

United States Patent

[11] 3,593,873

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 [73] Assignee **Nederlandsche Wapen-en Munitefabr**
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 [33] **Netherlands**
 [31] **68.0725**

[56]

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2,183,090	12/1939	Boone	220/21 X
2,655,283	10/1953	Moldt	220/22
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Primary Examiner—George E. Lowrance
 Attorney—Walter Becker

[54] **CONTAINER FOR CYLINDRICAL ARTICLES**
3 Claims, 14 Drawing Figs.

[52] U.S. Cl. **220/21,**
206/3
 [51] Int. Cl. **B65d 25/06**
 [50] Field of Search **220/20, 21;**
206/3, 65 A

ABSTRACT: A container for elongated articles such as cartridges, ampullae, and bottles, comprising a box having detachably inserted therein, a partition carrier with holes in at least one of the partitions for receiving the said articles and, if desired, also said carrier being provided with at least two series of abutment means different lengths arranged in such a way as to respectively become effective depending on whether the carrier is inserted into said box with one or the other side thereof forming the bottom of said container.

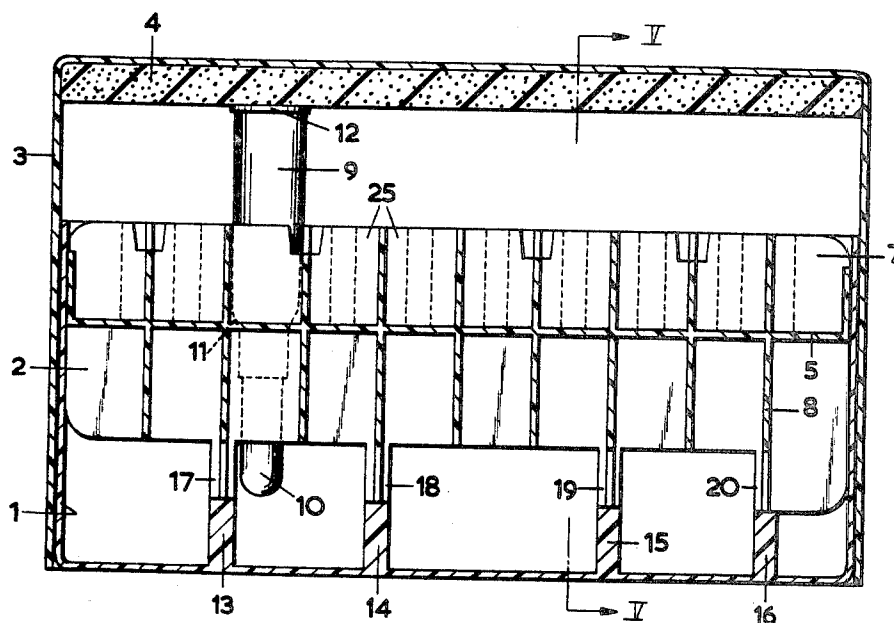


FIG. 1

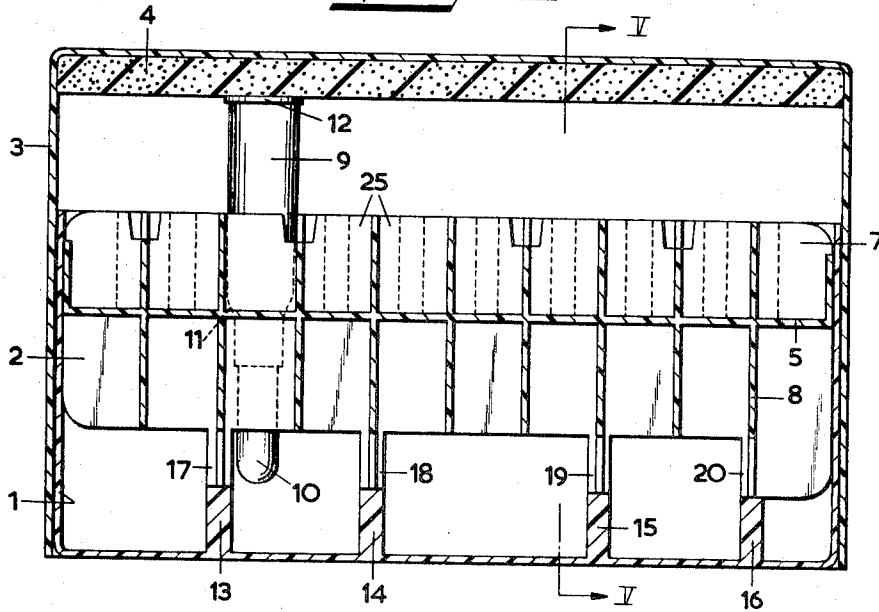
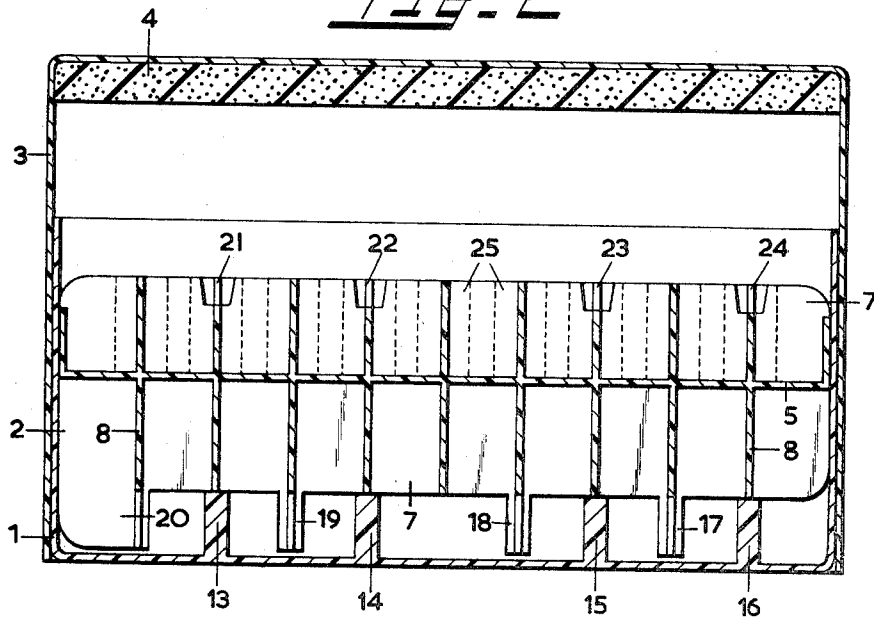


FIG. 2



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FIG. 3

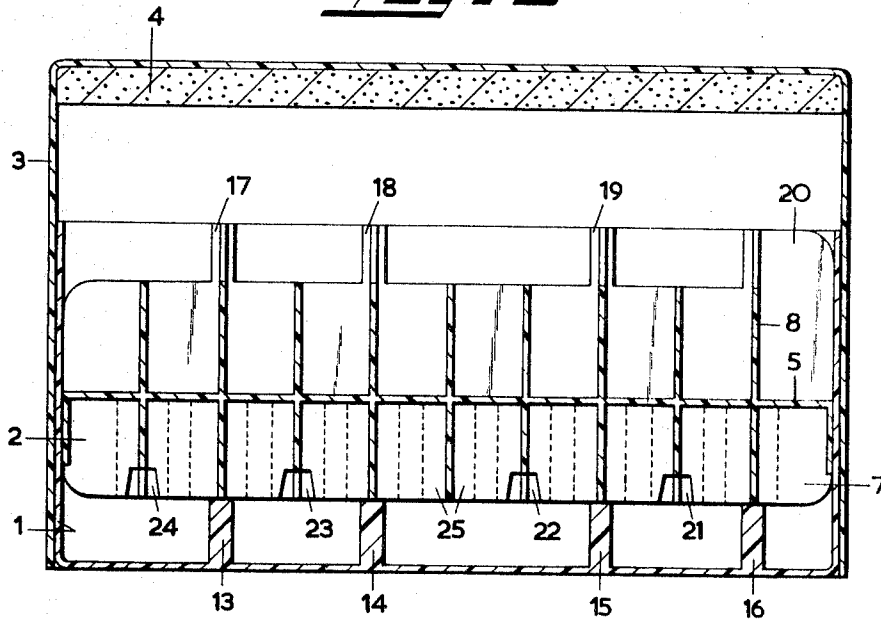
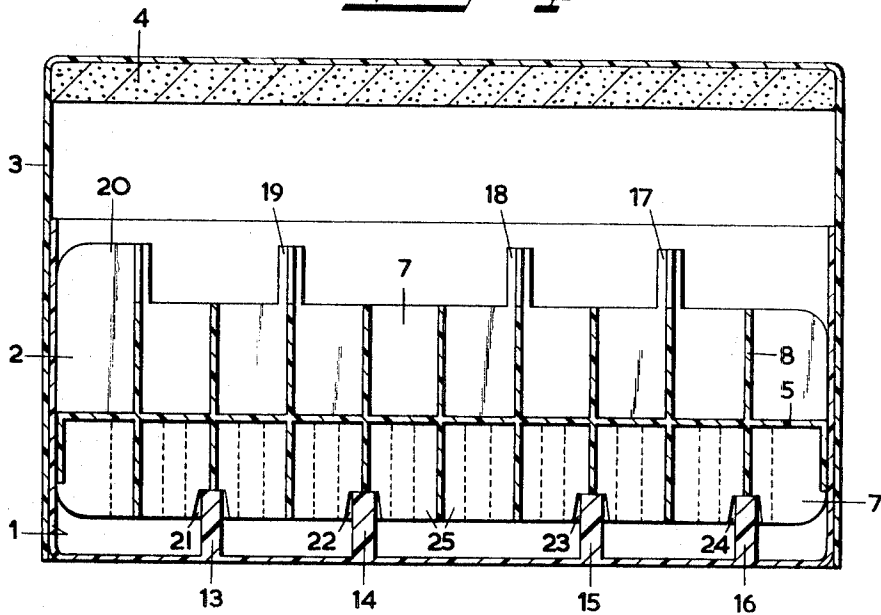


