No. 735,638. PATENTED AUG. 4, 1903.

G. G. WICKSON.

DEVICE FOR PACKAGING LIQUIDS.

APPLICATION FILED NOV. 29, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

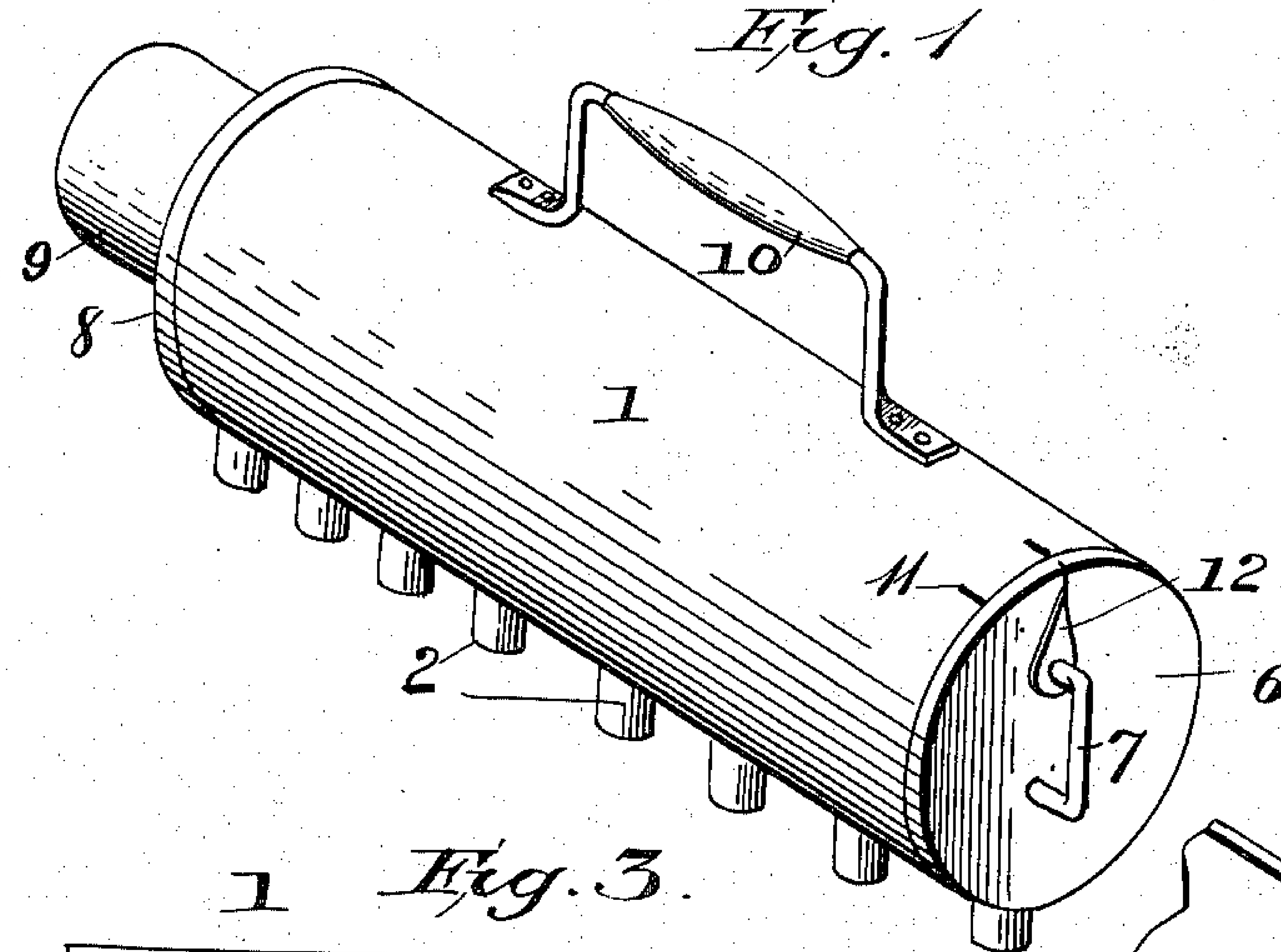


Fig. 2

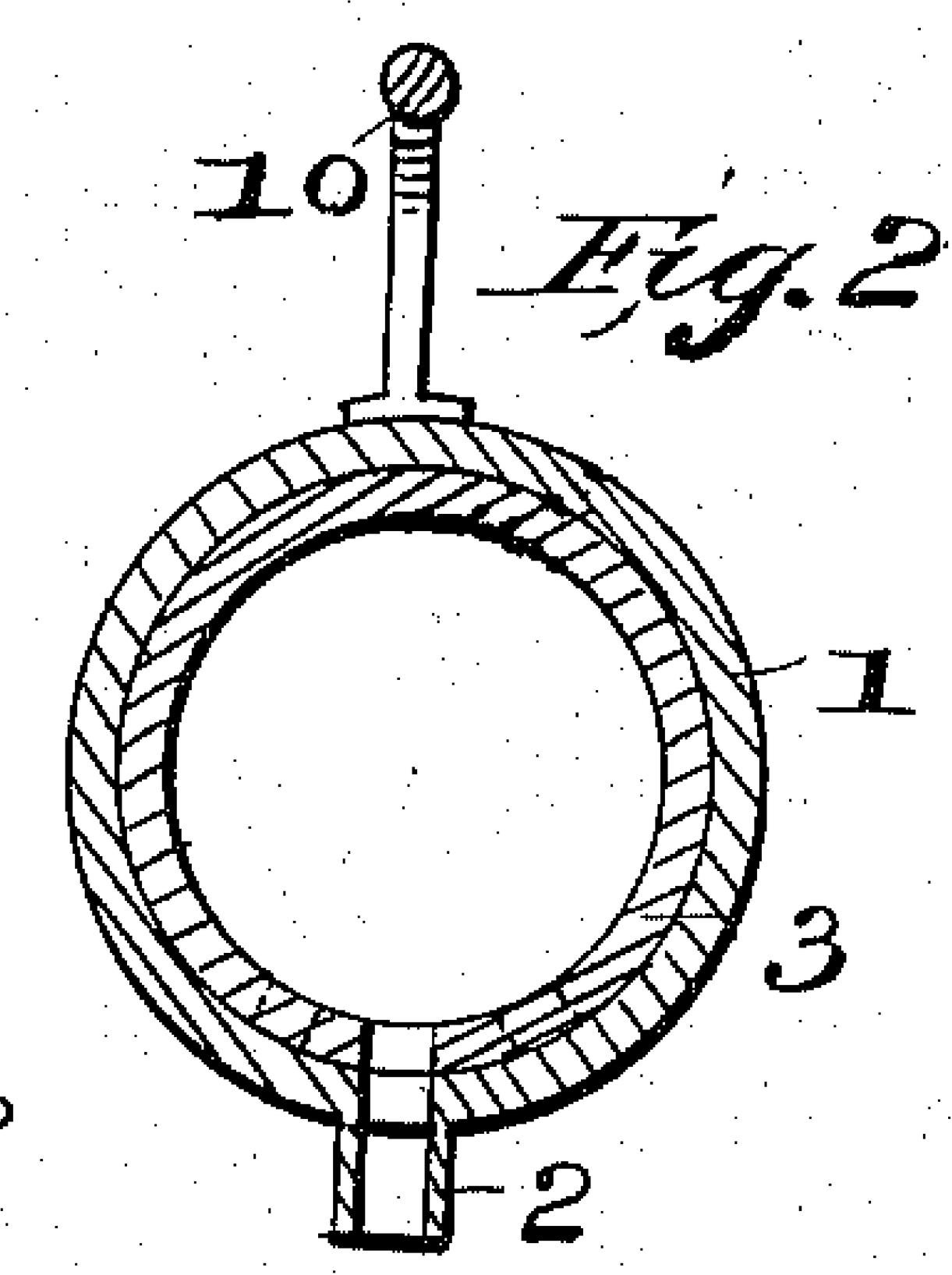
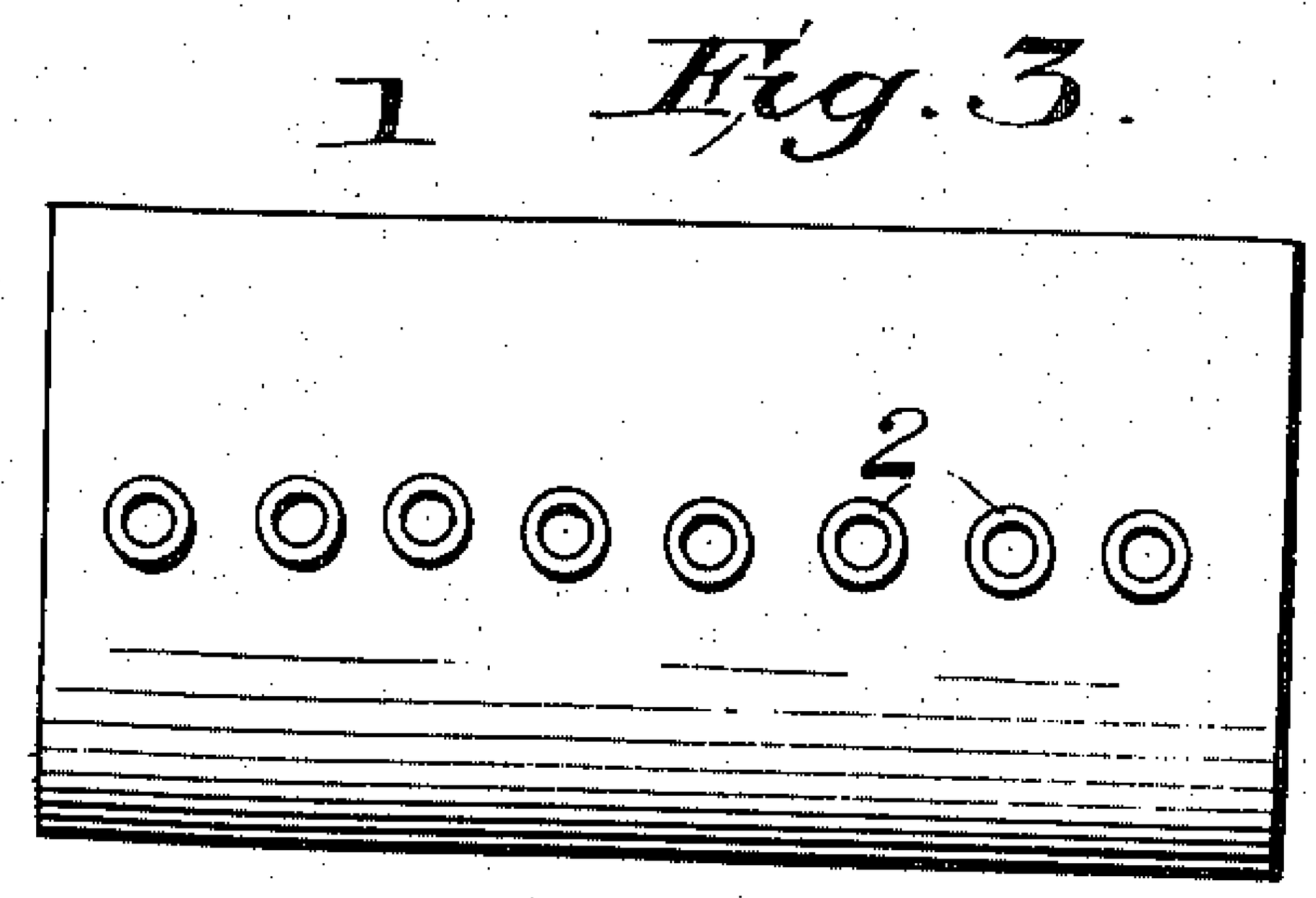


Fig. 3.



