W. J. McINTYRE.

TOOTHPICK DISPENSING DEVICE.

APPLICATION FILED OCT. 6, 1917.

1,272,825.

Patented July 16, 1918.

Fig. 1

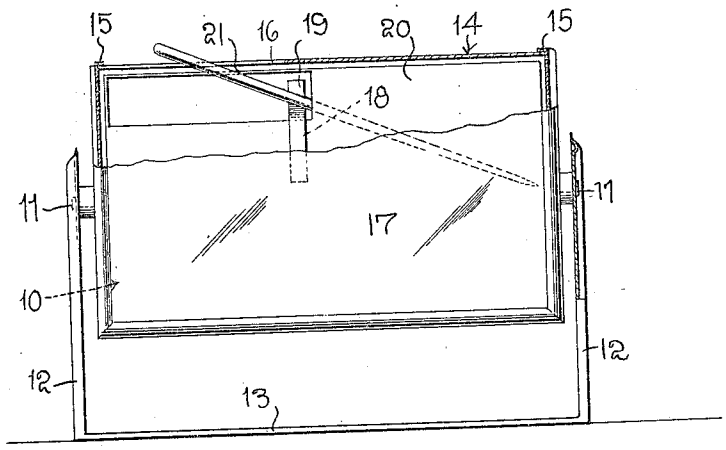


Fig. 2

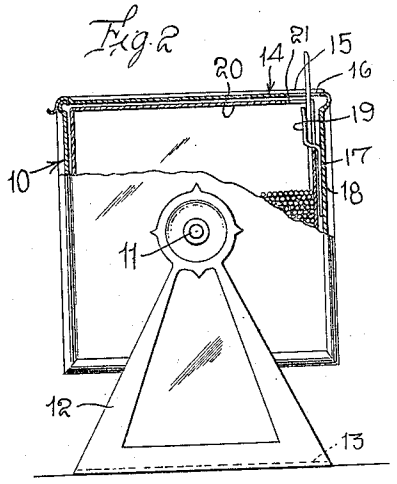


Fig. 3

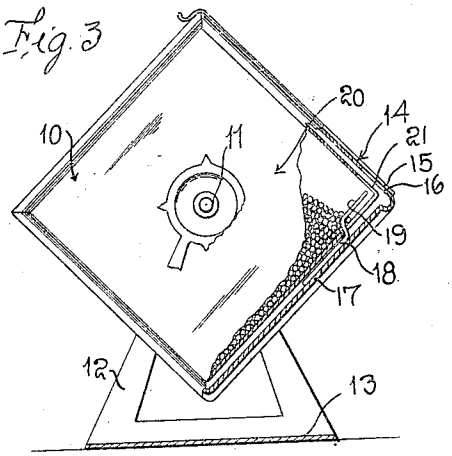


Fig. 5

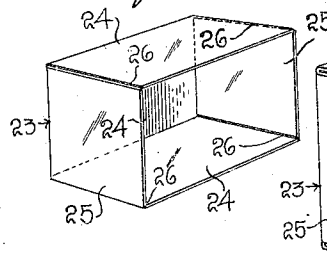


Fig. 4

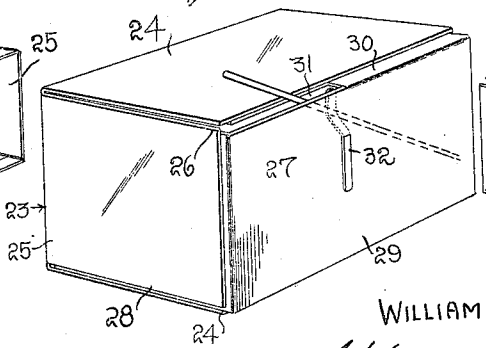
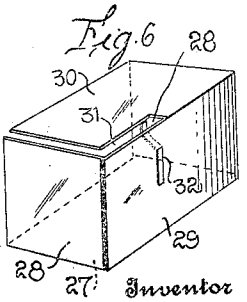


Fig. 6



Inventor

WILLIAM J. McINTYRE

By Watson & Coleman

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM JOHN McINTYRE, OF HANNAH, NORTH DAKOTA.

TOOTHPICK-DISPENSING DEVICE.

1,272,825. Specification of Letters Patent. Patented July 16, 1918.

Application filed October 6, 1917. Serial No. 195,084.

To all whom it may concern:

Be it known that WILLIAM J. McINTYRE, a citizen of the United States, residing at Hannah, in the county of Cavalier and State of North Dakota, has invented certain new and useful Improvements in Toothpick-Dispensing Devices, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to dispensing devices, and particularly to devices for dispensing matches, tooth picks, and like objects.

The general object of the invention is to provide a construction of this character so formed that upon an oscillation of the container in one direction, one tooth pick or like article will be projected from the container, so that it may be withdrawn therefrom.

A further object is to provide a device of this character in which the container or carton carrying the tooth picks, matches, etc., is constructed in two sections, the sections being so arranged that when they are closed, the articles will be firmly held within the carton or container and that when opened, a rotation of the carton will act to project a single tooth pick, match or other article.