FIG. 4



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FIG. 5

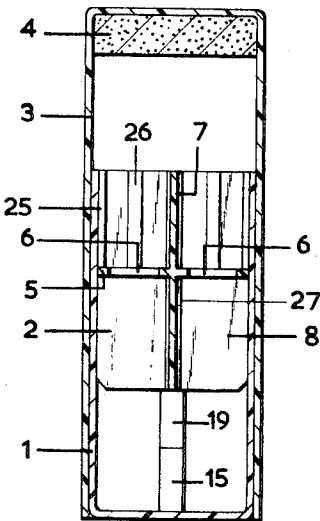
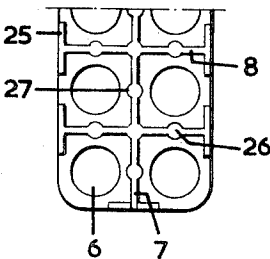


FIG. 5a



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FIG. 6

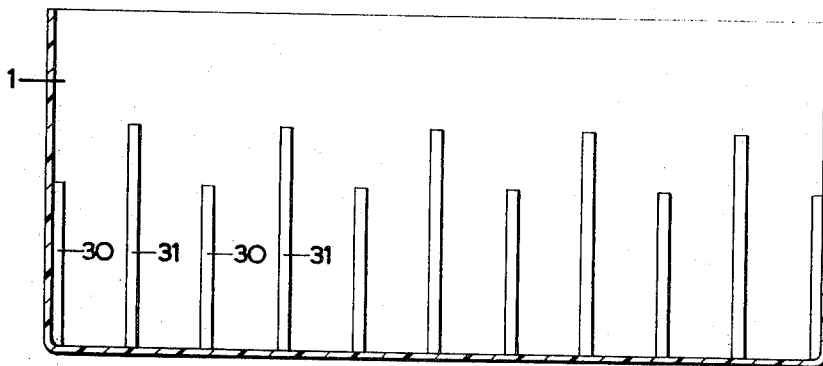


