No. 766,139. PATENTED JULY 26, 1904.

J. T. CRAW.

BOTTLE PACKING DEVICE.

APPLICATION FILED NOV. 9, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

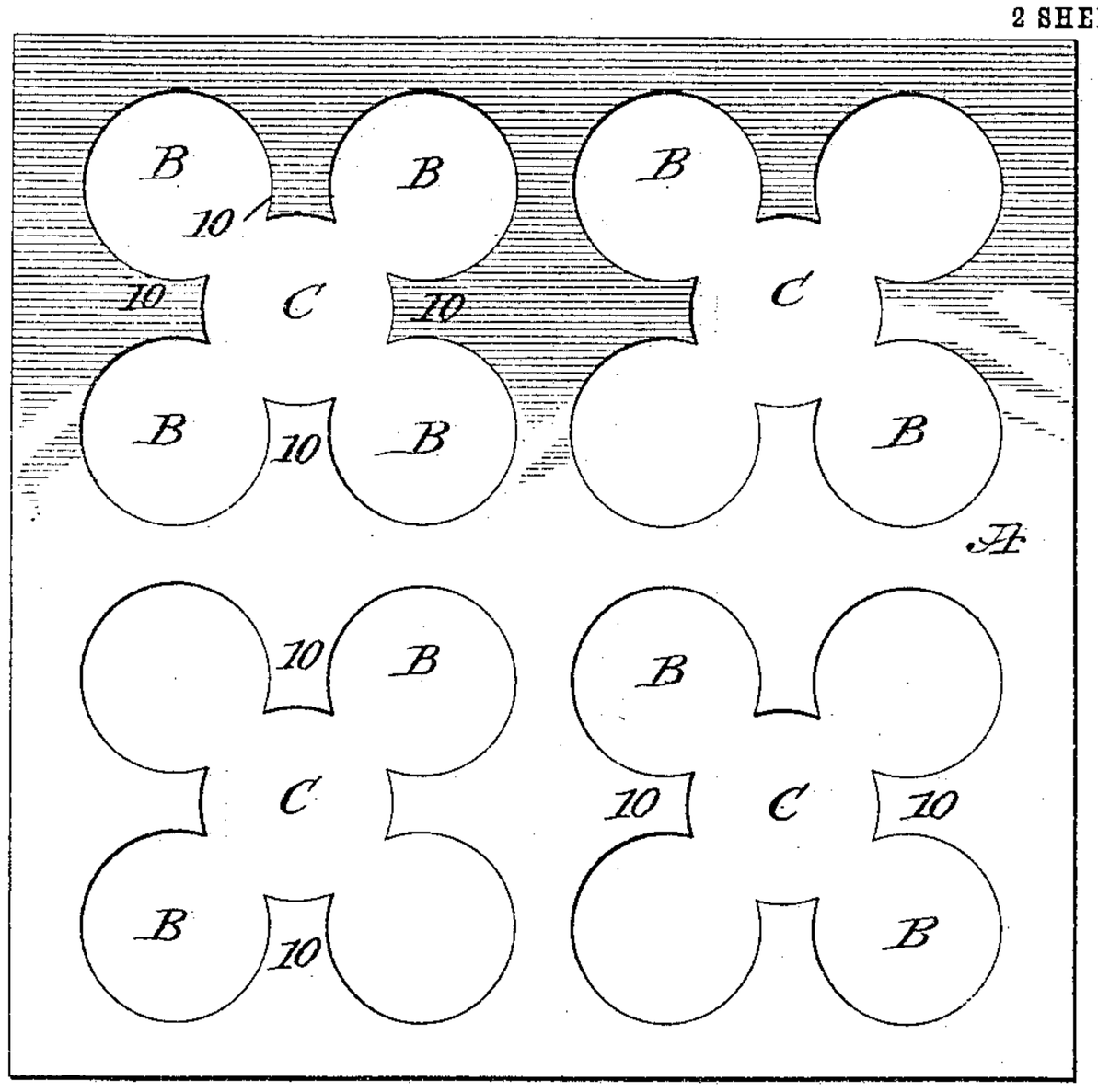
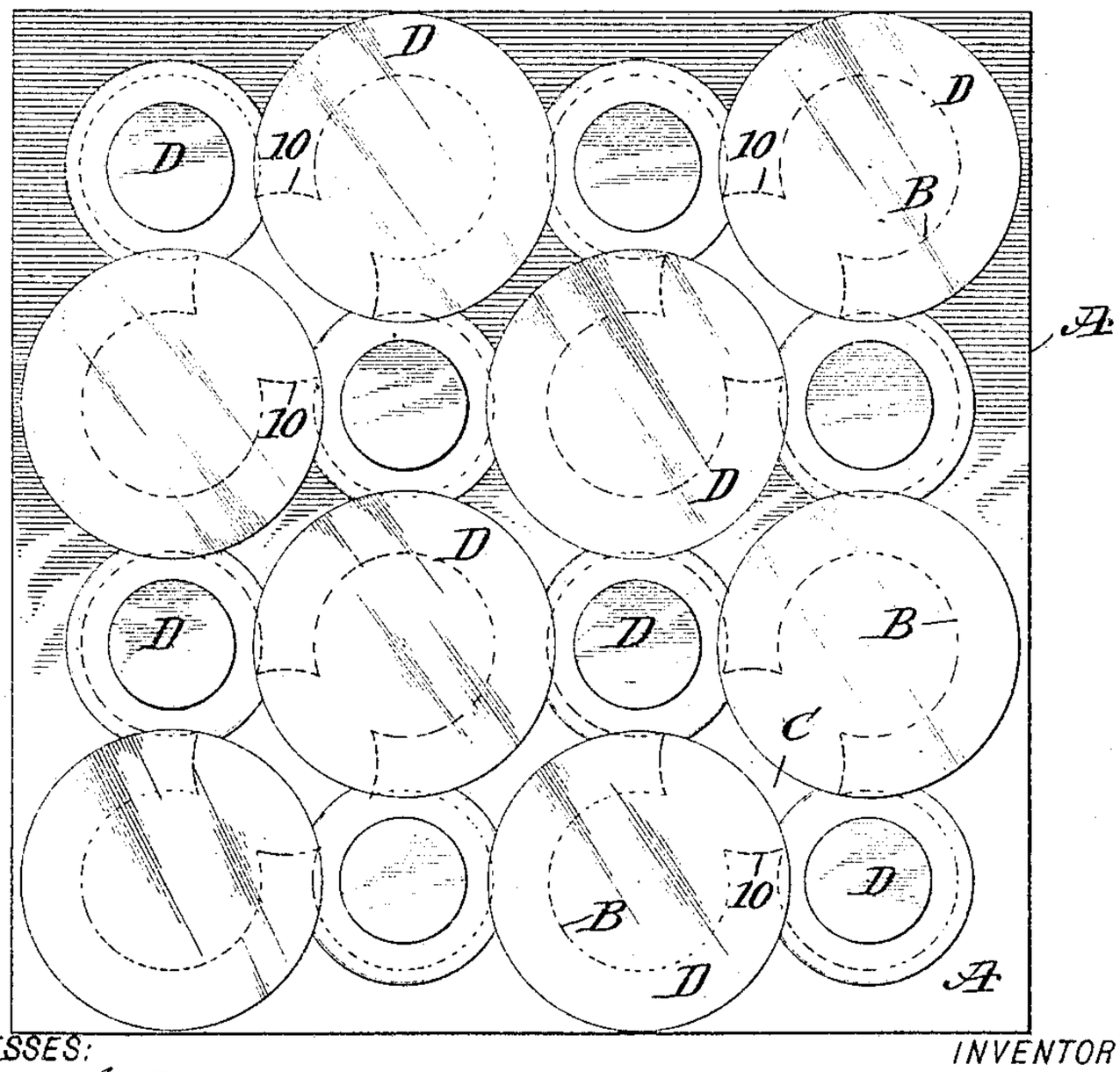


Fig. 2.



WITNESSES:

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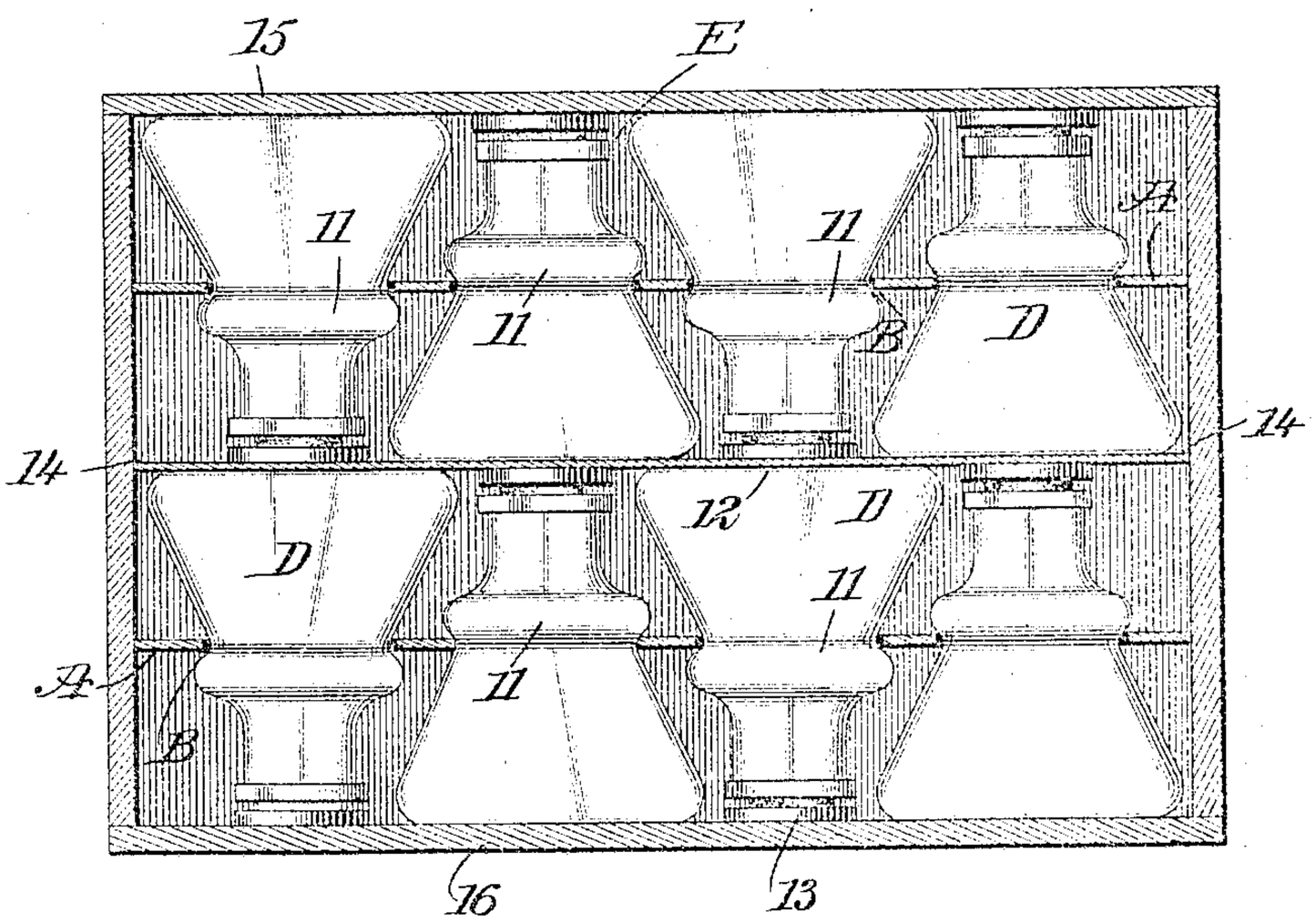
Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH TAYLOR CRAW, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO ROBERT PITFIELD BROWN AND EDWARD LINGEY BAILEY, OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-PACKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 766,139, dated July 26, 1904.

Application filed November 9, 1903. Serial No. 180,380. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH TAYLOR CRAW, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Bottle-Packing Device, of which the following is a full, clear, and exact description.

My invention relates to a device for packing bottles, especially the cone bottles usually employed as receptacles for ink and mucilage.

The purpose of the invention is to provide a packing sheet, board, or partition in which the bottles can be conveniently and expeditiously placed in alternately-reversed order, portions of the bottles extending above and below the sheet or partition, so that the bottles will be arranged in rows, the bottom of one bottle being adjacent to and practically flush with the stoppered mouth of the next bottle, and to so construct the packing sheet or partition that the bottles are not only readily seated therein, but may be quickly and conveniently removed, and also so that the bottles will be held firmly in place in the packing sheet or partition, it being possible to remove a loaded sheet or partition from a packing-case, for example, without danger of any bottle carried thereby leaving its position.

A further purpose of the invention is to provide a means for packing bottles which will dispense with the use of sawdust, excelsior, or light loose packing mediums ordinarily employed and which will insure the various tiers of bottles resting one upon the other in a packing-case or package without danger of any of the bottles being broken under the usual conditions of transportation.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of an empty improved packing sheet or partition. Fig. 2 is a plan view of the improved packing sheet or partition and bottles placed in position thereon, and Fig. 3 is a vertical section through a packing-case and loaded packing sheets or partitions in position therein.

A represents a packing sheet or partition provided with groups of apertures B. Each group preferably consists of four apertures, as is shown, arranged at equal distances apart, although any desired number of apertures may be employed. Each of the apertures B of a group is adapted to receive a bottle, and the said apertures of each group are connected or intersected by a central aperture C, thus forming tongues 10 between the bottle-receiving apertures B, enabling a bottle to be withdrawn from an aperture B without difficulty and without lacerating the sheet, board, or partition A.

The packing sheet, board, or partition A is made of paper of suitable thickness, papier-mâché, metal, or other suitable material made as thin as possible consistent with strength. The groups of bottle-receiving apertures B may be given any desired arrangement upon the sheet, board, or partition; but usually the said groups are arranged in rows, as illustrated.

The character of the bottles D adapted to be supported by the packing sheet, board, or partition is what is known as "cone" bottles, commonly employed as receptacles for small quantities of ink or mucilage, and said bottles are provided with an annular exterior rib 11, located about midway between the bottom 12 of the bottle and the outer face of the cork or stopper 13.

In placing the bottles in the receiving-apertures B one is placed with either the bottom or the top uppermost and the next one is reversely placed in the sheet, board, or partition, as is shown in Figs. 2 and 3. When the bottom of a bottle is uppermost, the rib 11 is just below the packing sheet, board, or partition; but when the mouth of the bottle is uppermost the rib 11 of the bottle is above and rests upon the packing sheet, board, or partition, as is clearly shown in Fig. 3.

When the bottles are thus placed, the bottom of one bottle is flush with the top of the next bottle, and the bottles present an almost perfect horizontal alinement both above and below the packing sheet, board, or partition, and the sheet, board, or partion can be raised or lowered or carried from one place to another without danger of any of the bottles falling from their seats; yet any bottle can be removed by being withdrawn from its seat in a direction opposite to the direction of its neck, at which time the tongues 10 will yield in direction of the draft, thereby releasing the ribs 11, and the walls of the receiving-apertures will not be damaged. Furthermore, it is evident that by connecting the various receiving-opening B by the central opening or aperture C the tongues 10 thus formed are of a spring character, and when a bottle provided with the rib 11 aforesaid is placed in position in a receiving opening or aperture B the tongues will permit the ready passage of the bottle and will immediately and at proper time automatically spring either above or below the rib 11 of the bottle, according to the position in which the bottle may be placed.

In Fig. 3 I have illustrated various charged packing sheets, boards, or partitions A as placed in a packing-box E and likewise the introduction of a spacing-board 14 between two opposing layers of bottles, which spacing-board forms a cushion for the said layers of bottles, and likewise a uniform bearing for the opposing bottles in the layers.

It will be understood that the box E is preferably made of such dimensions as to neatly accommodate a given number of layers of bottles, the uppermost portions of the bottles of the upper layer bearing against the cover 15 of the box and the undermost portions of the lower layers bearing against the bottom 16 of the box; but, if desired, spacing-boards may be made to intervene the bottles and the cover and the bottles and the bottom of the box.

It is evident that when bottles of the character described are packed in the manner set forth the packing sheets, boards, or partitions effectually hold the bottles in position in a box and that there is absolutely no necessity of any such filling or protective material as sawdust, cork, excelsior, or the like, as each bottle has its individual seat and is individually supported, and each bottle is so supported that it cannot possibly engage with a neighboring bottle, as is fully illustrated in Fig. 3.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A bottle-packing device, consisting of a packing board, sheet or partition having groups of apertures therein, each adapted to receive and hold a bottle, and a central connecting-aperture intersecting the various apertures of a group at points in their circumference, as described.

2. A packing board, sheet or partition for bottles, provided with groups of circular bottle-receiving apertures of equal size, and a central aperture in each group connecting or intersecting the bottle-receiving apertures, forming tongues between the said bottle-receiving apertures, the tongues forming a portion of the walls of said apertures, as set forth.

3. A packing board, sheet or partition for bottles, provided with a group of bottle-receiving apertures spaced apart and each adapted to receive a bottle, the said apertures being circular in shape and open at corresponding points in their circumference, and spring-tongues which separate the said bottle-receiving apertures and form portions of the walls thereof, which tongues are capable of movement in direction of either the top or the bottom of the said sheet, board or partition, as set forth.

4. A packing sheet, board or partition for bottles, provided with bottle-receiving apertures separated by spring-tongues, said tongues forming a portion of the walls of the said apertures, as described.

5. In a bottle-packing device, packing boards, sheets or partitions provided with bottle-receiving apertures, spring-tongues separating the said apertures, bottles located in the said receiving-apertures, placed alternately in reversed order, one sheet board or partition being located above the other, and a spacing-board located between the opposing surfaces of the bottles, supported by the said sheets, boards or partitions, as described.

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

JOSEPH TAYLOR CRAW.

Witnesses:
J. FRED ACKER,
JNO. M. RITTER.