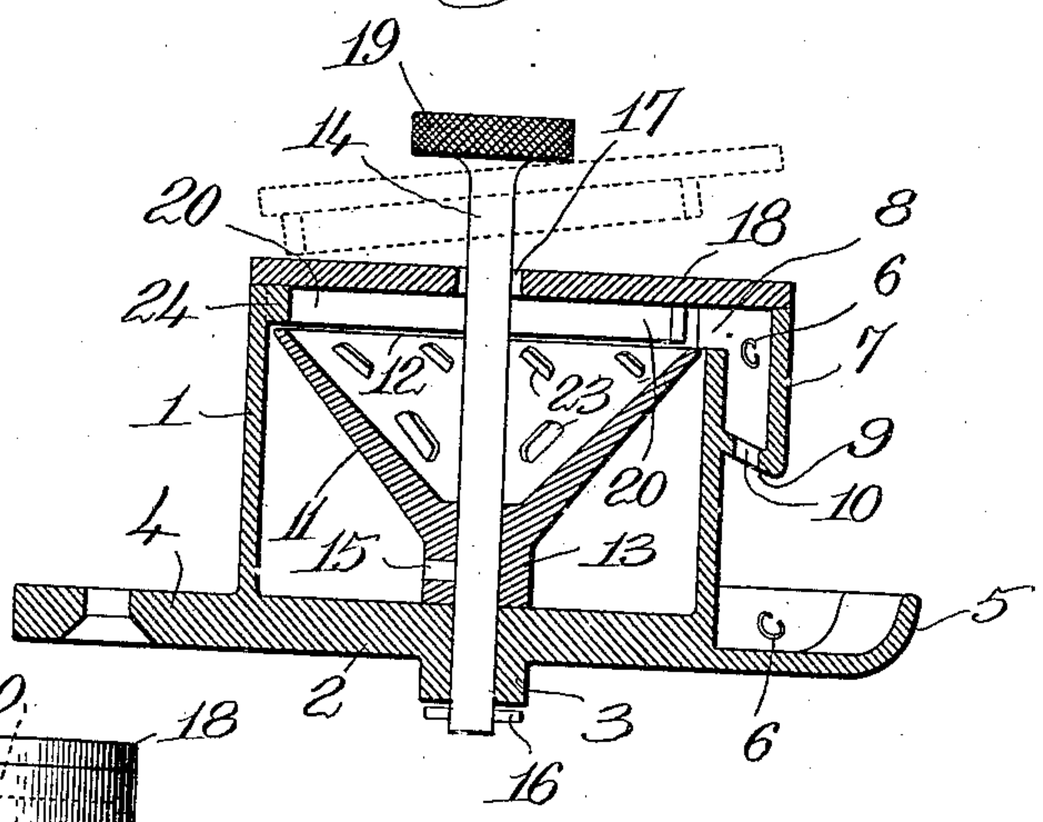


Fig. 4.

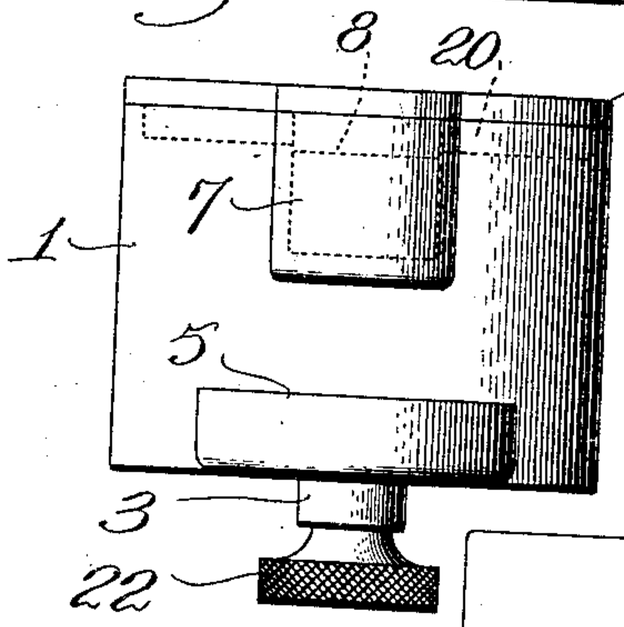


Fig. 2.