FIG. 7

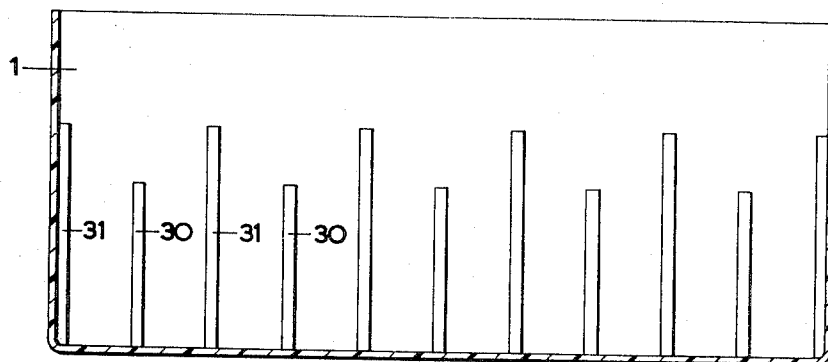
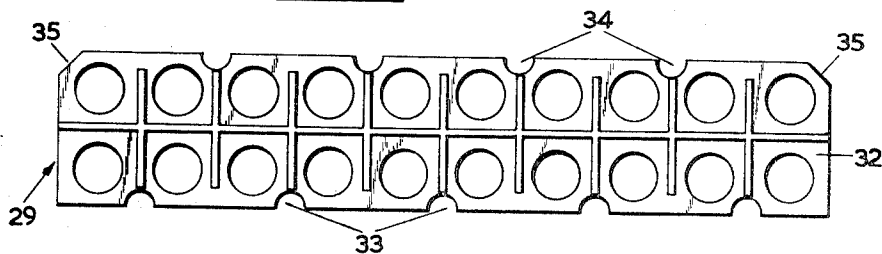


FIG. 8

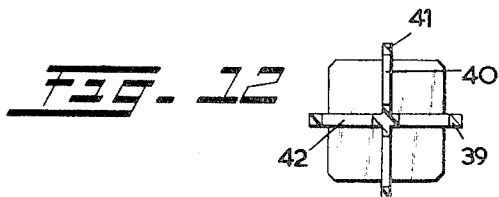
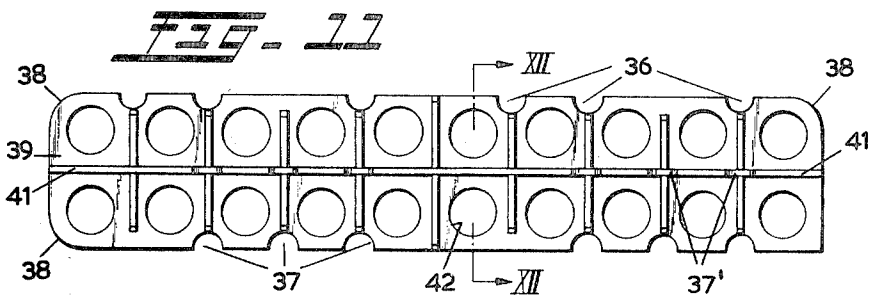
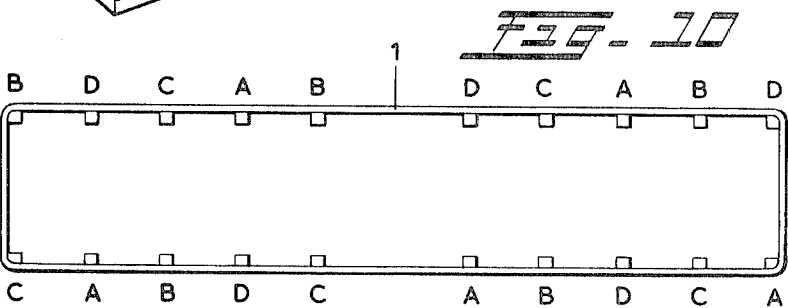
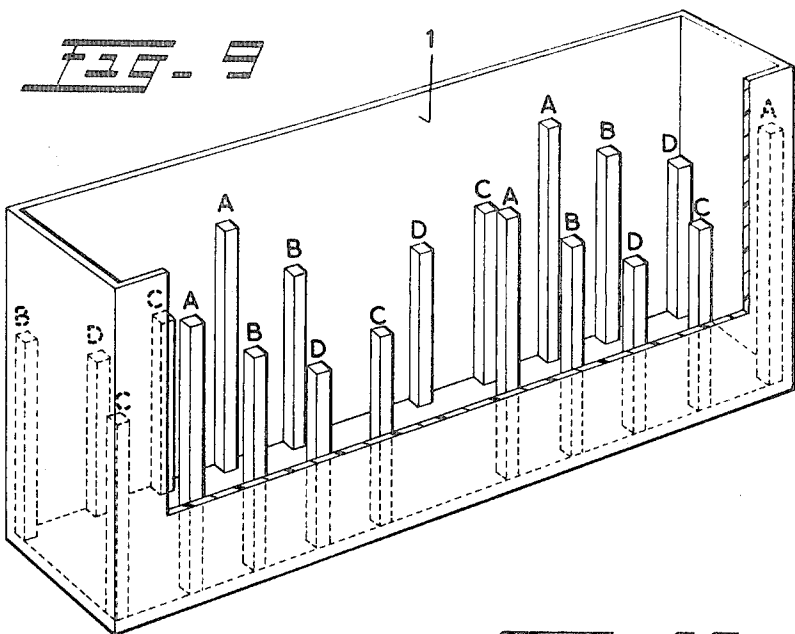


