

W. MERZ.
BEER COOLER.

APPLICATION FILED APR. 28, 1904.

NO MODEL.

4 SHEETS—SHEET 1.

Fig 1.

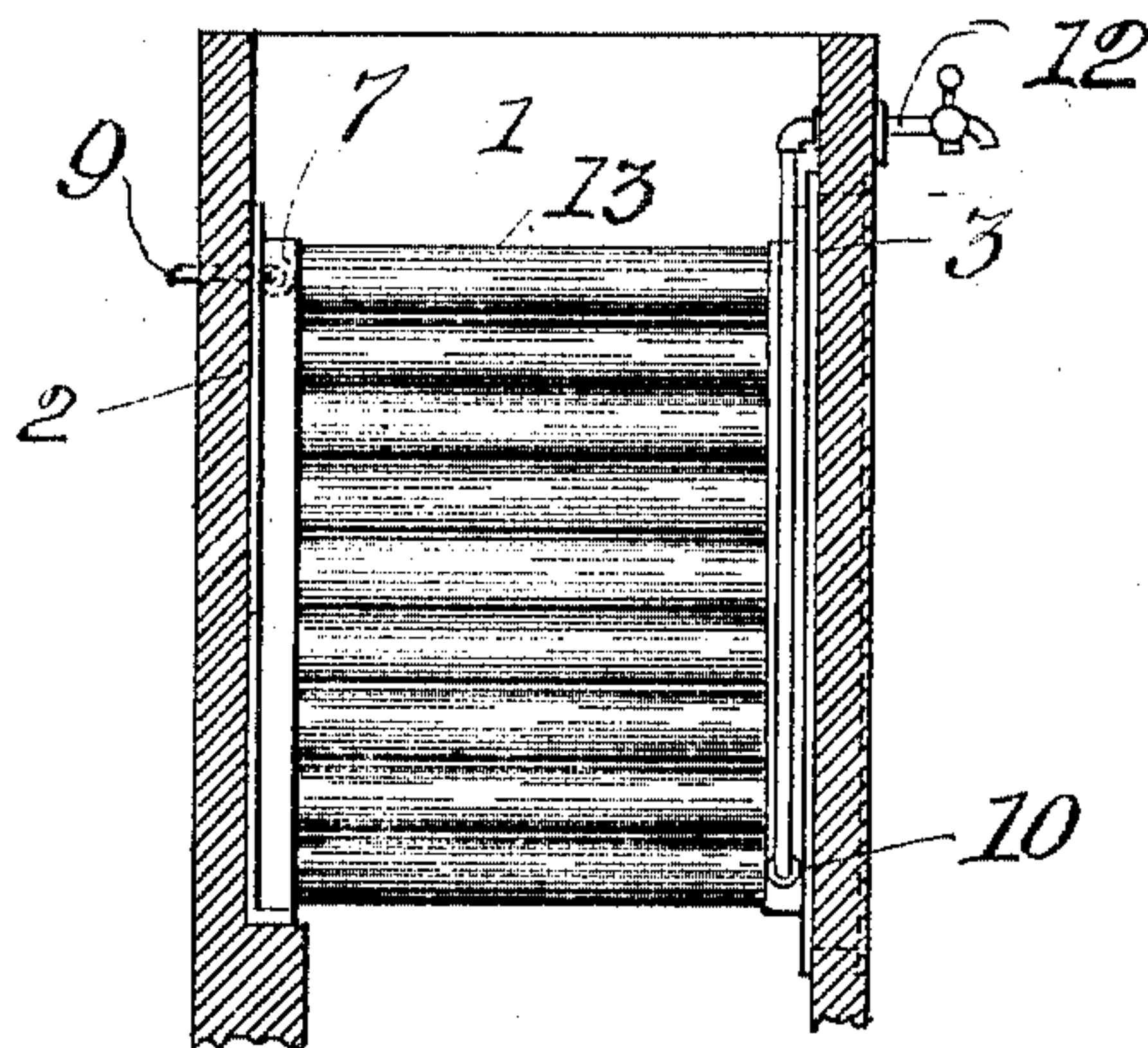


Fig. 4.

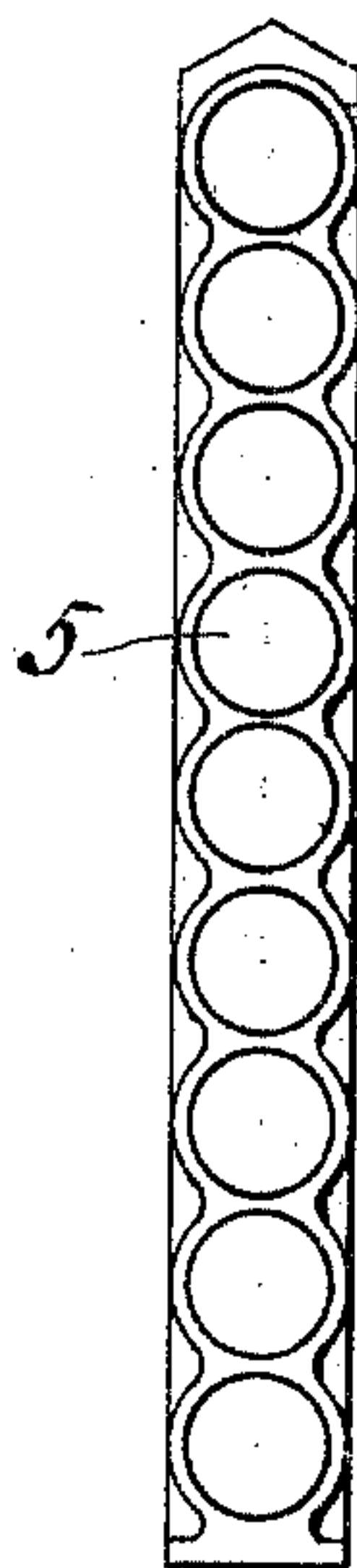


Fig. 2.