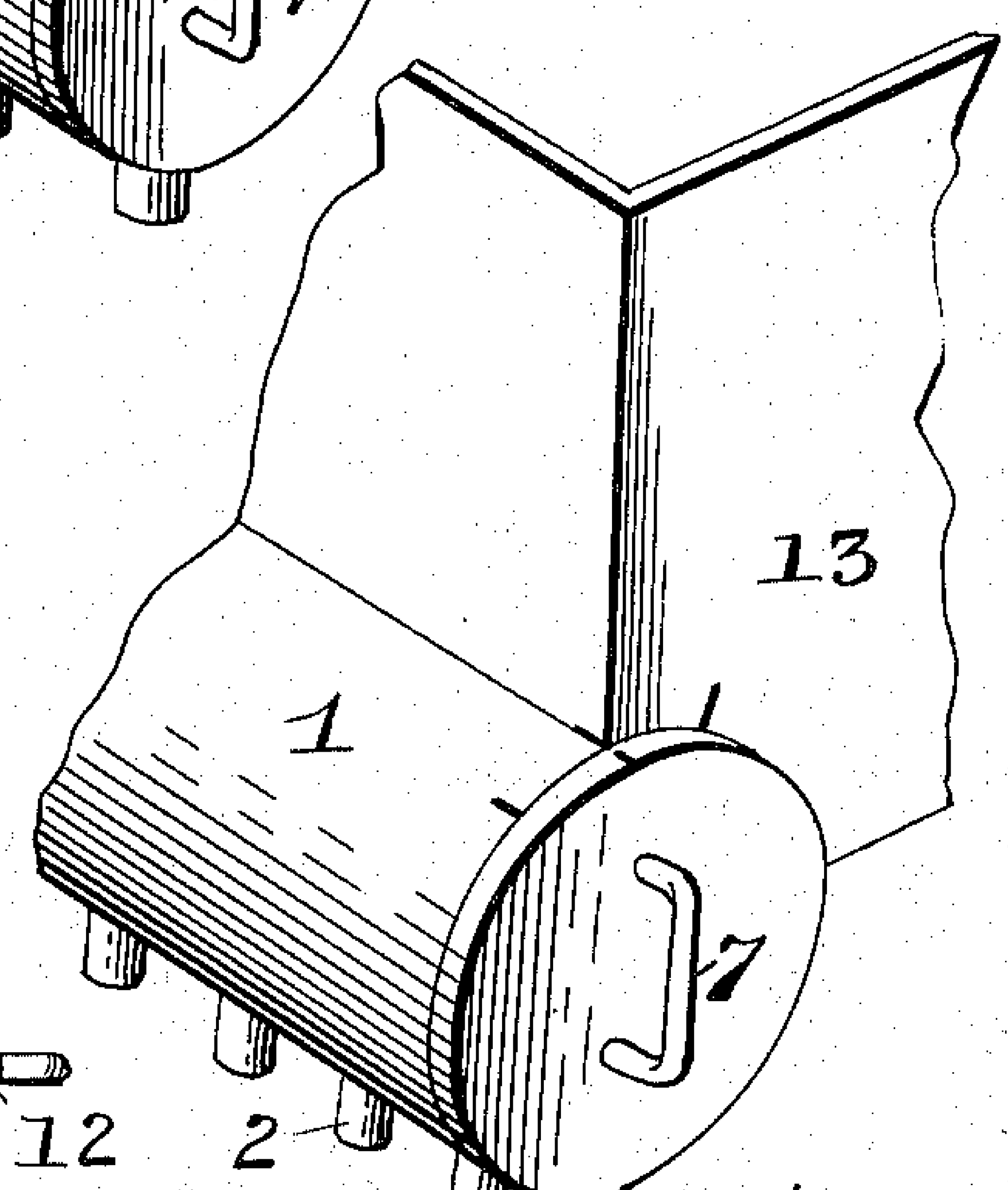


Fig. 1a

Fig. 4

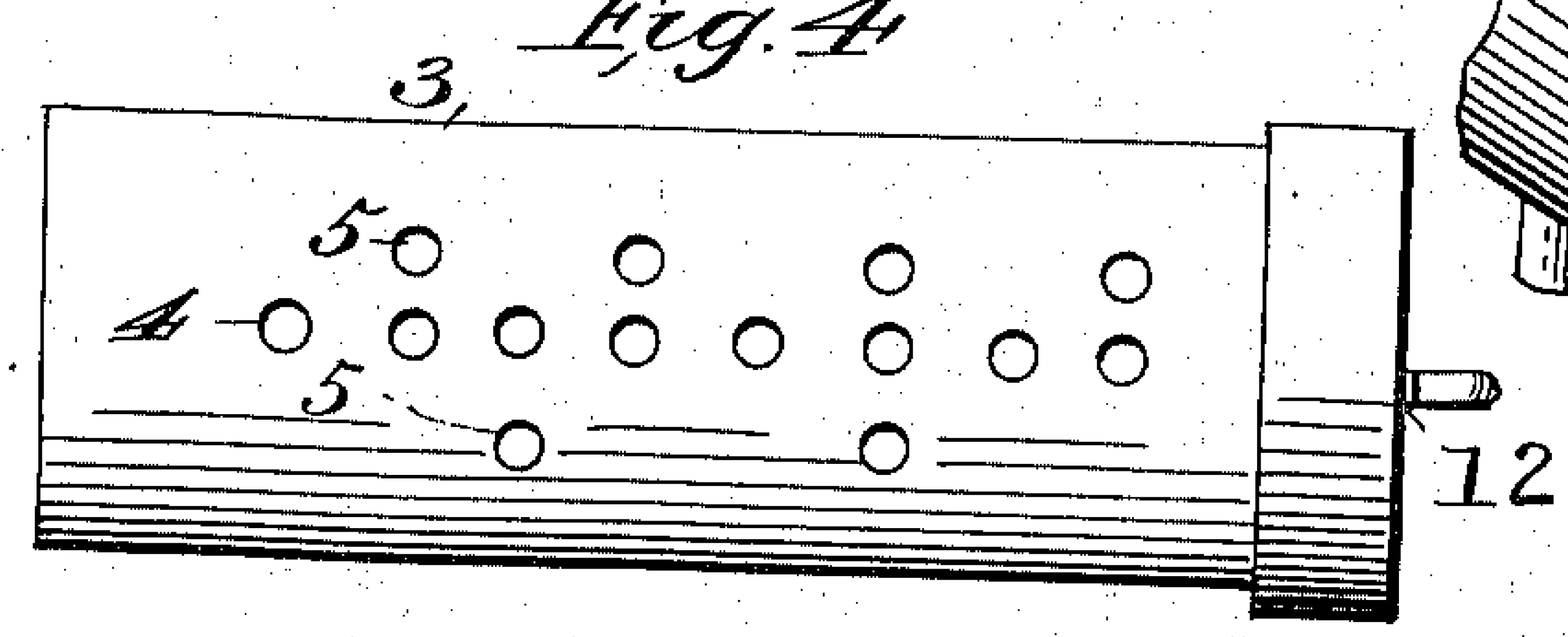
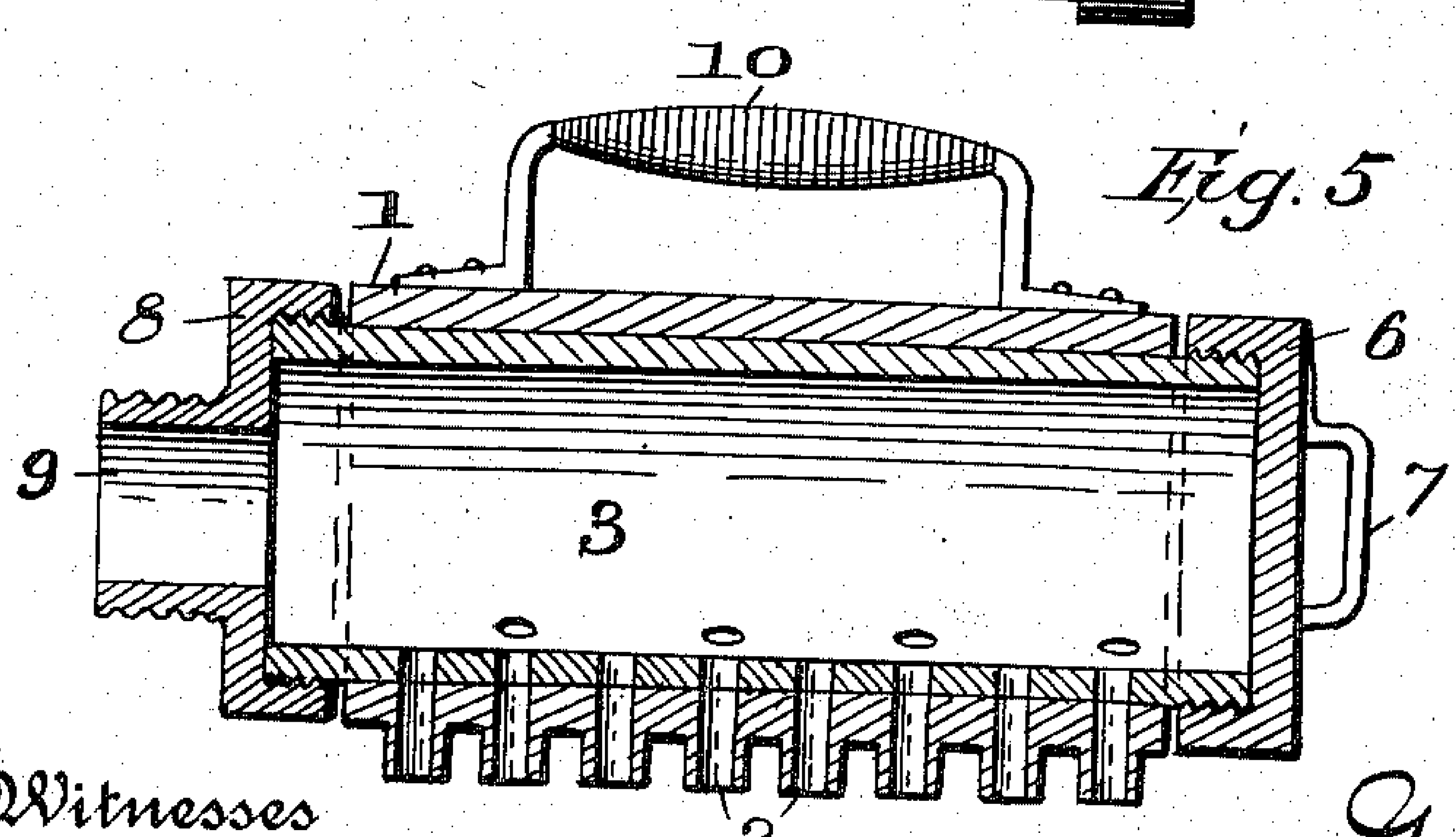


Fig. 5



Witnesses

F. L. Ourand.

[illegible]

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NO MODEL.