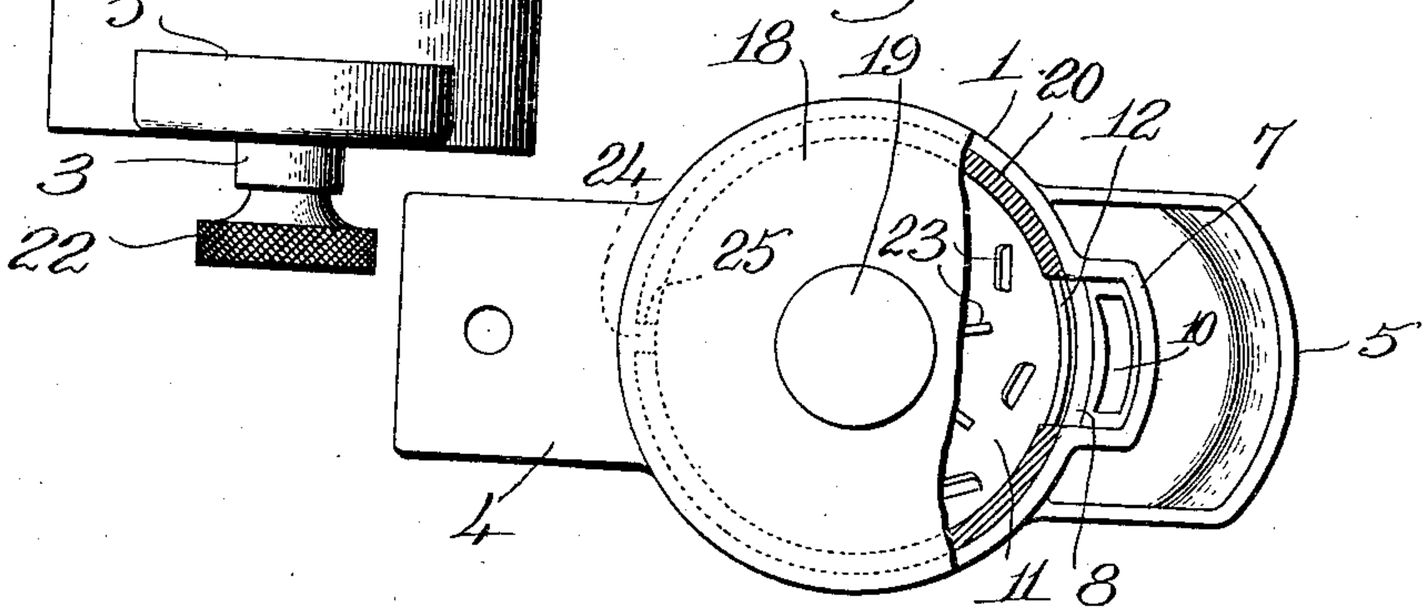
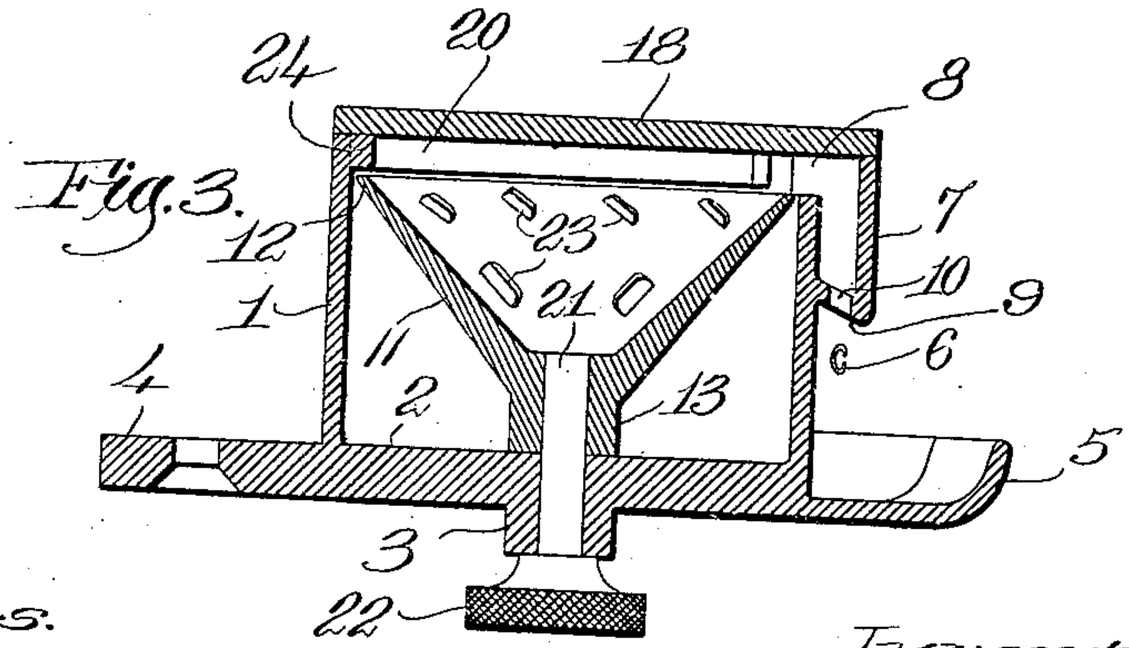