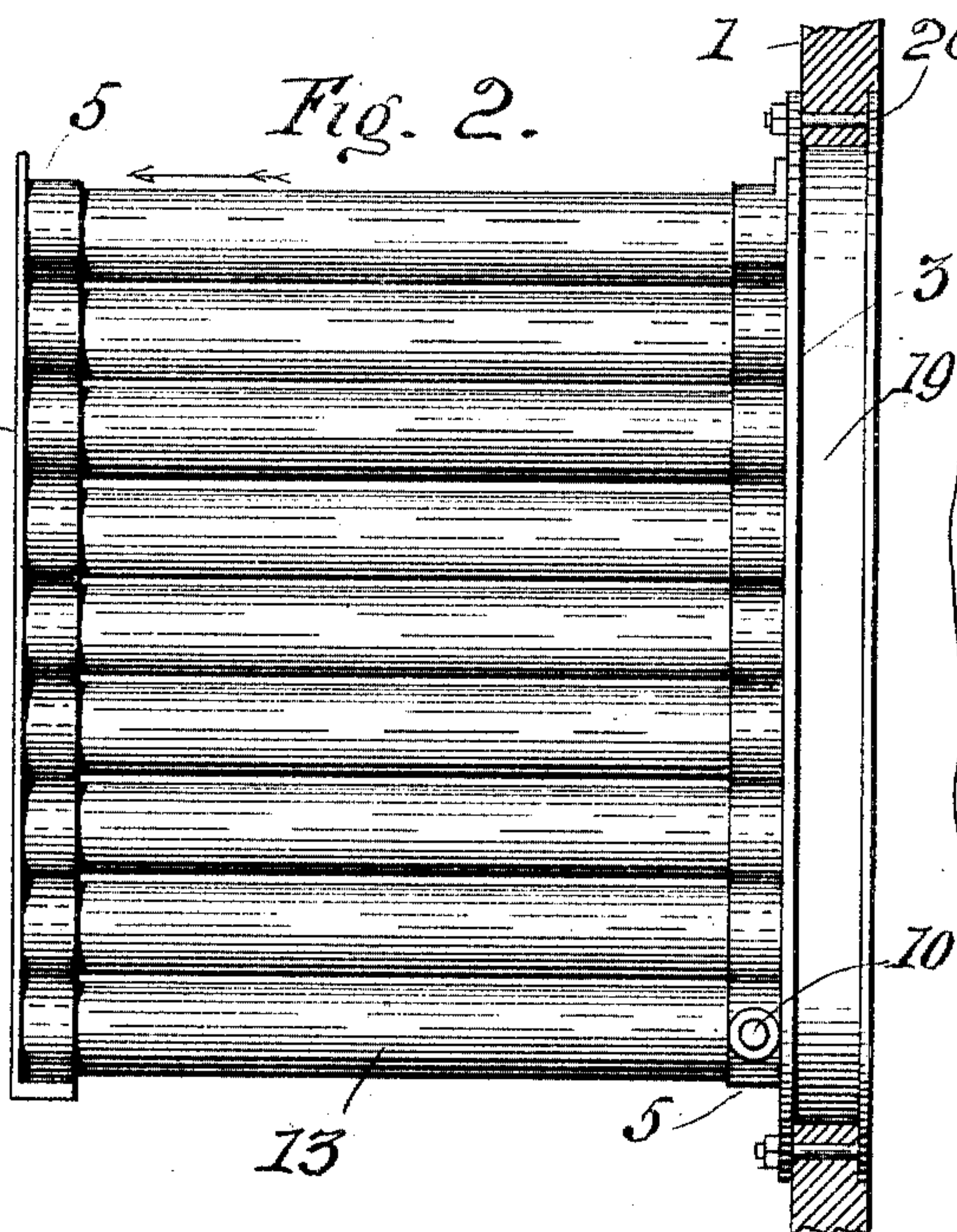
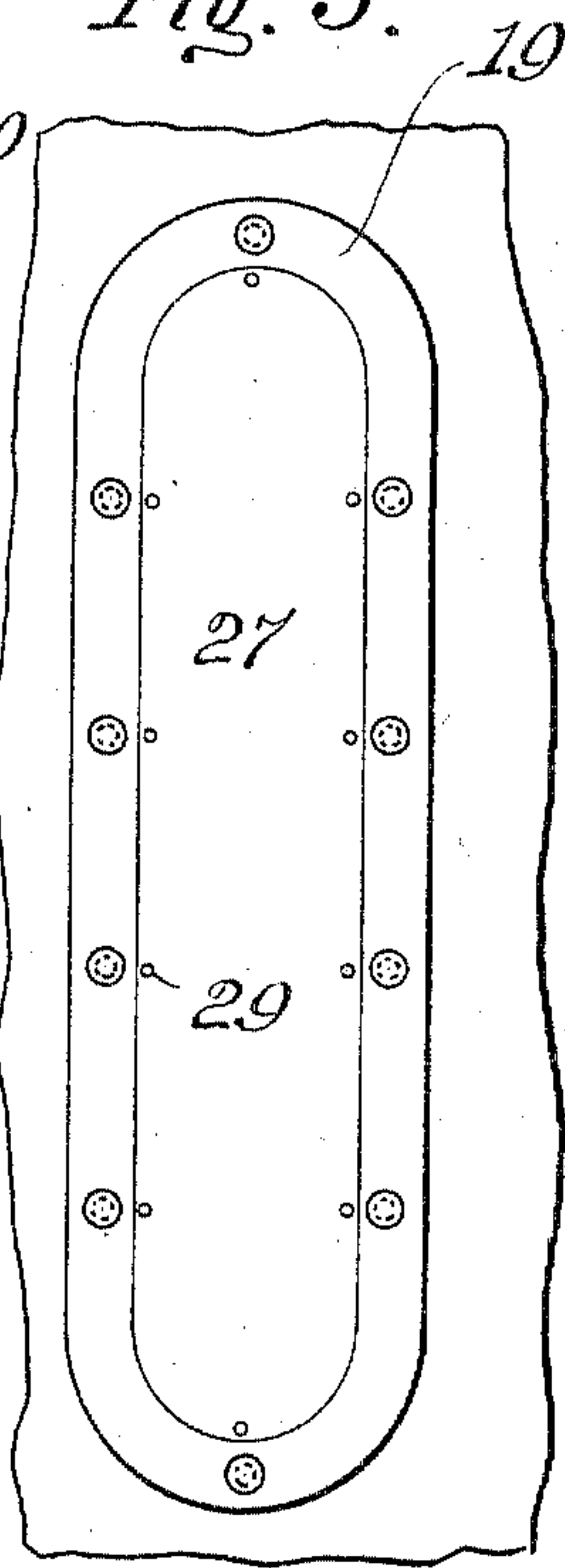


Fig. 3.