2 SHEETS—SHEET 2.

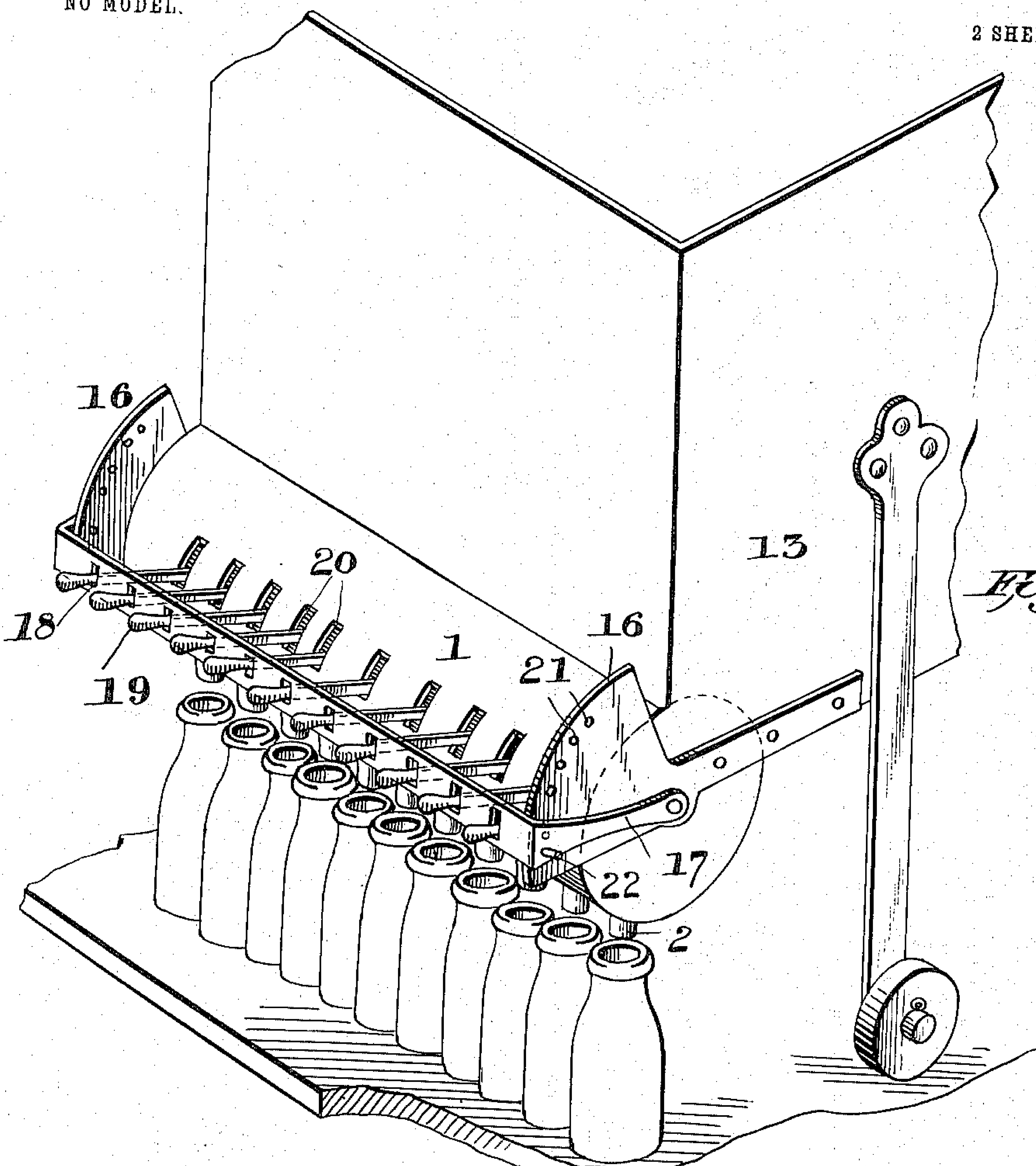

Fig. 6.