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MEANS FOR HOLDING AND DELIVERING RING-TRAVELERS.

No. 931,690. Specification of Letters Patent. Patented Aug. 17, 1909.

Application filed May 19, 1909. Serial No. 497,026.

To all whom it may concern:

Be it known that I, JOHN C. EDWARDS, a citizen of the United States, and resident of Brookline, county of Norfolk, State of Massachusetts, have invented an Improvement in Means for Holding and Delivering Ring-Travelers, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of novel means for holding in reserve a supply of travelers and for delivering the same in small quantities from time to time as they are required for use on the rings of spinning or twisting frames.

The replacement of travelers is a regular item of expense in operating ring-spinning frames, and amounts to a very considerable sum in the aggregate, about as many travelers probably being lost or thrown away as are actually used. It is necessary to keep a supply of the travelers on hand and easily accessible by the frame-tenders, and such supply may be distributed along the creel-boards, in pockets of doffers, or in almost any other convenient place, with the result that many of the travelers drop to the floor or are thrown away. The travelers readily bunch together and form chains from which individual travelers are usually separated by shaking the mass more or less vigorously, and it is practically impossible to avoid loss when this method is followed.

In my present invention the travelers in bulk are held in a cup-like container in shape an inverted cone, by preference, rotatably mounted within an inclosing casing provided with a discharge opening adjacent the upper edge or lip of the container. The latter is provided with an open receiver to catch the travelers discharged from the casing, and by external means the container is rapidly spun or rotated on its axis within the casing. By the action of the centrifugal force so generated the mass of travelers tend to fly upward and outward, and a few will be separated from their fellows and expelled through the opening in the casing and drop into the receiver, from which they are removed singly by the operator as they are needed. As a matter of fact the tendency is to throw the travelers upward and radially in all directions, but only those which chance to be directed through the opening will be delivered to the receiver, a small number under most favorable circumstances. This centrifugal action tends of itself to loosen up and disintegrate bunches or chains of travelers, but such disintegration can be enhanced by providing projections on the interior of the container, such projections serving to deflect and effect irregular movement of the mass of travelers and thereby assisting in separating them from each other.

I provide the casing of the traveler receptacle with a removable cover, by the removal of which the container can be supplied with the travelers in bulk, the cover also serving to effect the return to the container of those centrifugally impelled travelers which do not pass through the discharge opening. By the employment of my invention the travelers in reserve are protected and loss of the travelers is practically eliminated.

The receptacle embodying my invention comprises a small number of parts of simple and durable construction, readily manufactured and assembled, and no changes have to be made for travelers of different sizes.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a vertical sectional view of a receptacle for holding and delivering travelers embodying one form of my present invention; Fig. 2 is a top plan view thereof, a portion of the cover being broken off and the flange thereon being shown partly in section; Fig. 3 is a view similar to Fig. 1 but with a different arrangement for effecting rotative movement of the container; Fig. 4 is a right-hand side elevation of the device shown in Fig. 3.

Referring to the drawings, 1 is a preferably cylindrical casing having a flat and thickened bottom 2 provided on its underside with a hollow boss 3 forming a bearing, for a purpose to be described, the bottom being extended laterally to form an attaching ear 4 by means of which the receptacle as a whole is fixed to a suitable part of the spinning-frame. Opposite said ear I have shown the bottom or base 3 as extended to form an open, pan-like receiver 5 into which the travelers 6, Figs. 1 and 3, drop as they

are delivered from the casing, the upturned sides of the receiver retaining the travelers therein until removed singly by the operative to be applied to a ring on the frame. The casing, ear and receiver are conveniently made as a casting, the wall of the casing 1 being extended to form an upright, external delivery chamber 7 communicating at its upper end with the interior of the casing by a discharge opening 8 in its wall.