Witnesses

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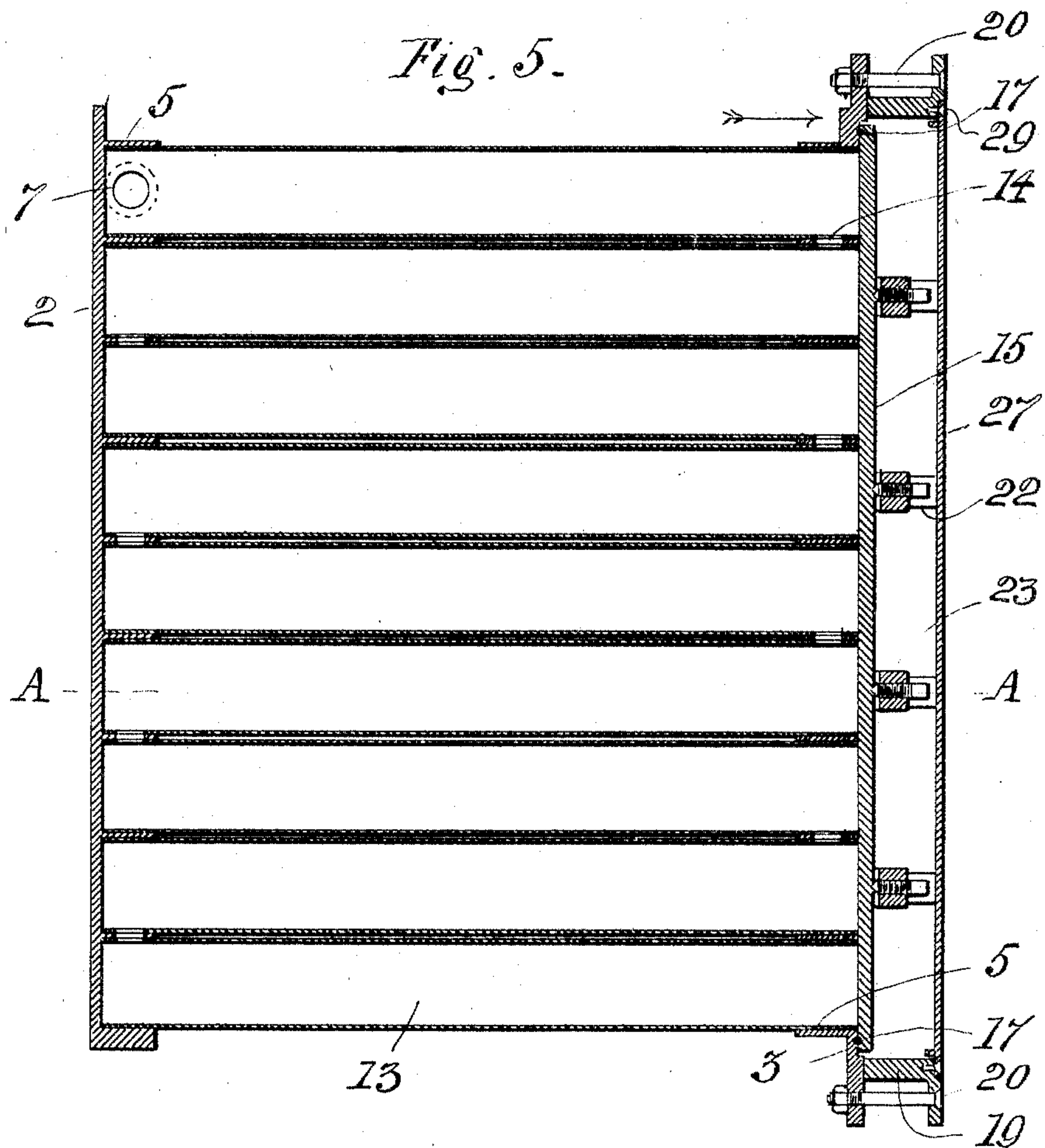
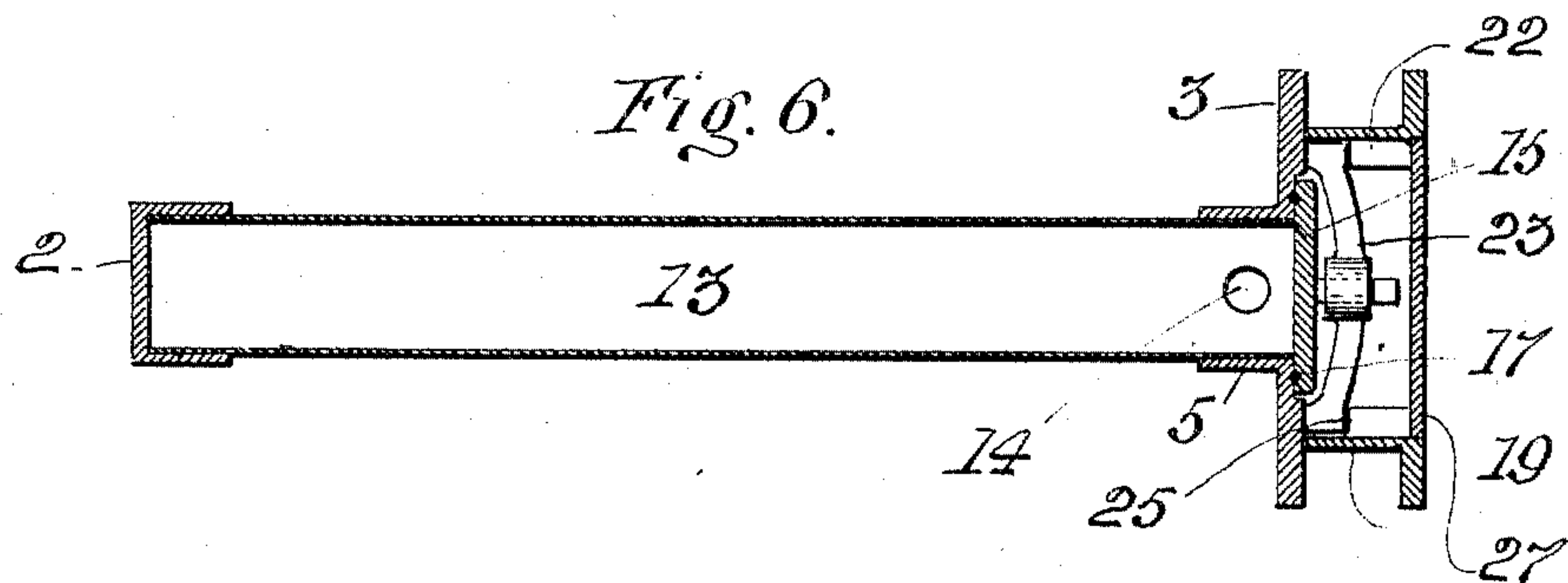
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4 SHEETS—SHEET 2.

