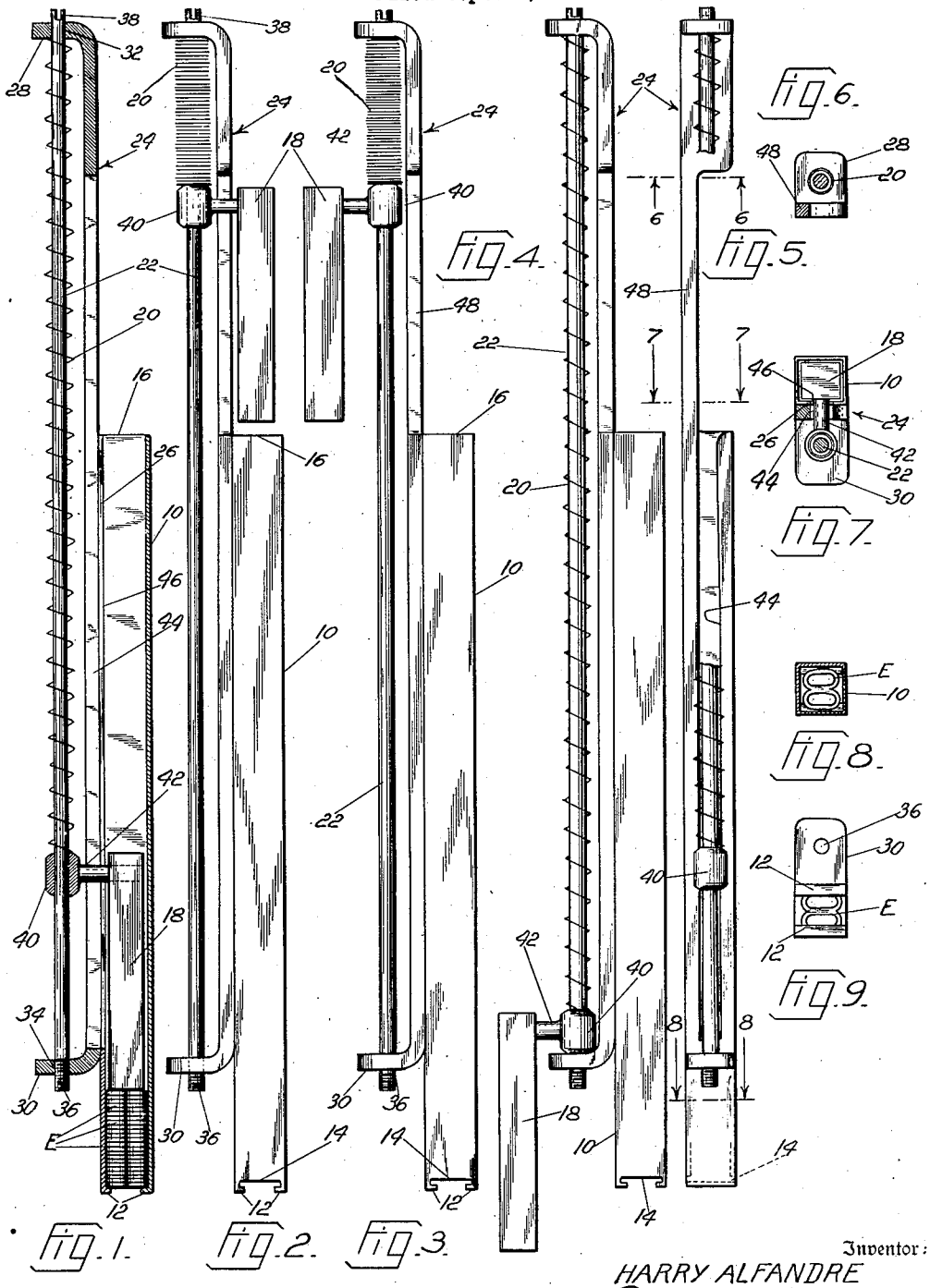
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SUPPLY HOLDER

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Inventor:
HARRY ALFANDRE

By Edwin Leisher

Attorney

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SUPPLY HOLDER

Harry Alfandre, Jamaica, N. Y.