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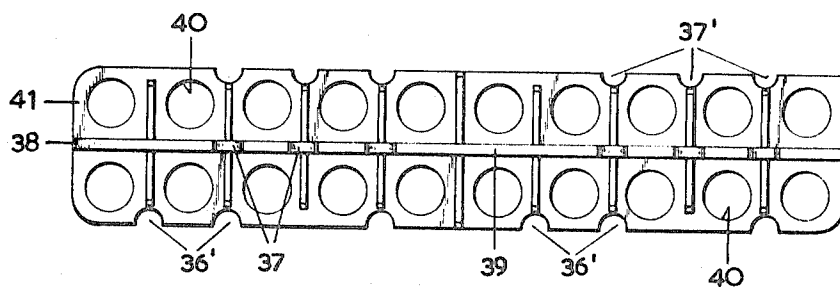
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FIG. 13



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CONTAINER FOR CYLINDRICAL ARTICLES

The present invention relates to a container for substantially elongated articles, such as cartridges, ampullae, bottles, and the like, which comprises a box with a cover and a partitioned carrier capable of being inserted into the box, the depth of insertion of the carrier into the box being defined by abutment elements cooperating with each other and mounted on both the carrier and the box.

A container of this kind for cartridges of small fire arms is known from U.S. Pat. No. 3,101,840. In this known container the interior is provided with legs which are longer than the cartridges, so that the latter, which have thickened portions supported by the carrier, are clear of the bottom. The cover of the package is flush with the bottom of the shell and encloses the cartridges in the box when the package is closed.

As is well known, cartridges for small firearms are made in various sizes. Even when the cartridges have the same diameter, their lengths may differ considerably. Hitherto each type of cartridge has had to be packaged in separate boxes, but this requires the manufacture of many kinds of containers, thus increasing the cost of packaging.

It is an object of this invention to reduce the number of types of containers by making a universal container to fit cartridges of different sizes.

This object and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

FIGS. 1—4 show a container with the carrier placed in four different positions;

FIG. 5 is a cross section of the container taken along the line V—V in FIG. 1;

FIG. 5a is a top view of the carrier shown in FIG. 1;

FIG. 6 is a vertical section of a box with ribs of different lengths provided on its sidewalls;

FIG. 7 is a vertical section of the same box, showing the opposite wall provided with ribs;

FIG. 8 is a top view of a carrier belonging to the box shown in FIGS. 6 and 7;

FIG. 9 is a perspective view of a box according to a further embodiment of this invention;

FIG. 10 is a top view of the box shown in FIG. 9, wherein the ribs of the same lengths are designated by the same characters;

FIG. 11 is a top view of a carrier belonging to the box shown in FIGS. 9 and 10;

FIG. 12 is a cross section of a carrier taken along the line XII—XII in FIG. 11.

To this end, according to the invention, the abutment elements are so mounted on the box and the carrier that, when the carrier is moved into the box in a first relative position, abutment elements will engage each other. When the carrier is moved into the box in another relative position, the box and the carrier having been rotated through an angle relative to each other as compared with their interrelationship in the first position, different abutment elements will engage each other, resulting in a different depth of insertion of the carrier.

In addition, the carrier, according to this invention, can be brought into another relative inserted position after rotation about an axis in the direction of insertion.

Furthermore, the carrier, according to this invention, can be brought into still another relative inserted position after rotation about an axis normal to the direction of insertion.

Therefore, according to this invention, one type of carrier allows the same box and cover to be used for packaging cartridges of at least four and as many as eight different sizes.