Fig. 5.*Fig. 6.*Witnesses

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4 SHEETS—SHEET 3.

Fig. 12.

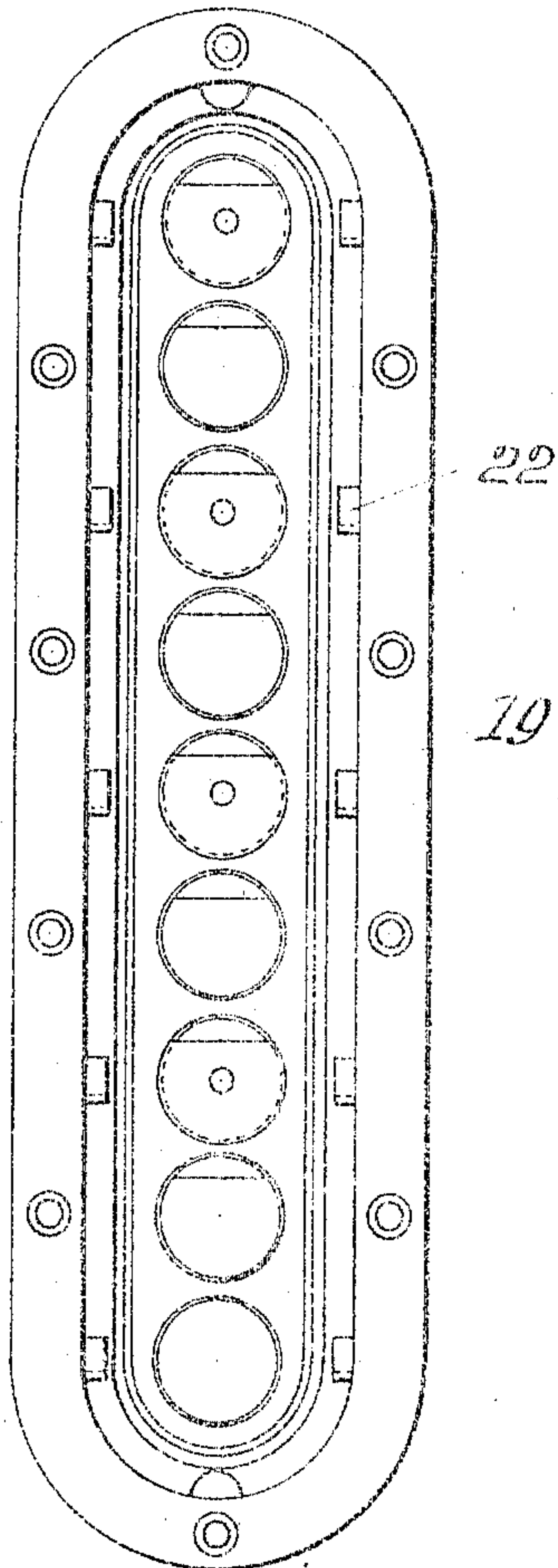


Fig. 7.

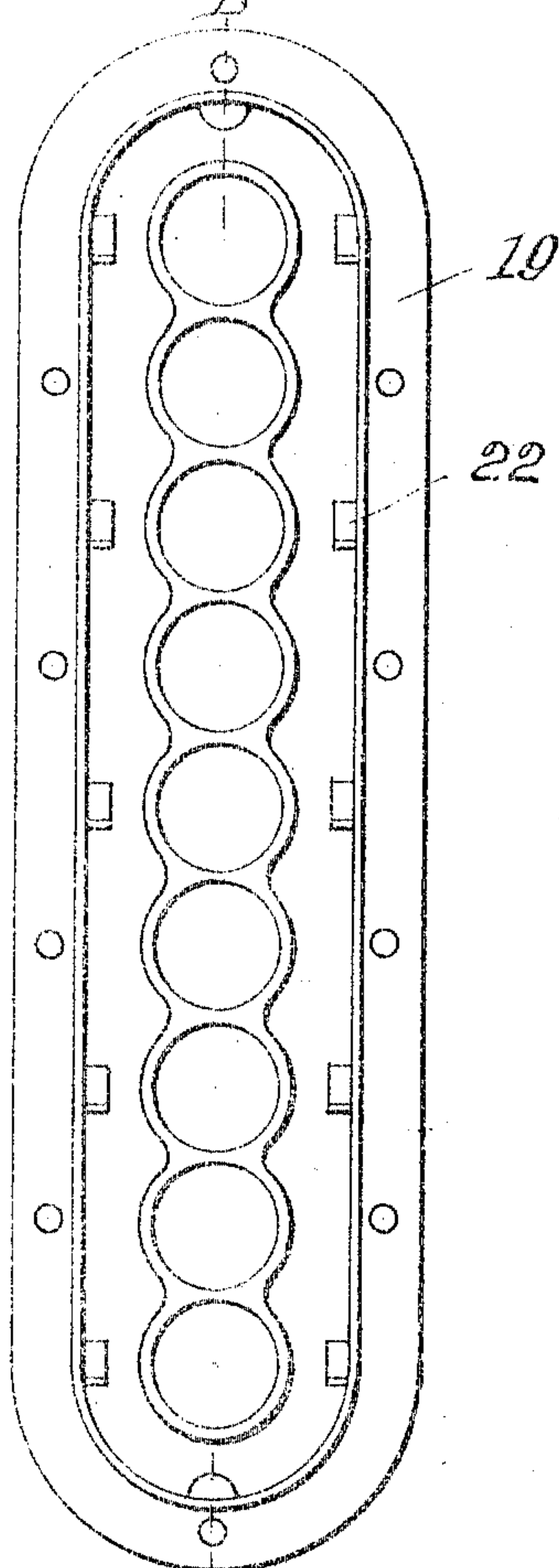


Fig. 8.