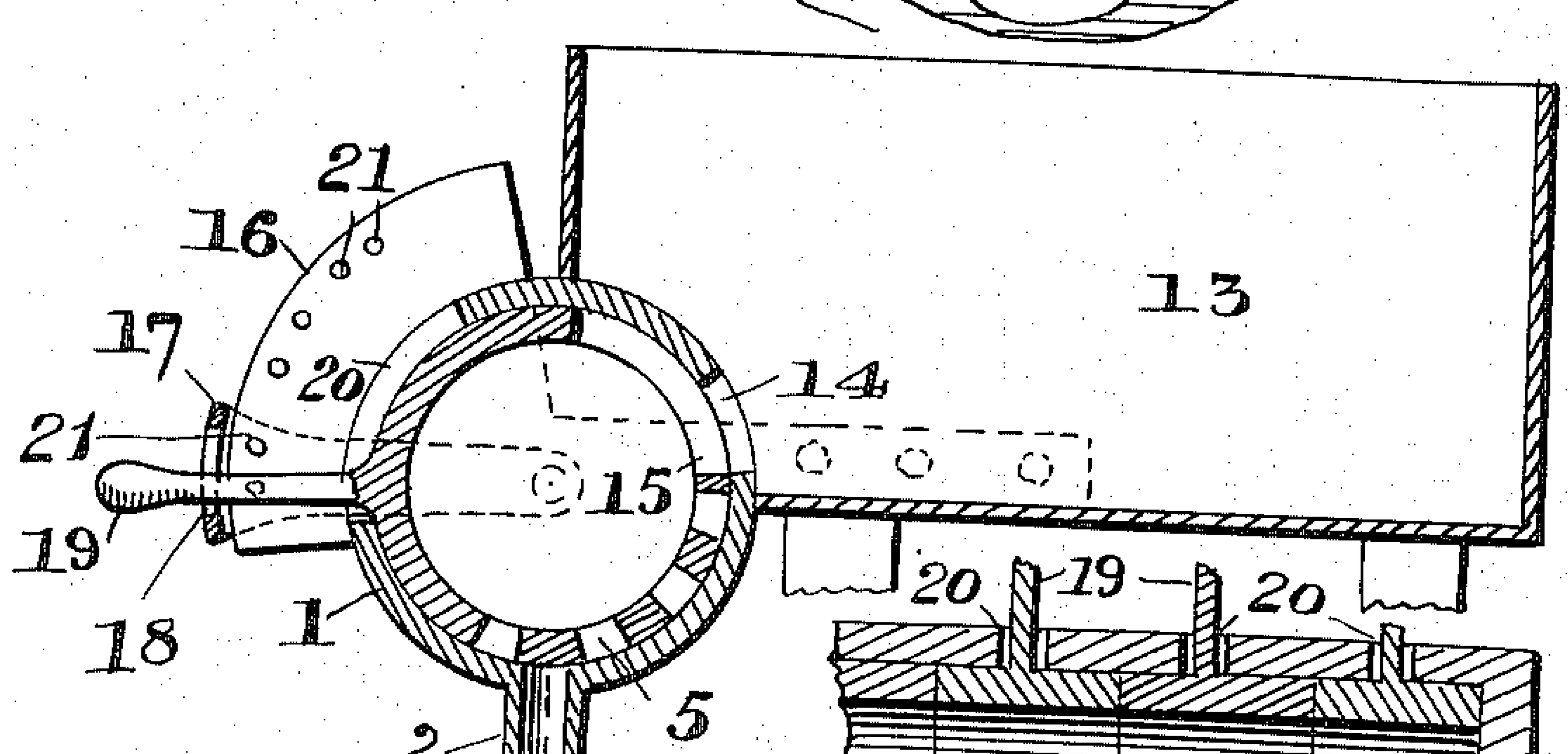

Fig. 7.

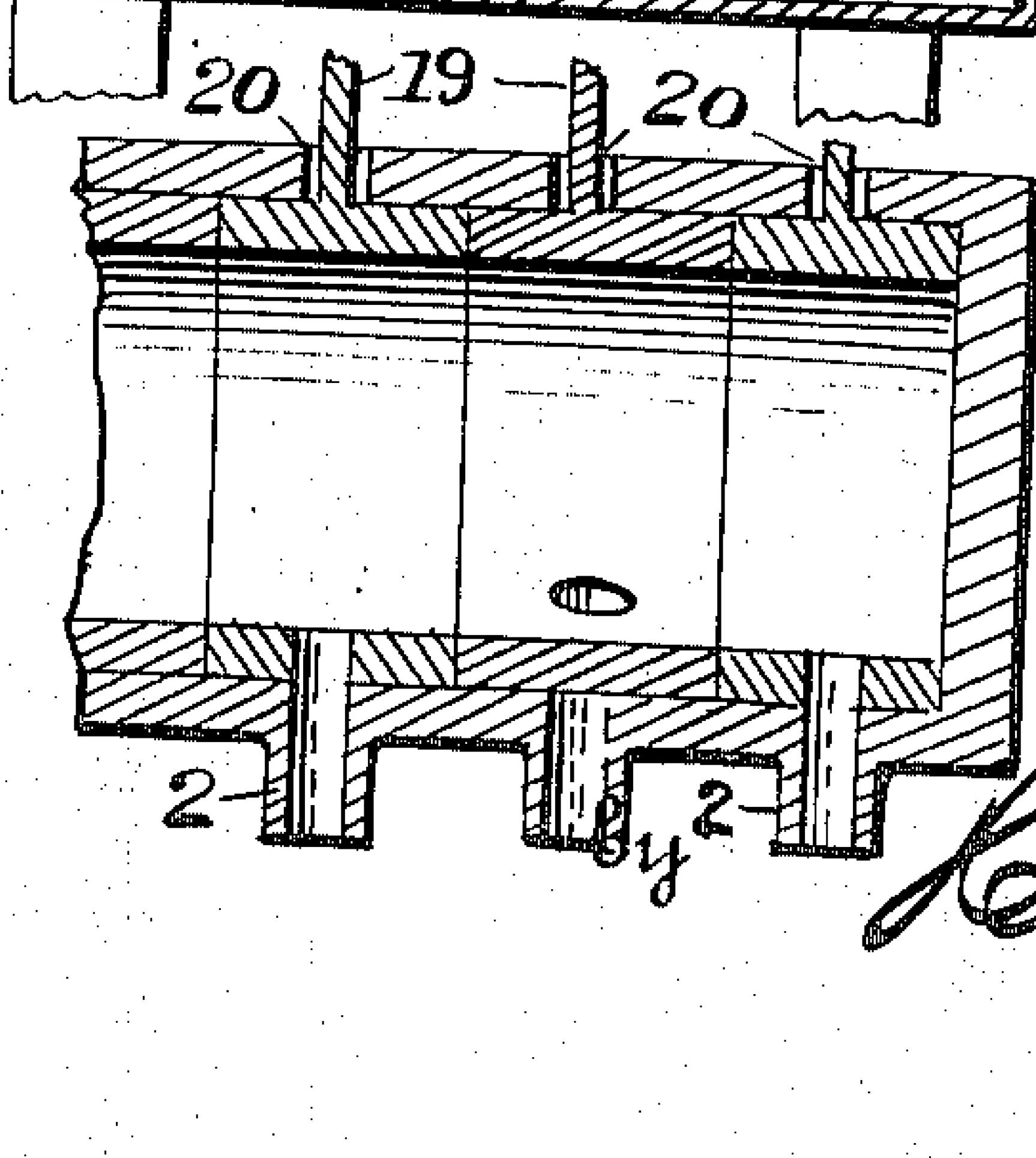

Fig. 8.

Witnesses

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Attorneys

No. 735,638. Patented August 4, 1903.

UNITED STATES PATENT OFFICE.

GEORGE G. WICKSON, OF SAN FRANCISCO, CALIFORNIA.

DEVICE FOR PACKAGING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 735,638, dated August 4, 1903.

Application filed November 29, 1902. Serial No. 133,243. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. WICKSON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Devices for Packaging Liquids, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to devices for packaging liquids; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of my invention is to provide a device in the form of a valve which is adapted to fill a number of packages simultaneously from a single source of supply irrespective of the size of the packages, the preferred form of my invention being a device which may be carried around in the hands of the operator and manipulated at any desired point, I having provided a movable tank which is adapted to pass over a series of packages and fill them in rows simultaneously, and in this form of the invention I provide a suitable means whereby packages of different capacity in the same row may be readily filled. I also provide a suitable means where packages of the same capacity in the same row may be readily filled, and also packages of the same capacity, but of different capacity from those in an adjacent row, may be readily filled.

My device is especially adapted for filling milk-bottles, and in order to understand the requirements to be met in this direction I will state that frequently bottles intended to hold, for instance, a pint vary in capacity, owing to the fact that in the manufacture of the bottle a uniformity of thickness of glass cannot be maintained. Therefore in providing a device for filling such bottles the difference in capacity of the individual bottles must be taken into account. Again, in such devices it is frequently the case that bottles ranging from one-half pints to quarts are arranged upon one table to be filled. When this done, it is customary to arrange the bottles of one denomination in adjacent rows and bottles of other denominations in other adjacent rows, but all in alinement longitudinally on the table supporting them. My invention is adapted to fill all of such bottles with despatch and with a minimum amount of exertion on the part of the operator.

In the form of the device adapted to be used by hand the bottles may be arranged at any convenient point and the device carried over them, filling the different rows successively.

In the accompanying drawings, Figure 1 is a perspective view of the hand filling device. Fig. 1ª is a perspective view of the corner of the tank with the packaging device attached thereto. Fig. 2 is a transverse sectional view of the hand filling device. Fig. 3 is a bottom view of the outer cylinder used in the hand filling device. Fig. 4 is a bottom view of the inner cylinder used in the hand filling device. Fig. 5 is a longitudinal sectional view of the hand filling device. Fig. 6 is a perspective view of the end of the tank provided with a modified form of the filling device. Fig. 7 is a transverse sectional view of the filling device shown in Fig. 6, and Fig. 8 is a longitudinal sectional view of an end portion of the filling device shown in Fig. 6.

The filling device consists of an outer cylinder 1, which is provided in its lower side with a series of openings 2 2, said openings being arranged in a row or rows extending lengthwise of the cylinder. Within the cylinder 1 and fitting closely against the inner walls thereof is a second cylinder 3, which is provided with a series of openings 4, arranged in a row at stated intervals, and other rows of openings 5, arranged at different intervals. The number of rows of openings in the cylinder 3 may be increased or diminished as occasion may require. One end of the cylinder 3 is closed by a head 6, to which is attached a handle 7, while the opposite end of said cylinder 3 is closed by a head 8, through which passes the inlet-port 9. A flexible hose or pipe (not shown in the drawings) may be attached to the flange of the port 9 for the purpose of conducting the liquid from any suitable source of supply into the interior of the cylinder 3.

The cylinder 1 is provided with a handle 10, by which the device is carried around by the operator. The cylinder 3 is adapted to revolve within the cylinder 1, and according to the direction that the said cylinder 3 is revolved within the cylinder 1 any series of

openings extending through the cylinder 3 may be made to register with the openings 2 of the cylinder 1, thereby affording an outlet for the liquid which is being conducted into the interior of the cylinder 3, as above described.

The operator, supporting the device in one hand by grasping the handle 10, may revolve the inner cylinder 3 by using the handle 7 with the other hand, and thus the different rows of openings in the inner cylinder are made to register with the openings 2. The object of providing rows of openings in the cylinder 3, arranged at different intervals, is that the packages to be filled vary in breadth—that is, jars adapted to contain a quart are arranged fewer on a row than jars adapted to contain one-half pint, and consequently in order to have the liquid flow through the openings 2 from the device perpendicularly into the receptacles to be filled the operator must manipulate the inner and outer cylinders with relation to each other in order to bring the proper row of openings in the inner cylinder into registration with the openings of the outer cylinder. As a guide for the operator the outer cylinder is provided with series of graduations 11, which indicate, respectively, one-half pints, pints, quarts, or any other measures, and the head 6 of the inner cylinder is provided with an indicator 12, which when it is brought opposite a graduation 11 on the surface of the exterior cylinder 1 indicates that the proper row of openings in the interior cylinder is brought into registration with the openings of the exterior cylinder.