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This invention relates to supply holders for elements which are delivered therefrom.

One of the objects of the present invention is to provide a supply holder with improved spring operated means for resiliently pressing the elements in the holder toward the delivery end thereof.

Another object of the invention is the provision of a supply holder having a spring operated follower with means for mounting the spring in such relation to the holder as to permit the provision of a spring of proper length for exerting the necessary force on the follower without correspondingly increasing the length of the element-container of the holder.

In the conventional supply holder provided with a spring operated follower, the spring is positioned within the element-container of the holder and must be removed from the latter when it is necessary to replenish said container with the elements to be delivered therefrom. In accordance with the present invention the supply holder is so constructed that the spring which operates the follower is located externally of the container in such position that said spring does not interfere with the loading of the container. This constitutes another object of the invention. Further, by virtue of this arrangement it is unnecessary to provide the container of the supply holder with a closure with which the conventional supply holders are usually provided. The elimination of such closure constitutes yet another object of the present invention.

It is also an object of this invention to provide a supply holder which is so constructed that the quantity of elements in the container of the holder can be readily ascertained by direct observation of the elements in the container of the holder.

The above and other objects, features and advantages of this invention will be fully understood from the following description considered in connection with the accompanying illustrative drawing of the presently preferred embodiment of the invention.

In the drawing:

Figure 1 is a side view, partly in elevation and partly in section, of a supply holder embodying the present invention, showing the spring operated follower in operative position;

Figure 2 is a side view, in elevation, of the supply holder, the spring operated follower being retracted from the element container;

Figure 3 is a view similar to Figure 2 and showing the spring operated follower in a retracted position and also in a position out of registry with the element container;

Figure 4 is a view similar to Figure 3 showing the follower in a projected inoperative position to permit the loading of the element container;

Figure 5 is a side view in elevation taken at right angles to Figure 1, looking from the left of the latter, with parts omitted for the purposes of illustration;

Figures 6, 7 and 8 are sectional views taken along the lines 6—6, 7—7, 8—8 respectively of Figure 5; and

Figure 9 is a view of the delivery end of the supply holder.

The supply holder embodying the present invention is intended primarily for use in strap and buckle assembly apparatus such as that disclosed in United States Letters Patent 2,091,176 granted to me August 24, 1937, although it will be understood that the present invention may be applied to supply holders for elements other than buckles. In the machine shown by said patent, the upper holder for the buckles is provided with a follower which is gravity operated, while the lower holder for the buckles is provided with a spring operated follower which moves the buckles upwardly toward the delivery end of the holder. In accordance with the present invention the upper supply holder as well as the lower holder for the buckles is provided with a spring operated follower. In the accompanying drawing herein I have illustrated my invention as applied to the upper holder, but it will be understood that in accordance with the present invention the lower holder, which in the machine shown by said patent, is the holder for the single eyelet buckles, is intended to be of the same construction as the upper holder disclosed herein and presently to be described, except that the buckle or element container is of the size and shape appropriate to the size and shape of the buckles therein contained.

Referring now more particularly to the accompanying drawing, the supply holder embodying the present invention comprises a container 10, here shown as a longitudinal metal tube of rectangular cross section, within which a plurality of buckles or other elements E are positioned in stacked relation, the size and shape of the tube being such in relation to the size and shape of the elements as to hold the latter in alignment, and when necessary, to prevent the elements from turning in the tube. The delivery end of the tube has inturned edges 12 which limit the movement of the buckles longitudinally of the tube at the delivery end thereof, but which permit the

buckles to be dispensed in any suitable way, for example, by the ejecting device shown in my above mentioned patent, which moves the buckles one at a time, laterally through the delivery opening 14. As illustrated in Figure 1, the end 16 of tube 10 opposite the delivery end thereof is open.

The elements within the element container 10 are pressed toward the delivery end of the container against the inturned edges 12 by a spring operated follower 18 which, in the operative condition of said follower is movable longitudinally of container 10 having a sliding but non-rotary fit in said container. As here shown, said follower comprises a metal rod of rectangular cross section. Said follower 18 is operated or spring-projected by the compression spring 20. As shown in the drawing, spring 20 is located externally of the container 10 laterally thereof, and is held against lateral movement by a rod 22 disposed laterally of said container. The rod 22 is fixed at its opposite ends in a bracket 24 which is secured to an adjacent side wall 26 of container 10 in any suitable way, for example, by being welded to said side wall. Bracket 24 has laterally bent end portions 28 and 30 provided with openings 32 and 34 in which rod 22 is engaged, said end portions forming spaced arms projecting laterally of container 10 in fixed relation thereto. Opening 34 is threaded, as shown in Figure 1, for engagement by the threaded end portion 36 of rod 22. The other end of rod 22 is provided with a screw-driver slot 38. Spring 20 bears at one end thereof against end portion 28 of bracket 24 and at its opposite end against a member 40 which has a sliding and turning fit on rod 22. Follower 18 is connected to member 40 by a pin 42 which is fixed to said follower and to said member, said pin projecting through and movable in a longitudinal slot 44 provided in bracket 24 and a longitudinal slot 46 provided in side wall 26 of container 10 in registry with said slot 44 of the bracket. Bracket 24 and rod 22 which are mounted externally of the container laterally thereof thus constitutes means for mounting spring 20 in operative relation to the follower 18.

When the follower is moved from a projected position within container 10 (Fig. 1) to a retracted position out of said container (Fig. 2) the follower 18 can be moved out of registry with the supply end 16 of the container and thereafter moved to the projected inoperative position illustrated in Figure 4. When the follower is in the position illustrated in Figure 4, the buckles or other elements can be placed within the container through said supply end 16 thereof without interference by the follower. In this connection it will be noted that it is unnecessary to provide the supply end 16 of the container 10 with a closure member, regardless of whether said supply end is at the top or bottom of the container and that to open the supply end of the container for the insertion of elements therein it is merely necessary to move the follower out of the container to the laterally displaced position thereof. To permit the lateral or turning movement of the follower after the latter is moved to its retracted position illustrated in Figure 2, the bracket 24 is provided with a portion 48 of reduced width extending lonigtudinally of the bracket from the supply end 16 of the container for a distance somewhat greater than the length of the follower 18.

While I have shown and described the preferred embodiment of my invention, it will be understood that the latter may be embodied otherwise than as herein specifically illustrated or described and that in the embodiment disclosed herein certain changes in the details of construction and in the arrangement of parts may be made. Also, it will be understood that the supply holder may be used for elements other than buckles. Accordingly I do not wish to be limited to the construction as herein specifically illustrated or described or to the specifically described use of the invention except to the extent that may be required by the scope of the appended claims.

Having thus described my invention, and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. In a supply holder comprising a container for a plurality of elements and provided with a delivery end having an opening at which the elements are dispensed, means for pressing said elements toward said delivery end comprising a follower movable in said container, a rod positioned laterally of said container and extending longitudinally thereof, a member slidable on said rod, a spring surrounding said rod and biasing said member for movement in one direction, said container having a side wall provided with a longitudinal slot, and means projecting into said container through said slot and connecting said member to said follower for movemet of the latter by said spring toward the delivery end of the container, said connecting means being movable longitudinally of said slot.

2. In a supply holder comprising a container for a plurality of elements and provided with a delivery end having an opening at which the elements are dispensed, means for pressing said elements toward said delivery end comprising a follower movable in said container, a rod positioned laterally of said container and extending longitudinally thereof, a member slidable and turnable on said rod, a spring surrounding said rod and biasing said member for movement in one direction, said container having a side wall provided with a longitudinal slot, and means projecting into said container through said slot and connecting said member to said follower for movement of the latter by said spring toward the delivery end of the container, said connecting means being movable longitudinally of said slot, said follower being movable to a retracted position out of said container and turnable in said retracted position to a position laterally of said container out of registry therewith.

3. In a supply holder comprising a tubular container for the elements to be dispensed therefrom, said container having a supply end for the insertion therein of said elements and a delivery end having an opening from which the elements are dispensed, a follower slidably fitting in said container for movement longitudinally thereof, a rod mounted in position laterally of said container and extending longitudinally thereof, a member slidably and turnably mounted on said rod, a spring surrounding said rod and biasing said member for sliding movement on said rod, said tubular container having a longitudinal slot, and a member movable longitudinally of said slot and connecting said first mentioned member to said follower whereby the latter is biased by said spring for movement in said container toward said delivery end thereof, said follower being movable to a retracted position out of said container and turnable in said re-

tracted position to a position laterally of said container out of registry therewith.