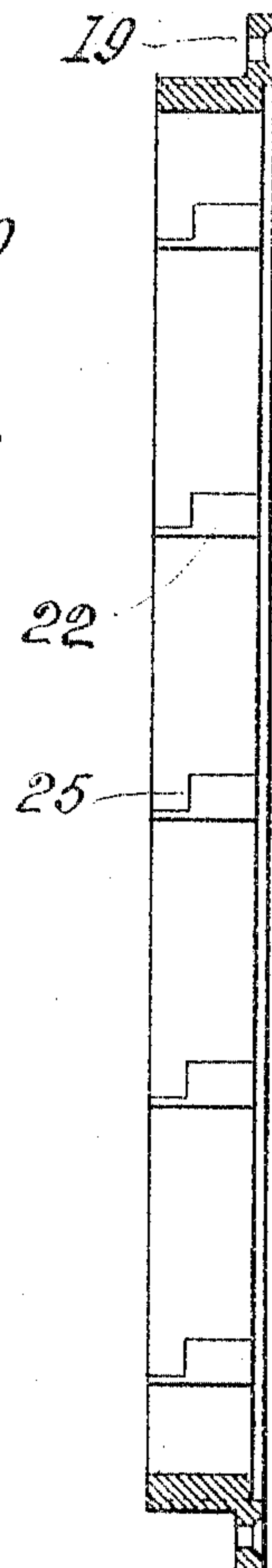


Fig. 13.

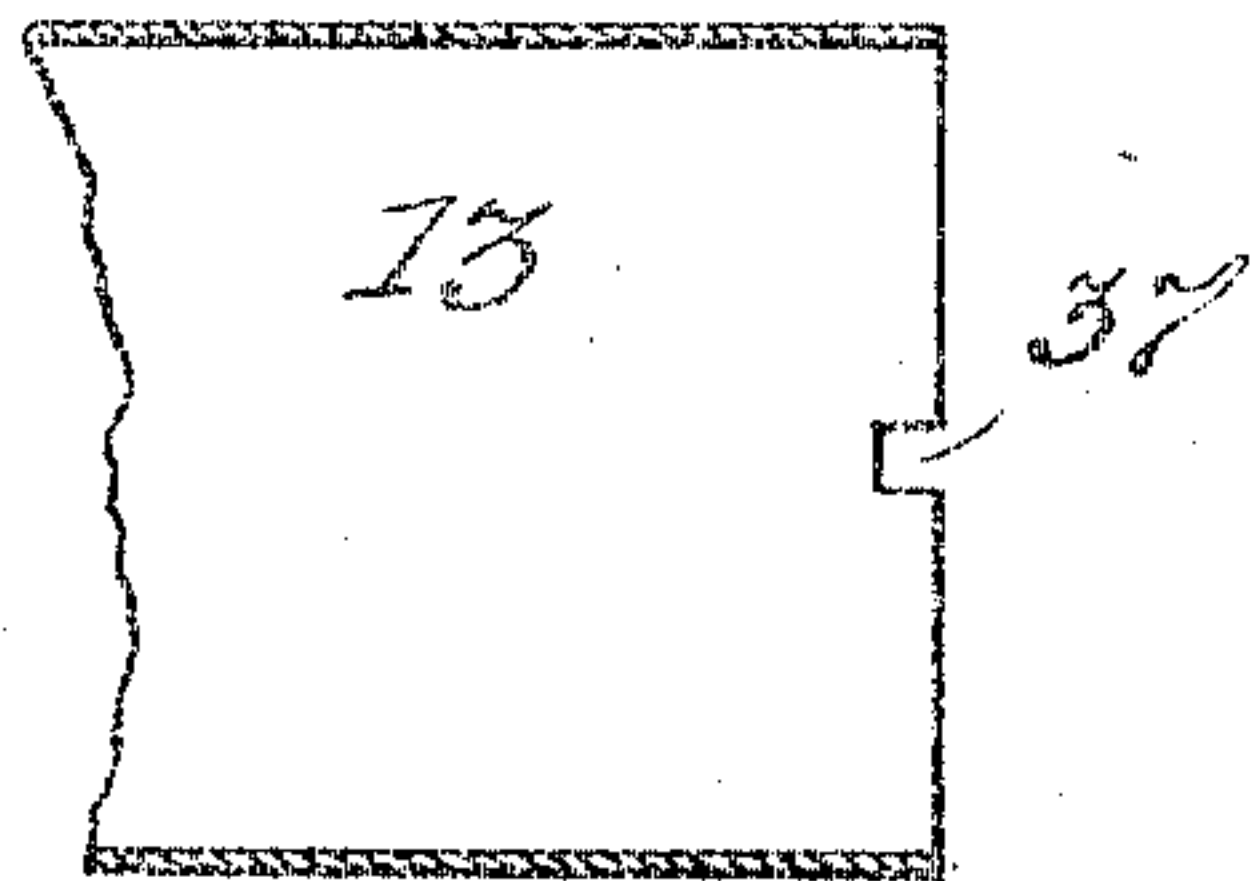


Fig. 14.