In the form of the invention as shown in Figs. 6, 7, and 8 the device for packaging liquids is attached to a supply-tank 13, the liquid-packaging device being located, preferably, at one of the lower edges of the tank. The arrangement and construction of the inner and outer cylinders are substantially the same as described for the form of the invention shown in Fig. 1, with the exception that the inner cylinder is made in separate sections abutting together at their ends. The outer cylinder is provided in its side with an opening 14, which enters the interior of the tank, and the inner cylinder is provided with an opening 15, which at all times while the device is in operation is in registration with the opening 14. The guides 16 are arranged at the ends of the liquid-packaging device, and to the said guides 16 the ends of the lever 17 are pivoted, the pivotal points of the said lever being in alinement with the central longitudinal axis of the packaging device. The forward portion of the lever 17 is provided with a series of perpendicular elongated slots 18, through which pass the ends of the arms 19, the inner ends of said arms 19 passing through slots 20 in the exterior cylinder 1 and being rigidly fixed each to a section of the interior cylinder 3. Each guide 16 is provided with a series of indentations or perforations 21, arranged, preferably, in pairs, and each end of the lever 17 is provided with a pin or handle 22, the inner end of which is adapted to enter the perforations 21 of the guides 16, and thus the position of the lever 17 may be changed on its pivotal point, and by bringing the inner end of the pin 22 into engagement with any one perforation 21 the said lever is supported and maintained in its changed position. By changing position of the lever 17 all of the arms 19 and their attached cylinder-sections are correspondingly changed, and thus the different rows of openings in the interior cylinder 3 are made to register with the openings 2 of the exterior cylinder. This is for the purpose of filling packages of different sizes, but arranged in rows, as above described.

Presuming that the lever 17 is in the position as shown in Fig. 6, none of the openings in the interior cylinder would be in registration with the openings of the exterior cylinder, as shown in Fig. 7; but the opening 15 would be in registration with the opening 14, and consequently the interior cylinder would be filled with liquid passing through the two last-said openings from the tank 13. If the lever 17 is elevated and the pin 22 is brought into engagement with the perforation at 21, the opening 5 of the inner cylinder is brought into registration with the opening 2 of the exterior cylinder and the liquid is permitted to pass through into the packages being filled below. When the operator sees that the package of the least capacity is filled, he drops the lever 17 into the position as shown in Fig. 7, and then by lifting individually the arms 19 over the packages not quite filled he brings the opening 5, carried by the inner cylinder-section attached to the arm 19, into registration with the opening 2 of the outer cylinder and the partially-filled packages are completely filled. The operation above described may be repeated when the lever 17 is brought over the remaining sets of perforations 21, it of course being understood that when this is done different rows of openings in the interior cylinder 3 are brought into registration with the openings in the exterior cylinder 1, the object of which has been fully set forth above.

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

1. A device for packaging fluids, consisting of an exterior cylinder having a series of openings, a second cylinder located within the first-said cylinder and having several series of openings arranged in rows and located at different intervals apart, and a means for rotating the inner cylinder, whereby the openings of the two cylinders may be brought into or carried out of registration with each other.

2. A device for packaging fluids, consisting of an exterior cylinder having openings, a second cylinder located within said exterior cylinder and having several series of open-

ings arranged in rows and being located at different intervals apart, a means for revolving the inner cylinder, whereby the openings of the two cylinders may be brought into or carried out of registration with each other and a means carried by the two cylinders, which, when brought adjacent each other, indicates the particular series of openings in registration.

3. A device for packaging fluids, consisting of an exterior cylinder provided with openings and a second cylinder consisting of a series of sections abutting against each other, each said section being provided with an opening, a means for bringing the openings of the inner cylinder in registration with the openings of the outer cylinder, a means for introducing the fluid into the inner cylinder, and a means for operating each section of the inner cylinder independently of every other section thereof.

4. A device for packaging fluids, consisting of an exterior cylinder having a series of openings, a second cylinder located within the first said cylinder and having a series of openings, a means for revolving the inner cylinder, whereby the openings thereof may be brought into or carried out of registration with the openings of the exterior cylinder, a means for introducing the fluid into the interior cylinder, said interior cylinder consisting of a series of sections abutting against each other at their ends, an arm attached to each said cylinder-section, a means for operating all of said arms simultaneously, and a means whereby each said arm may be operated independently of all the other arms.

5. A device for packaging fluids, consisting of an exterior cylinder provided with a series of openings, a second cylinder consisting of a series of sections located within the exterior cylinder, said second cylinder having several sets of openings, a means for bringing the different sets of openings of the interior cylinder into registration with the openings of the exterior cylinder, a lever adapted to move in an arc parallel to the arc described by the exterior cylinder, a means for changing position of said lever and maintaining the same temporarily in its changed position, said lever being provided with a series of elongated slots extending perpendicularly, said exterior cylinder being provided with a series of elongated slots extending perpendicularly also, arms attached at their inner ends to the sections of the interior cylinder and passing through the slots of the exterior cylinder and said lever in such manner that each section of the interior cylinder may be moved independently of every other section of the said cylinder.

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

GEORGE G. WICKSON.

Witnesses:
MELVILLE D. HENSEY,
A. E. GLASOCK.