A further object is to provide a device of this character in which the carton is formed with a slot for a portion of its length, and a fulcrum member is disposed adjacent the end of the slot, so that upon a rotation of the carton around its longer axis, the tooth pick or other article will roll down onto the fulcrum member and upon a reverse rotation of the carton or container, the tooth pick will engage with the fulcrum member, become overbalanced, and cause the projection of the short end of the article through said slot.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is an elevation of my tooth pick dispensing device partly in section;

Fig. 2 is an end elevation of the device partly in section;

Fig. 3 is a like view to Fig. 2, but showing the receptacle tilted;

Fig. 4 is a perspective view of a slightly modified construction of carton; and

Figs. 5 and 6 are similar views of the two carton sections.

Referring to the drawings, it will be seen that one form of my improved dispensing device consists of a rectangular casing having any desired width and depth and having a length approximately that of a tooth pick, this container or receptacle being preferably made of sheet metal and being designated generally 10. The ends of the container are provided with trunnions 11 which engage in suitable bearings formed upon upwardly extending brackets or ears 12 extending upward from a suitable base 13, which may be made heavy or which may be attached by screws to a table, counter or other support. Normally the receptacle will be supported as illustrated in Fig. 2. The top of the container is designated 14 and is made of sheet metal and slides into place in the side walls of the receptacle, these side walls being formed with suitable guideways 15 to receive the top 14. This top 14 is cut away adjacent its inner edge as at 16 for a distance approximately one-half of the container, this cut-away portion having a width slightly greater than the diameter of a tooth pick, match or other article being dispensed.

Mounted upon the front wall 17 of the container is a strip of metal 18, one portion of which is bent to contact with the front wall and the upper portion of which is bent laterally inward or deflected as at 19, this strip forming a fulcrum for engagement with the tooth pick as will be later explained. The distance between the upper end of the portion 19 and the top 14 is just great enough to permit a tooth pick to slip in between the top of the portion 19 and the cover 14. The carton is illustrated in Fig. 1, and is designated 20. This carton may be made of pasteboard and of a size to readily be disposed within the receptacle 10 and the carton is cut away as at 21 upon one face to allow the unbalancing of the tooth pick so as to permit one end of the tooth pick to protrude out of the opening so as to be grasped by the fingers (see Fig. 2).

In the practical use of this device, the carton is placed within the receptacle. The receptacle is then slipped into the metal support, that is, between the ears or brackets 12 with its trunnions engaged in proper bearing recesses formed in the brackets and then the device is ready for use. When a tooth pick is wanted, the receptacle is rotated forward causing the tooth picks to roll forward

and one of the tooth picks will engage with the fulcrum formed by the strip 18 and its deflected portion 19. This fulcrum is so disposed that the tooth pick will be unbalanced and upon releasing the receptacle, it will return to the position shown in Fig. 2 and one end of the tooth pick will be caused to project out through the slot or cut-away portion formed in the cover in the manner illustrated in Fig. 1, whereupon the tooth pick may be readily grasped and pulled out. Each time that the container or receptacle is rotated forward upon its trunnions, a new tooth pick will be engaged by the fulcrum in the manner described and brought into a position to be delivered.

While in Figs. 1, 2 and 3 I have shown a container within which a carton of matches is to be placed, I preferably use the carton itself as a container for matches, tooth picks or the like, this carton being made in two sections, as illustrated in Figs. 4 to 6. In these figures, 23 designates one section of the carton, which is preferably formed of metal, though it may be made of other material, which has a length slightly greater than the article to be dispensed, as for instance slightly greater than a bundle of tooth picks, and which is provided with the five walls, 24 designating the side walls and 25 the end walls. The side walls and end walls are separated from each other by slits 26. The other section of the carton illustrated in Fig. 6, has a front wall 27, end walls 28, a side wall 29, and an opposite side wall 30. These end and side walls are all preferably separated from each other by slitting the metal. The side wall 30, at its junction with the wall 29, is cut-away to provide a longitudinally extending slot 31, which is approximately one-half the length of the carton, and disposed on the inside face of the wall 29, beneath the closed end of the slot 31, is the fulcrum member 32.

Now when the two sections of the carton are engaged with each other, they form a cubical box, and if this box be rotated upon its longer axis, so as to carry the slot 31 downward, then the tooth picks or other articles will roll against the wall 30 and one of the tooth picks will engage over the fulcrum 32. Now upon a reverse movement of the carton, the tooth pick which is engaged with the fulcrum 32 will become unbalanced, so that the heavier end of the tooth pick or other article will sink downward and the lighter end will be carried upward through the slot 31 into a position to be removed by the fingers of the operator. In other words, the construction illustrated in Figs. 4 to 6, is precisely the same in principle as the construction illustrated in Figs. 1 to 3.