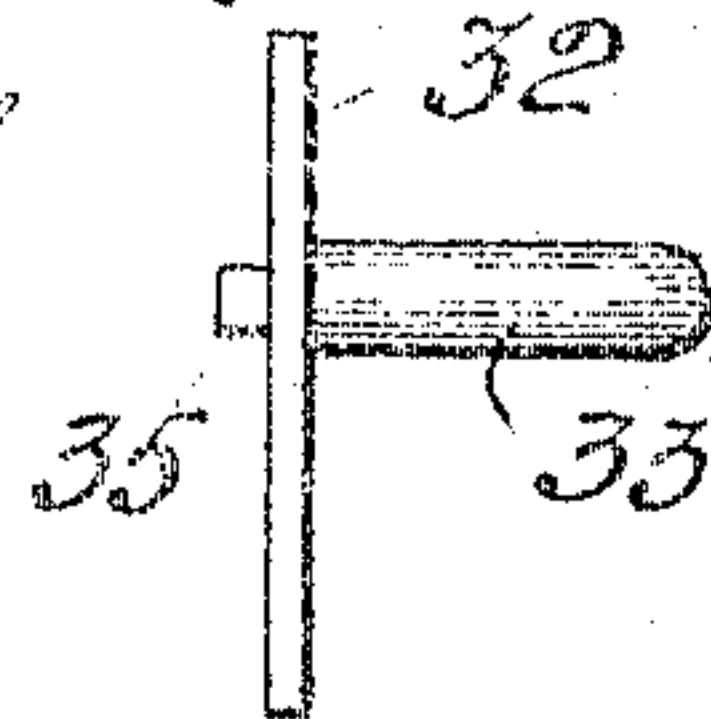
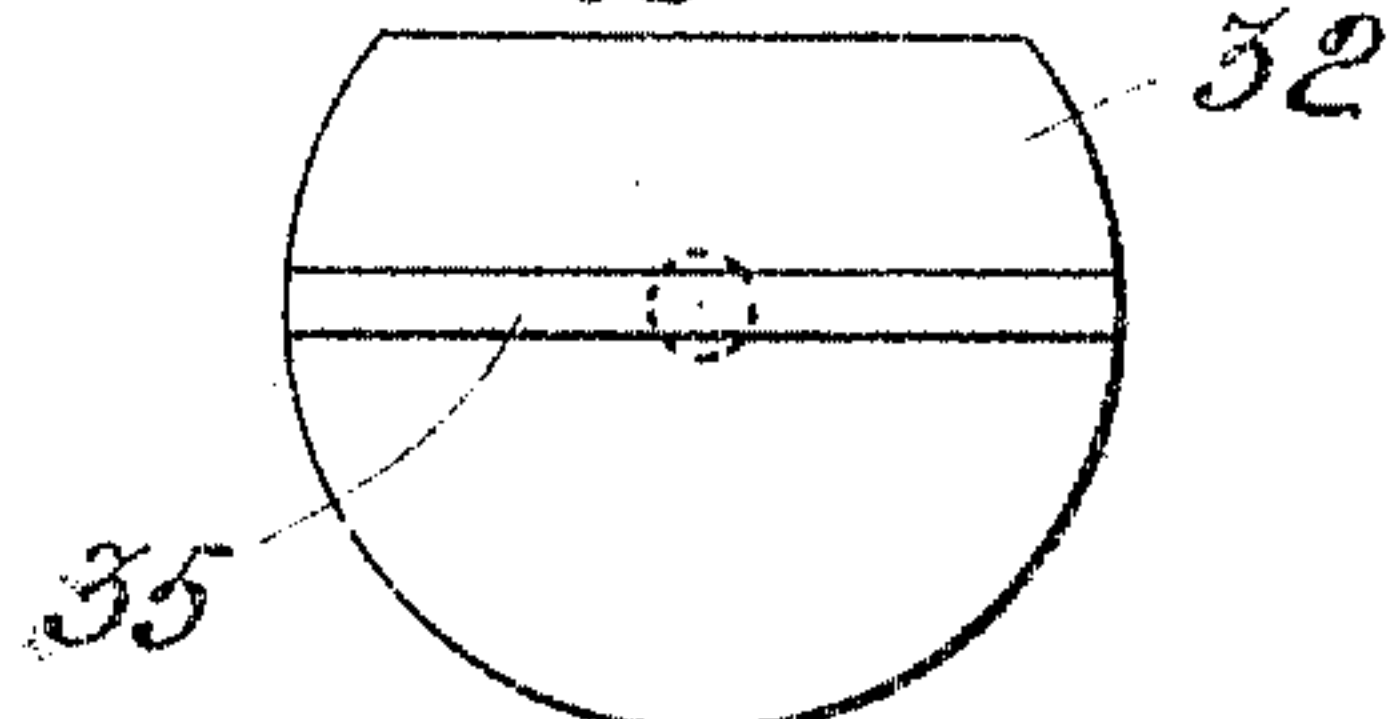


Fig. 15.



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4 SHEETS—SHEET 4.

Fig. 11

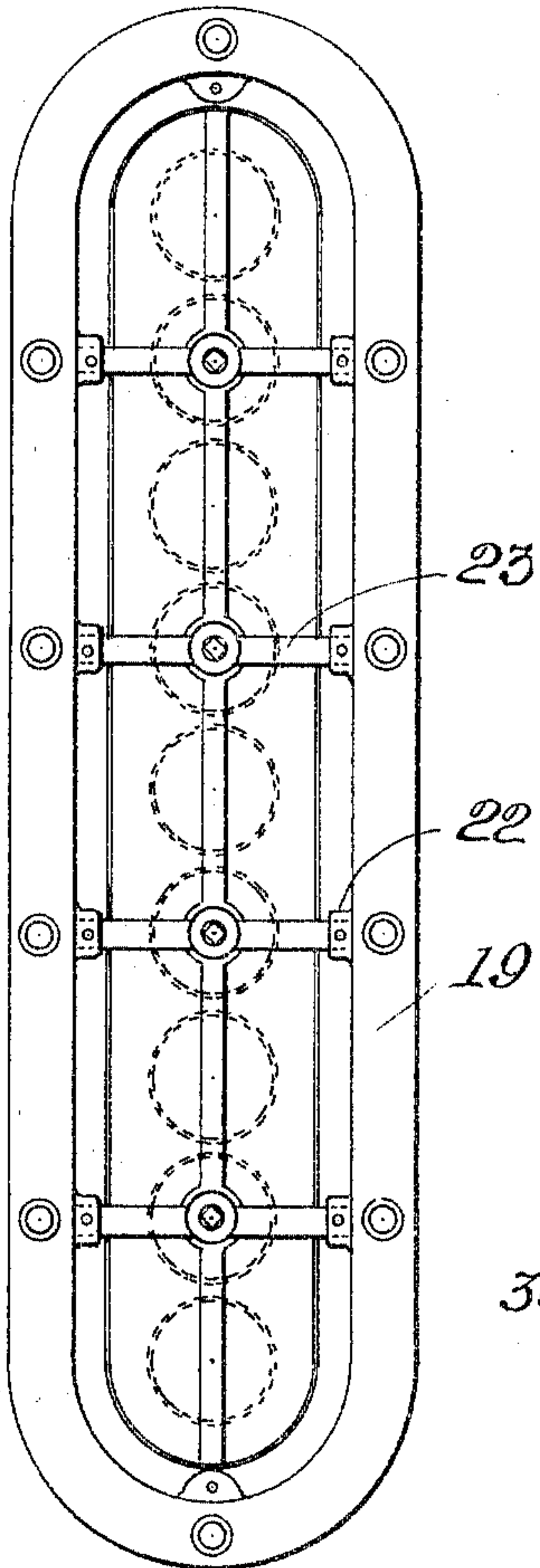


Fig. 9.