As shown in Figs. 1 and 3 the bottom 9 of the chamber is inclined and provided with an outlet 10, preferably of elongated form as shown in Fig. 2, and wide enough for the passage of travelers of various sizes, the outlet being exterior to the casing and above the receiver 5. Within the casing is mounted a container 11 for the supply of travelers in bulk, said container being shaped as an inverted cone, with its annular upper edge or lip 12 traveling close to the casing wall and substantially at the level of the bottom of the discharge opening 8. At its lower end or apex the container is shaped to present a central hub 13 through which is extended an upright spindle coaxial with the casing and journaled in the boss 3 thereof.

In Figs. 1 and 2 the spindle 14 is carried up some distance above the casing and is pinned or otherwise secured to the container, as at 15, and if desired a cotter-pin 16 may be inserted in the lower end of the spindle, Fig. 1, to prevent withdrawal from the casing. In one form of my invention the upper end of the spindle 14 passes loosely through a hole 17 in the flat cover 18, which is shaped to cover the top of the casing 1 and the chamber 7, and a thumb-knob 19 is attached to the spindle above the cover. To fill the container the cover is lifted up into dotted line position, Fig. 1 and the travelers can be readily poured or otherwise loaded into the container 11, after which the cover is replaced, a depending segmental flange 20 fitting within the casing to position the cover. This flange terminates at each side of the opening 8, as shown in Figs. 1, 2 and 3, and by dotted lines Fig. 4, and its lower edge overhangs and closely approaches the lip 12 of the container.

In Figs. 3 and 4 a short spindle 21 is fixed in the hub 13 and is rotatably mounted in the boss 3, the projecting lower end of the spindle having an attached thumb-knob 22 by means of which the container is spun or rotated. In this form of my invention the cover is imperforate and is lifted off to load the container, the knob 22 also serving to prevent displacement of the container. Supposing the container to be loaded with travelers in bulk and the cover in place, when one or more travelers are needed the operative grasps the thumb-knob and spins or rapidly rotates the container. The centrifugal force thus generated causes the travelers to be thrown upward and outward from the axis of rotation along the outwardly flared walls of the container, and several, possibly only one, of the travelers will be thrown out of the casing through the opening 8 into the delivery chamber 7, dropping down to its bottom and being delivered through the outlet 10 into the receiver 5. Such travelers as may be thrown upward beyond the lip 12 will impinge upon the inner face of the flange 20 and will rebound therefrom back into the container, said flange by its overhang and close proximity to the lip preventing any of the travelers from dropping into the casing. While the centrifugal action tends to loosen and disintegrate the bunches or chains of travelers in the container this disintegration can be increased by forming lugs or projections 23 on the inner surface of said container, to deflect and shake up the travelers as they are impelled against them. Only a small number of travelers will be discharged at any one time into the delivery chamber, so that the receiver 5 will only contain enough for present needs, more being delivered thereto when necessary by rotative movement of the container, as described. As the casing is cylindrical the jarring of the spinning-frame might tend to turn the cover 18 so as to open the top of the delivery chamber 7, and to prevent this I have provided a lug 24 on the side wall of the casing, to enter a notch 25 in the flange 20, thereby preventing any rotative movement of the cover. Any other suitable means, however, may be employed to effect the same result.

Changes or modifications in details of construction may be made by those skilled in the art without departing from the spirit and scope of my invention as set forth in the claims annexed hereto.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A receptacle for travelers, comprising a covered casing having a communicating delivery chamber provided with an outlet exterior to the casing, and manually operated means within the casing to contain the supply of travelers in bulk and to direct a few at a time into the delivery chamber by centrifugal action.

2. A receptacle for travelers, comprising a covered casing having a communicating delivery chamber provided with an outlet exterior to the casing, a receiver for the travelers delivered through the outlet, and manually operated means within the casing to contain the supply of travelers in bulk and to direct a few at a time by centrifugal action into the delivery chamber.

3. A receptacle for travelers, comprising a covered casing having an external delivery chamber communicating therewith at its

upper end and having an outlet at its lower end, an open receiver below the outlet, for travelers delivered therefrom, and a manually rotatable holder within the casing to contain a supply of travelers and to direct a few at a time by centrifugal action into the upper end of the delivery chamber.

4. A receptacle for travelers, comprising a covered casing having an opening above the traveler-containing-means, means communicating with such opening to deliver the travelers exteriorly of the casing, rotatable means within the casing to contain the supply of travelers, and a manually operated device exterior to the casing and connected with said containing-means to effect rotation thereof, and the discharge, by centrifugal action, of a few of the travelers at a time through the opening in the casing.