4. In a supply holder comprising a tubular container for the elements to be dispensed therefrom, said container having a supply end for the insertion therein of said elements and a delivery end having an opening from which the elements are dispensed, a follower slidably fitting in said container for movement longitudinally thereof, a rod mounted in position laterally of said container and extending longitudinally thereof, a member slidably mounted on said rod, a spring surrounding said rod and biasing said member for sliding movement on said rod, said tubular container having a longitudinal slot, and a member movable longitudinally of said slot and connecting said first mentioned member to said follower whereby the latter is biased by said spring for movement in said container toward said delivery end thereof.

5. In a supply holder comprising a tubular container for the elements to be dispensed therefrom, said container having a supply end for the insertion therein of said elements and a delivery end having an opening from which the elements are dispensed, a follower slidably fitting in said container for movement longitudinally thereof, a bracket secured to said container and projecting longitudinally outwardly beyond said supply end, longitudinally spaced parts projecting laterally from said container and from said bracket in fixed relation thereto, a rod fixed in said parts and extending longitudinally of said container in position laterally thereof, a member slidably mounted on said rod, a spring surrounding said rod and biasing said member for sliding movement on said rod, said tubular container having a longitudinal slot, and a member movable longitudinally of said slot and connecting said first mentioned member to said follower whereby the latter is biased by said spring for movement in said container toward said delivery end thereof.

6. A supply holder comprising a longitudinal container for elements to be dispensed from an opening at the delivery end thereof, said container being open at its opposite end, a follower slidably movable in said container and insertable in and removable from said container through said open end thereof, spring means positioned externally of said container and operatively connected to said follower for moving the latter toward said delivery end of the container, and means mounting said follower for movement about an axis parallel to the longitudinal axis of said container whereby said follower is movable into and out of registry with said open end of said container when removed therefrom while said follower is operatively connected to said spring means.

7. A supply holder comprising a longitudinal container for elements to be dispensed from an opening at the delivery end thereof, said container being open at its opposite end, a follower slidably movable in said container and insertable in and removable from said container through said open end thereof, spring means positioned externally of said container laterally thereof and operatively connected to said follower for moving the latter toward said delivery end of the container, and means mounting said follower for movement about an axis parallel to the longitudinal axis of said container whereby said follower is movable into and out of registry with said open end of said container when removed therefrom while said follower is operatively connected to said spring means.

8. A supply holder comprising a longitudinal container for elements to be dispensed from an opening at the delivery end thereof, said container being open at its opposite end, a follower slidably movable in said container and insertable in and removable from said container through said open end thereof, spring means positioned externally of said container laterally thereof and operatively connected to said follower for moving the latter toward said delivery end of the container, means disposed externally of said container for mounting said spring in operative relation to said follower, and means mounting said follower for movement about an axis parallel to the longitudinal axis of said container whereby said follower is movable into and out of registry with said open end of said container when removed therefrom while said follower is operatively connected to said spring means.

9. In a supply holder comprising a container for a plurality of elements and provided with a delivery end having an opening at which the elements are dispensed, means for pressing said elements toward said delivery end comprising a follower movable in said container, arms in fixed relation to said container and projecting laterally of said container externally thereof, a longitudinal rod positioned laterally of said container and removably secured in said arms, and a helical spring positioned around said rod and operatively connected to said follower for moving the latter toward said delivery end of the holder, said container having an open end through which the elements and the follower are inserted.

10. In a supply holder comprising a container for a plurality of elements and provided with a delivery end having an opening at which the elements are dispensed, means for pressing said elements toward said delivery end comprising a follower movable in said container, and spring means positioned externally of said holder laterally thereof and operatively connected to said follower for moving the latter toward said delivery end of the holder, and means including a bracket fixed to the outer side of said container for mounting said spring in operative relation to said follower.

HARRY ALFANDRE.