The carton is made in two sections having telescopic or sliding engagement with each other, so that the two sections may be either forced into close engagement with each other, to thereby hold the contents of the carton tightly packed and in place and close the slot 31, or so that the carton may be enlarged, thus giving the contents ample room to roll within the carton and carry one of the tooth picks into engagement with the fulcrum member 32, before described. When the two sections of the carton are pressed together, the slot 31 is closed by the wall 24, thus preventing the escape of the article. When the sections of the carton are drawn apart, however, to put the carton in shape for dispensing the article, then the slot 31 is disclosed. The object of forming the slot 31 is obvious. This slot provides for the free passage of one of the matches or tooth picks at a time, and the slot is slightly less than one-half the length of the carton, so that the slot will not allow any of the contents to fall out. That part of the carton adjacent the end of the slot acts as a support to keep the article being dispensed from tilting too much, and thus sliding on the fulcrum and making it difficult to be grasped by the fingers.

The object in placing this opening along one corner, that is, adjacent one side of the carton is to dispense with the necessity of supplying each carton with means for standing the matches or tooth picks, that is, holding them in a position parallel to the longer axis of the carton. The side 29 of the carton acts in this case as a standing member, as any matches which are turned diagonally to the axis will be caused to shift into parallel position when the matches or tooth picks roll against the side of the carton. A carton of this character may be either used for dispensing tooth picks by rotating it within the hand or it may be disposed in a suitable stand for such rotation, the stand being of such form as to engage the ends of the carton for a rotative movement of the carton.

It will be noted that in both forms of my device there is a container within which the matches are placed and by which they are dispensed and I wish it understood that the term "container" as used in the appended claims is meant to include not only a receptacle within which a carton may be placed and entirely inclosed, but a carton alone or mounted in the receptacle. It will be obvious that the principle of my invention may be applied in a variety of forms without departing from the spirit of the invention.

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

1. A dispensing device comprising an article container provided with a longitudinally extending slot and adapted to be rotated, and means mounted on the wall of the

container adjacent said slot with which one of the articles is adapted to engage when the holder is rotated to a predetermined position whereby said article will be segregated from the remaining articles and supported for gravity movement when the holder is returned to its normal position to cause said article to project outwardly through the opening.

2. A dispensing device comprising an article conveyer adapted to be rotated and provided with a longitudinally extending slot and a relatively fixed fulcrum member mounted on the wall of the container adjacent said slot and adapted to be engaged by one of the articles when the holder is rotated to a predetermined position, whereby said article is segregated from the remaining articles when the holder is returned to its normal position, said article in the latter position of the holder rocking upon the fulcrum to cause one end of the article to project outwardly through said opening.

3. A dispensing device comprising a container rectangular in cross section and having a length approximately equal to the length of the article to be dispensed, there being a slot formed at one corner of the container, the slot having a length less than one-half the length of the container, and a fulcrum member mounted upon one wall of the container and below said slot and having an offset portion disposed in spaced relation to the holder and with its end in spaced relation to the wall in which the slot is formed, and adapted to receive one of the articles when the holder is rotated to a predetermined position whereby when the holder is returned to its normal position, the article will rock upon the fulcrum to project one end thereof outwardly through the slot.

4. A dispensing device comprising a container consisting of two sections having interfitting telescopic engagement with each other, the container when the sections are engaged being approximately rectangular in cross section, one of said sections being provided upon one wall with a slot, the slot being disposed at the corner of the section, and in alinement with the wall extending at right angles to the first named wall, this slot being adapted to be exposed when the sections of the container are slightly separated from each other, and a fulcrum member fixed to the second named wall below the inner end of the slot and having a free end portion disposed contiguous to the wall in which the slot is formed, said member being adapted to receive one of the articles in the container when the container is rotated to a predetermined position, said article rocking by gravity upon said fulcrum member and having one end projected through the slot when the container is reversely rotated to another predetermined position.

5. A dispensing device comprising a rotatably supported holder having a slot in one wall, a carton adapted to be arranged within said holder and also having a slot coinciding with the slot in the holder wall, and a fulcrum member having an offset portion disposed within the carton in spaced relation to the wall thereof and adapted to receive one of the articles when the holder is rotated to a predetermined position whereby, when the holder is returned to its normal position, the article will rock upon the fulcrum to project one end thereof outwardly through said openings.

6. A dispensing device comprising a support, a holder rotatably mounted in the support and having a slot in one wall, in combination with a carton consisting of two sections having interfitting telescopic engagement with each other, one of said sections being provided with a slot adapted to be exposed when the carton sections are slightly separated from each other, said carton being adapted for arrangement in the holder with said slot in coinciding relation with the slot in the wall of the holder, and means to segregate one of the articles in the carton from the remaining articles when the holder is rotated to a predetermined position and cause said article to project outwardly through the coinciding slots when the holder is returned to its normal position.

7. A carton consisting of two rectangular, telescopically engaged sections, the inner section being provided with a slot extending along one of its longitudinal corners, said slot being closed by the wall of the outer section when the carton sections are completely telescoped and said slot exposed when the carton sections are slightly separated, and a fulcrum member fixed to one wall of the inner carton section and having a free end portion disposed contiguous to said slot, said member being adapted to receive one of the articles in the carton when the carton is disposed in a predetermined position, whereby the article will move by gravity and project at one of its ends outwardly through the slot when the carton is disposed in another predetermined position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLIAM JOHN McINTYRE.

Witnesses:
EDGAR A. DE FOREST,
I. EMPENGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."