Referring now to the drawings in detail, FIGS. 1—5 show that the container consists of a box 1 with a carrier 2 inserted therein and a cover 3 adapted to be slipped over the box, the top of which cover is provided underneath with a lining 4 of resilient, compressible material, such as foam rubber or plastic.

The carrier 2, sometimes referred to as the interior, consists of a horizontal plate 5 having two parallel rows of circular holes 6 (FIG. 5a) and partitions 7, 8 provided therebetween and mounted on the plate 5 in a direction normal thereto. As seen in cross section (FIG. 5), the longitudinal partition 7 and the horizontal plate 5 together form a cross, the lower section of which is longer than or equal to the upper section. The longitudinal partition 7 and the horizontal plate 5 are longitudinally divided into compartments by transverse partitions 8, with each compartment having a hole 6.

Each compartment is adapted to receive a cartridge 9 with the bullet 10 upside down, said cartridge extending downwardly through the hole 6 with the shoulder 11 of the cartridge resting on that top surface portion of plate 5 which is in the immediate vicinity of and defines the respective hole 6. The cartridge is additionally supported in this vertical position by the central partition 7, two transverse partitions 8 and one sidewall of the box 1. When all cartridges (in this particular embodiment 20) have been inserted into the carrier, the cover 3 is slipped over the box. With the cover in the closed position, all of the cartridges ridges have their bottoms 12 flush against the resilient lining 4 of the cover, and are thus held between said lining and the perforated plate 5.

In order to reduce the space between the partitions, discontinuous longitudinal partitions 25 are secured on one side of the perforated plate, the upper side in FIG. 5, to the outer ends of the transverse partitions (see FIG. 5a). The distance between the longitudinal partitions 25 and the central partition 7 is slightly less than the distance between the transverse partitions 8. In addition, the central partition 7 and the transverse partitions 8 may be provided with thickened portions 26, 27 to reduce the radial distance between the partitions. The partitions 25 and the thickened portions 26 serve to laterally hold cartridges with a smaller shell diameter than the cartridges that can be inserted on the other side of the perforated plate. Since the distance between the bottom 12 of the cartridge and its shoulder 11 is not the same for different kinds of ammunition, provisions have been made, according to the invention, to support the carrier at different levels in the box. To this end, according to FIGS. 1—5 four supports 13, 14, 15 and 16 are mounted on the bottom and within the central plane of the box, asymmetric with respect to the transverse central plane. Similarly, there are mounted on the central longitudinal partition 7 of the carrier four supports 17—20, asymmetric with respect to the central transverse plane.

Position I

In the position shown in FIG. 1 the supports of the carrier are in line with the supports of the box so as to support the carrier at its highest level. This position is suitable for cartridges with a short shell. The top of the carrier extends up to the top of the box.

Position II

If the carrier is taken out of the box, turned on a vertical axis through 180° and inserted into the box again, it will be appreciated that due to the aforementioned asymmetry the supports of the carrier, as shown in FIG. 2, are no longer in line with the bottom supports, but are disposed therebetween. The carrier is now pushed down until the central partition 7 rests on the bottom supports 13—16. The drawing clearly shows that the distance from the perforated plate 5 to the upper edge of the box or to the resilient lining of the cover is greater than the corresponding distance with the carrier in the position shown in FIG. 1, so that longer cartridges can be packed in this second arrangement.

Position III

Reverting back to the position shown in FIG. 1, the carrier is again taken out of the box, turned this time on its horizontal axis through 180°, and reinserted into the box until the central partition 7 abuts against the supports 13—16. This position is shown in FIG. 3. The distance from the perforated horizontal plate to the upper edge of the box is 2 mm. longer than the corresponding distance in position II shown in FIG. 2. The short longitudinal partitions 25 attached to the transverse par-

titions 8 at the outer ends thereof are now on the bottom of the carrier. This implies that the compartments between partitions 7 and 8 and the wall of the box are larger and are adapted to receive cartridges with a larger shell diameter.

Provided in the lower end of the central partition 7 are four recesses 21—24, asymmetric with respect to the central transverse plane.

Position IV.