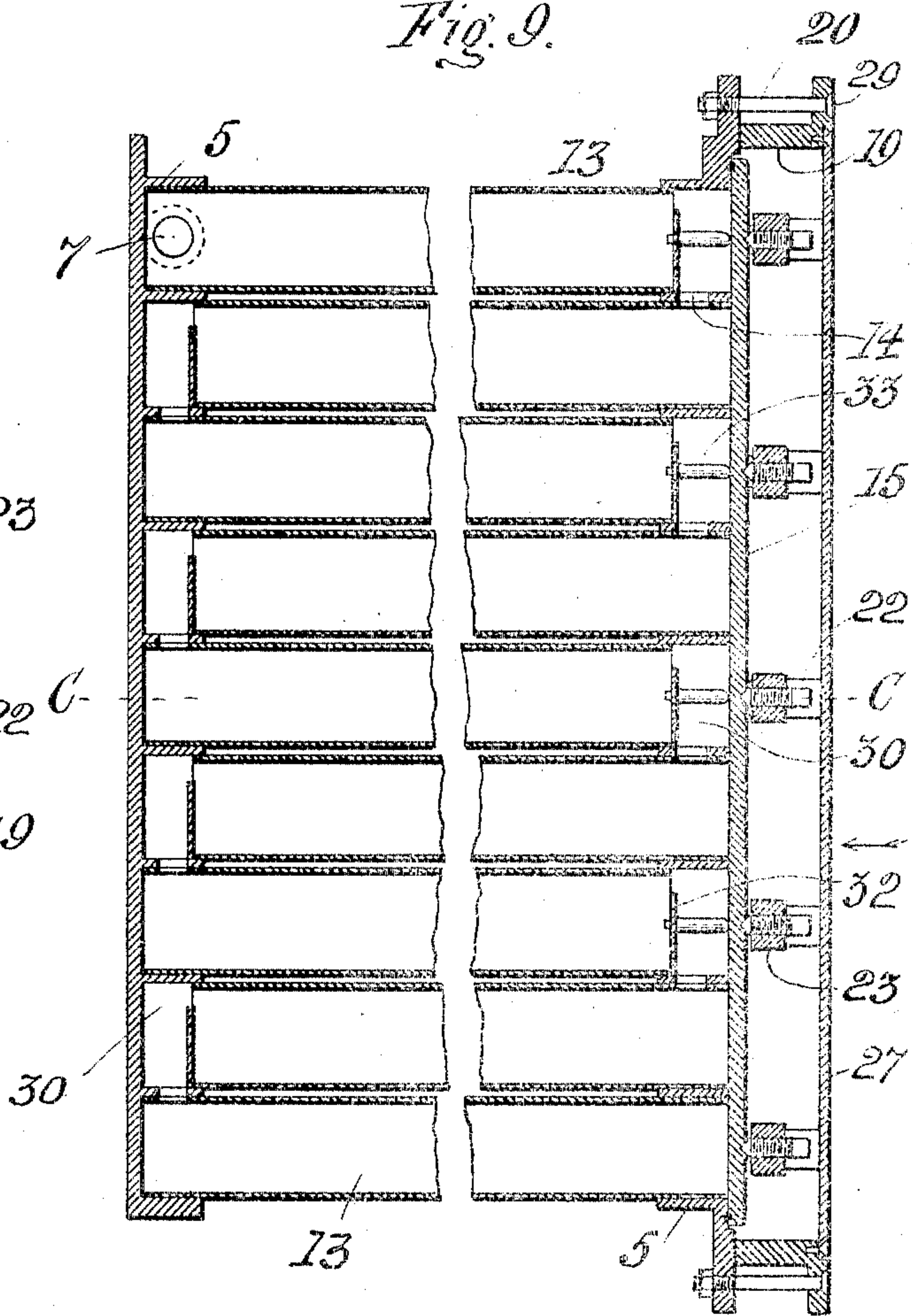
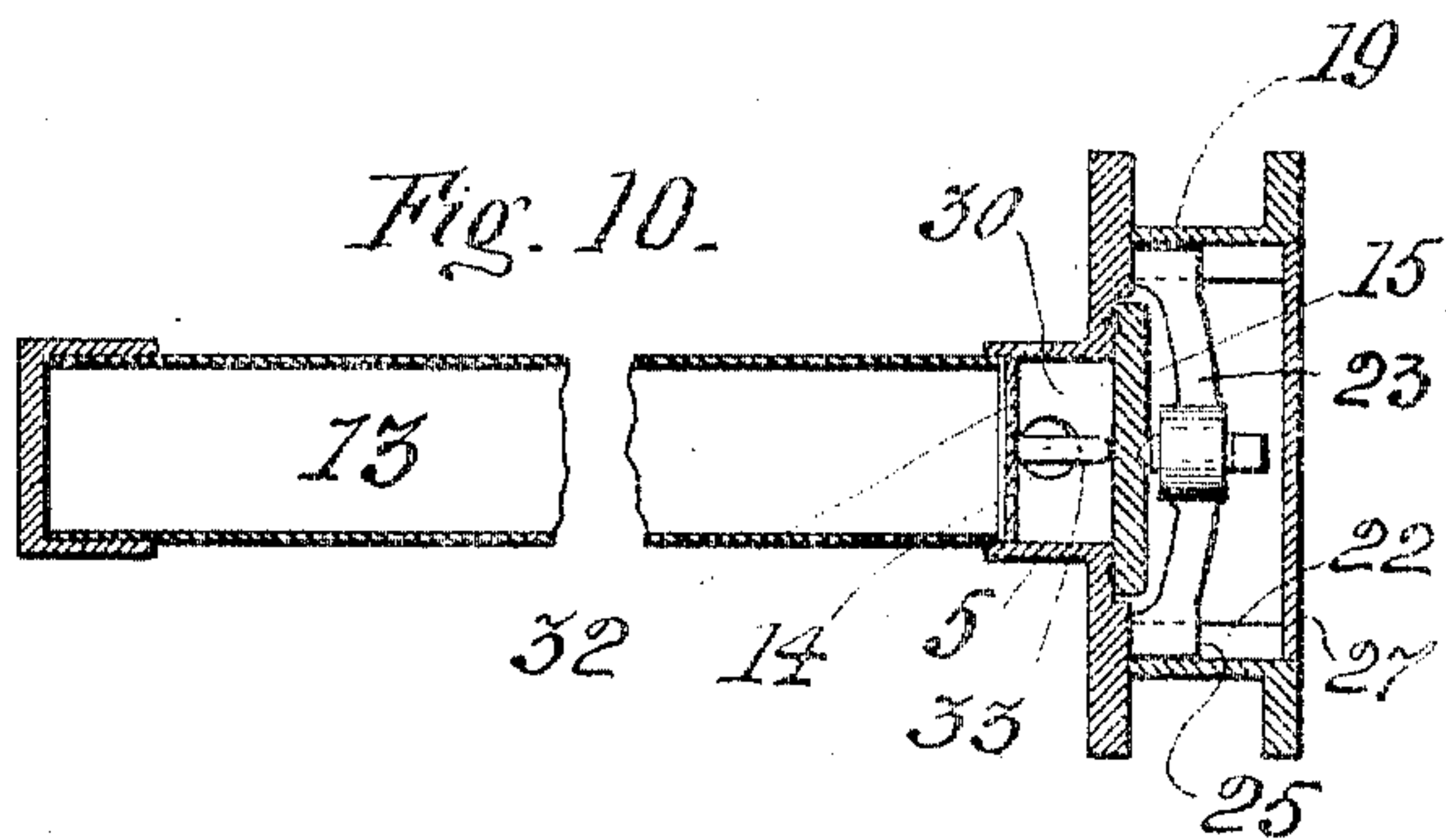


Fig. 10.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM MERZ, OF BALTIMORE, MARYLAND.

BEER-COOLER.

SPECIFICATION forming part of Letters Patent No. 777,121, dated December 13, 1904.

Application filed April 28, 1904. Serial No. 205,315. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MERZ, of the city of Baltimore and State of Maryland, have invented certain Improvements in Beer-Coolers, of which the following is a specification.

In the description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

10 Figure 1 is a sectional side view of the improved beer-cooler. Fig. 2 is an enlarged view similar to Fig. 1. Fig. 3 is an exterior front view of Fig. 2. Fig. 4 is a view of a part of Fig. 2 looking in the direction indicated by the arrow. Fig. 5 is a vertical section of Fig. 2 on a still enlarged scale. Fig. 6 is a section of Fig. 5, taken on the dotted line A A. Fig. 7 is a view of a part of Fig. 5 looking in the direction indicated by the arrow. 20 Fig. 8 is a section of Fig. 7, taken on the dotted line B B. Fig. 9 is a view similar to Fig. 5 except that the construction of certain parts of the apparatus is modified as herein described. Fig. 10 is a section of Fig. 9, taken 25 on the dotted line C C. Fig. 11 is a view of Fig. 9 looking in the direction of the arrow, with a certain plate forming a part of the front of the apparatus removed. Fig. 12 is a view similar to Fig. 11 except that an additional 30 and inner plate is removed. Figs. 13, 14, and 15 are enlarged details of the apparatus shown particularly in Fig. 9.

Referring now to Figs. 1 to 8, inclusive, 1 is an ice-holding tank, a part only of which 35 is shown in Figs. 1 and 2. The tank is preferably made of wood and is water-tight. 2 and 3 are plates, the former being shown by itself in Fig. 4, having on one face thereof a series of nozzles 5, the walls of which are connected so as to form a continuance-piece, and 40 the upper nozzle of the series is provided with a branch nozzle 7, into which is screwed the beer-supply pipe 9. (Shown only in Fig. 1.) The lower nozzle of the series on the plate 3 45 is provided with a branch nozzle 10, to which the beer-delivery pipe 12 (shown only in Fig. 1) is connected. The nozzles 5 of the two plates 2 and 3 are united by tubes 13, as shown, and by reference to Fig. 5 it will be seen that 50 the two upper nozzles of the plate 3 and the

tubes within them are perforated, the opening thereby produced being denoted by 14. The second and third nozzles from the top of the plate 2 and the tubes therein are similarly united by openings, and this arrangement of 55 connection and openings is continued through entire series. It will be also seen by reference to Fig. 5 that the plate 3 is provided with openings opposite the nozzles and the said openings are covered by the removable 60 plate 15, a tight joint being effected by the packing 17.

From the above description it will be understood that beer when introduced into apparatus through the pipe 7 will take circuitous 65 passage and be finally discharged through the pipe 12.

19 is a flanged shell (see particularly Fig. 5) secured to the exterior surface of the plate 3 by means of bolts 20. Within the said shell 70 and projecting from the side walls thereof are lugs 22, (see particularly Figs. 6, 7, and 8,) by which are supported the screw-dogs 23, whereby the removable covering-plate 15 is held tightly in place. In setting up the screws 75 of the dogs the shoulders 25 of the lugs 22 serve as abutments for the ends of the dogs, as shown in Fig. 6. The shell 19 is closed by means of the removable follower-plate 27, which is held in place by means of the screws 80 29, as shown in Fig. 5.

The object in having the follower-plate removable is to admit of access to the dogs 23 and for the purpose of cleansing the tubes 13 by means of some suitable device which is 85 moved backward and forward in the tubes while water is allowed to enter the apparatus through the beer-supply pipe 7.

I have described only one series of nozzles and tubes through which the beer passes; but 90 it is evident that the capacity of the apparatus may be increased to almost any extent by having several plates provided with nozzles and tubes, as described or by having larger plates with a greater number of nozzles, which 95 could be arranged side by side.

Referring now to Figs. 9 to 15, inclusive, it will be seen that the modification in the construction of the apparatus before referred to consists in leaving a space between the 100

ends of alternate tubes and the plates 2 and 3 and covering the exposed ends of the tubes in the spaces 30 by removable disks 32, which extend to near the upper part of their circumference. By this means each tube is retained in a nearly-filled condition; but the circulation of beer in the apparatus is not affected when the tubes are filled. The purpose of this alternate construction is to retain in each tube a comparatively quiescent body of beer from which any gas or any air in the beer may ascend to and be retained in the top tube instead of being carried to and through the delivery-pipe to the place from which the beer is drawn.

In order that the disks 32 may be held closely in contact with the ends of the tubes 13, they are each provided with a stem 33, against which the plate 15 bears, and to facilitate the correct placing of the said disks they have a transversely-extending projection 35, which fits into a notch 37, formed in the end of the tube. This arrangement is well shown in Figs. 13, 14, and 15.

It is not absolutely necessary that the disks

32 should fit water-tight against the ends of the tubes, as any leakage will pass to the spaces 30 and thence into the circulation.

I claim as my invention—

In a beer-cooler, the combination of an ice-holding tank, a pair of vertical plates each one having horizontal nozzles the walls of which unite to form partitions, the alternate partitions being perforated, and the nozzles of one plate extending through the plate so that access to them may be had from the reverse side of the plate, a covering-plate to close the open nozzles, devices to hold the covering-plate in place, and tubes which unite the oppositely-arranged nozzles, having lateral perforations to register with those of the said partitions, whereby a continuous and circuitous passage through the series of tubes and nozzles is produced, substantially as specified.

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Witnesses:

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