5. A receptacle for travelers, comprising a covered casing having an external, upright delivery chamber communicating at its upper end with the interior of the casing and having an outlet at its lower end outside the casing, a cup-like container for travelers rotatably mounted within the casing and having its lip adjacent the opening between the casing and chamber, and means at the exterior of the casing to effect manual rotation of the container and direct a few travelers at a time therefrom by centrifugal action into the delivery chamber.

6. A receptacle for travelers, comprising a casing having a communicating delivery chamber provided with an outlet exterior to the casing, a removable cover for the latter, a manually rotatable container within the casing, to hold the supply of travelers and to direct a few at a time into the chamber by centrifugal action when said container is rotated, and means on said container to separate or disintegrate chains or bunches of the travelers.

7. Means for holding, separating and delivering travelers, comprising a covered casing having a communicating delivery chamber provided with an outlet exterior to the casing, an open receiver below such outlet, an upright, manually rotatable spindle coaxial with and mounted in the bottom of the casing, a traveler-container fixedly mounted on the spindle within the casing and having an upwardly and outwardly flared bottom the annular lip of which rotates adjacent the opening between the casing and the chamber, and means secured to the spindle outside the casing to rotate the container and direct travelers therefrom by centrifugal action into the delivery chamber.

8. A receptacle for travelers, comprising a cylindrical casing, a delivery chamber having an outlet exterior to the casing and opening into the latter near its top, a traveler-container shaped as an inverted cone and rotatably mounted within the casing coaxially therewith and adapted to contain a supply of travelers, the annular lip of said container moving below and adjacent the opening between the casing and delivery chamber, a detachable cover for the casing, and external means to effect manually rapid rotative movement of the container, the centrifugal force thereby generated acting to throw travelers off from the supply and direct a few at a time into the delivery chamber.

9. A receptacle for travelers, comprising a cylindrical casing, a delivery chamber having an outlet exterior to the casing and opening into the latter near its top, a traveler-container shaped as an inverted cone and rotatably mounted within the casing coaxially therewith and adapted to contain a supply of travelers, the annular lip of said container moving below and adjacent the opening between the casing and delivery chamber, a detachable cover for the casing, a segmental flange depending from the cover within the casing and overhanging the lip of the container except opposite the opening between the casing and the delivery chamber, and external means to effect manually rapid rotative movement of the container, the centrifugal force thereby generated tending to lift and spread the mass of travelers in the container and to eject separated ones into the delivery chamber, the flange on the cover returning to the container such separated travelers as may be thrown against it.

10. A receptacle for travelers having in combination a rotatable container having an inverted conical wall, to receive a supply of travelers, an inclosing casing having a side opening for the discharge of travelers separated by centrifugal action from the supply in the container, a receiver outside the casing, to catch the discharged travelers, and manually operated means exterior to the casing and operatively connected with the container to effect rapid rotation thereof.

11. A receptacle for travelers having in combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, and a receiver outside the casing for the travelers which pass through the opening.

12. A receptacle for travelers having in combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, and means to insure the return to the container of such travelers as are not directed through the opening in the casing.

13. A receptacle for travelers having in

combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, and means on the container to effect the disintegration of chains and bunches of travelers therein.

14. A receptacle for travelers having in combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, an external delivery chamber communicating with such opening and provided with an outlet in its bottom, and an open receiver beneath the outlet and external to the casing.

15. A receptacle for travelers having in combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, an upright spindle attached to the container and having a bearing formed on the casing, and a knob on said spindle outside the casing by means of which the container may be rotated rapidly.

16. A receptacle for travelers having in combination a manually rotatable container to hold a supply of travelers and to effect upward and outward movement of separated travelers by centrifugal action when rotated, an inclosing casing having an opening for the passage of centrifugally impelled travelers, a pan-like receiver on the outside of and carried by the casing, to receive travelers expelled through said opening, and an attaching ear extended from the casing.

17. In a device of the class described, an inclosing casing provided with a delivery outlet, rotatable means within the casing and below said outlet to contain the supply of travelers, a manually operated device to effect rotation of said means and thereby effect upward and outward movement of travelers by centrifugal action and cause them to pass through the outlet, and means to prevent escape of the travelers from the containing means into the casing.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN C. EDWARDS.

Witnesses:

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