If, starting from position III, the carrier is again taken out of the box, turned on a vertical axis through 180°, and reinserted into the box, the recesses 21—24 are in line with the bottom supports 13—16, which enter said recesses. Hence, as is shown in FIG. 4, the distance between the perforated plate 5 and the upper edge of the box is longer than in positions II and III, so that cartridges with a greater shell length can be packed in the same container. The partition 7 of the carrier has been pulled up beside the support 20, and functions as a handle and as marker to facilitate proper positioning of the carrier.

With the embodiment of the container as shown in FIGS. 6, 7 and 8, the supports are not positioned in the central longitudinal plane of the box, but are in the form of ribs placed on the sidewalls. The arrangement is such that short ribs 30 and long ribs 32 are alternatively mounted an equal distance apart along the walls so that one wall is provided with six short ribs and five long ribs (FIG. 6) and the other wall with six long ribs and five short ribs (FIG. 7). It is to be understood that the number of ribs is not limited to 2x11.

If the carrier 29 should now be inserted into the box, the perforated plate 32 (FIG. 8) would rest on the long ribs 31. To enable positioning at various levels, the perforated plate 32 is provided with five equally spaced recesses on one side and six equally spaced recesses on the other side. As is shown in FIG. 8, these recesses are on both sides symmetrically offset with respect to each other.

With the carrier in the position shown in FIG. 8, the carrier is supported by the long ribs 31. After the carrier has been turned about a horizontal or a vertical axis through 180°, the long ribs 32 are in line with the recesses 33—35, and the carrier continues to move down until the perforated plate 32 engages the short ribs 30. As was the case with the first embodiment of this invention, here, too, four different positions of the carrier are possible, so that four types of cartridges, which may differ in length or in diameter, can be packed therein.

The embodiment shown in FIGS. 9—12 provides twice as many packaging potentials as the embodiments of FIGS. 1—8. FIGS. 9 and 10 show that the ribs A, B, C, D have four different lengths. On either side ten ribs are so positioned opposite to each other that two ribs of one length on one wall

have associated therewith three ribs of corresponding length on the other wall, so that the carrier is always supported by five ribs. Again the perforated plate 39 of the carrier is provided with recesses 36, 37 and rounded-off corners 38, which will or will not be in line with ribs of a specific length according to the various positions of the carrier. In this embodiment the central partition 41 is also provided with openings 40 for cartridges and with recesses corresponding to the recesses in the perforated plate 39. The openings 40 have a different diameter than do the holes 42 in the perforated plate 39, so that after the carrier has been turned about its longitudinal axis by 90°, there are four new possibilities of packaging cartridges of different lengths and different diameters.

It is to be understood, of course, that the present invention is not to be limited by the specification or drawings, but will be determined by the scope of the appended claims.

What I claim is:

1. A container for substantially elongated articles, especially cartridges, ampullae, and bottles, which comprises: a box, and a partitioned carrier having a vertical central axis and a longitudinal axis and adapted to be inserted into and to be withdrawn from said box, said box and said carrier being provided with at least two series of cooperating abutment means operable respectively to become effective when inserting said carrier into said box in a first position and when inserting said carrier into said box after turning said carrier by 180° about one of said two axes relative to said first position, said box having a bottom, sidewalls, and end walls, and being open at the top, said carrier when inserted in said box having first partition means extending substantially parallel to said bottom and also having second partition means substantially parallel to said end walls and also having third partition means substantially parallel to said sidewalls, said first partition means being provided with holes having their axes substantially perpendicular to the plane of said first partition means, said third partition means being provided with abutment members protruding from one longitudinal free edge and also being provided with recess means on its opposite longitudinal free edge, said last mentioned recess means being offset with regard to said abutment members in the longitudinal direction of said carrier.

2. A container according to claim 1, which comprises: a cover open at the bottom and provided with a top wall and sidewalls and also having end walls and abutment means in the interior of said cover for engagement with top edges of said box.

3. A container according to claim 2, which includes shock absorbing lining means inside said cover and on said top wall.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,593,873 Dated July 20, 1971

Inventor(s) Johnny Vonk

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the cover sheet [72] "Hertogenbosch" should read -- 's-Hertogenbosch --; [73] "Nederlandsche Wapen- en Munitiefabr" should read -- Nederlandsche Wapen- en Munitiefabriek De Kruithoorn N.V. --; [31] "68.0725" should read -- 68.07251 --.

Signed and sealed this 10th day of October 1972.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents