

H. C. HUTTEBALLE & C. MORLER.
 PHOTOGRAPHIC APPARATUS.
 APPLICATION FILED FEB. 9, 1910.

983,141.

Patented Jan. 31, 1911.
 2 SHEETS—SHEET 1.

Fig. 1.

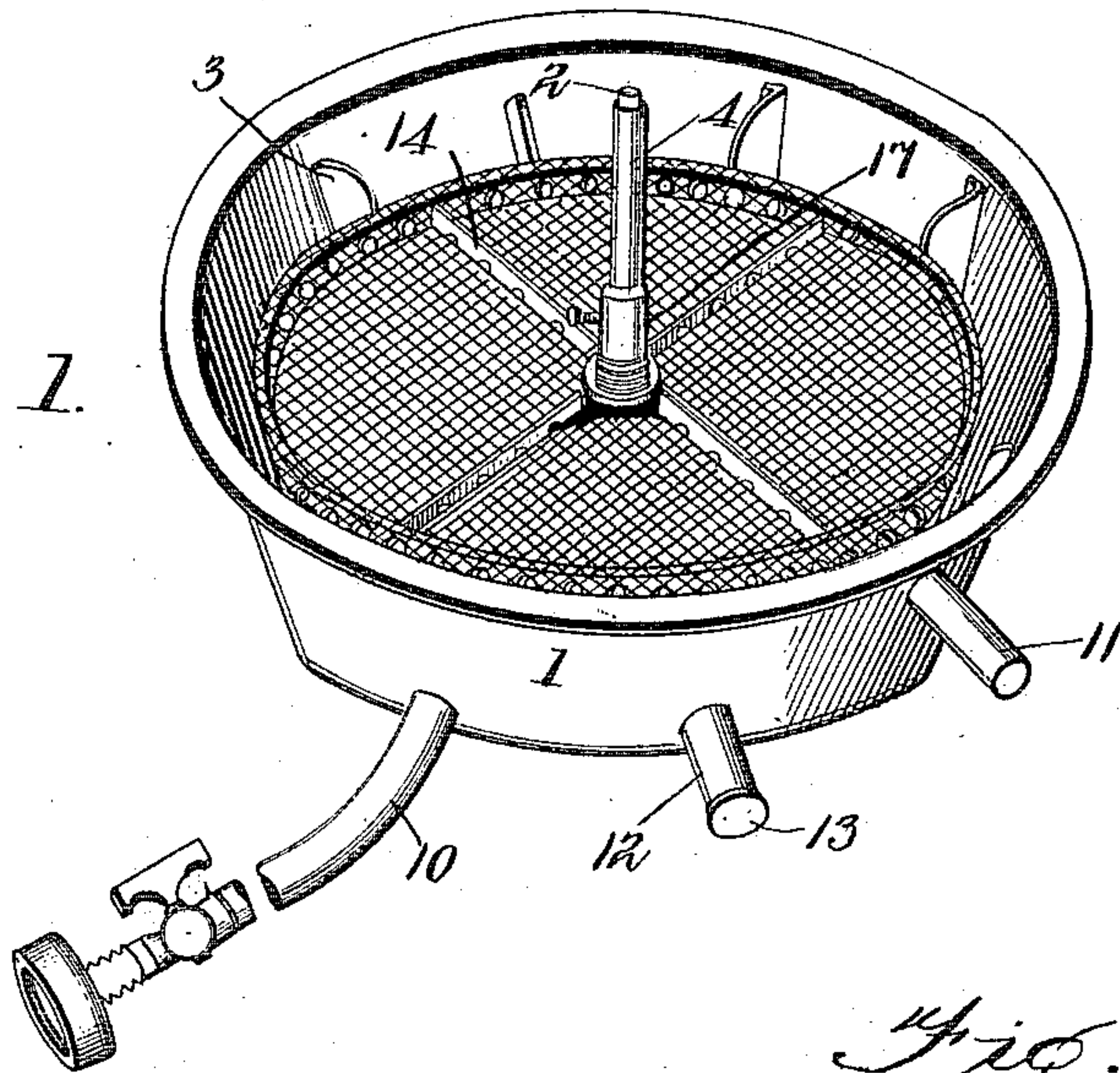
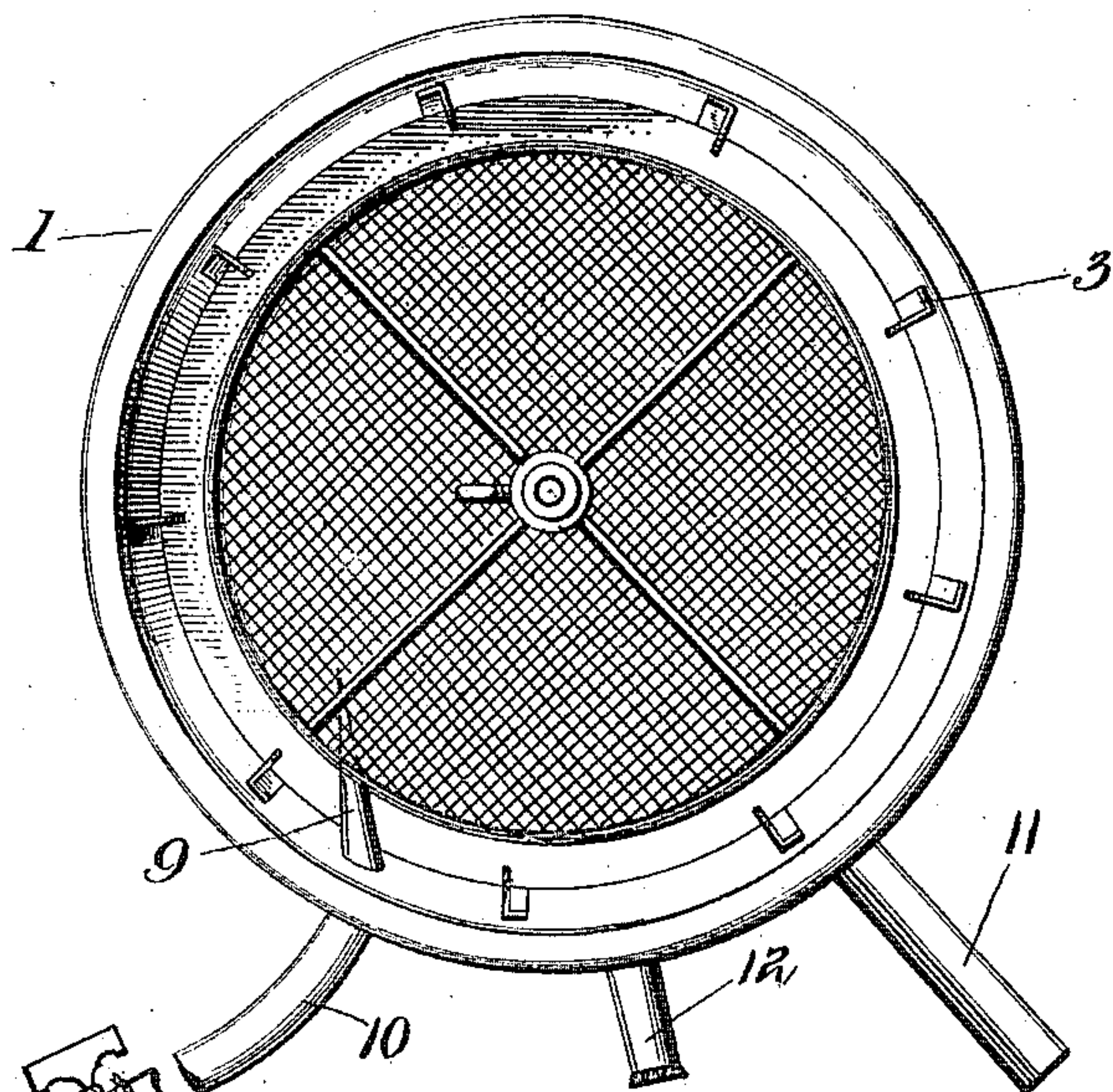


Fig. 2.



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Fig. 3.

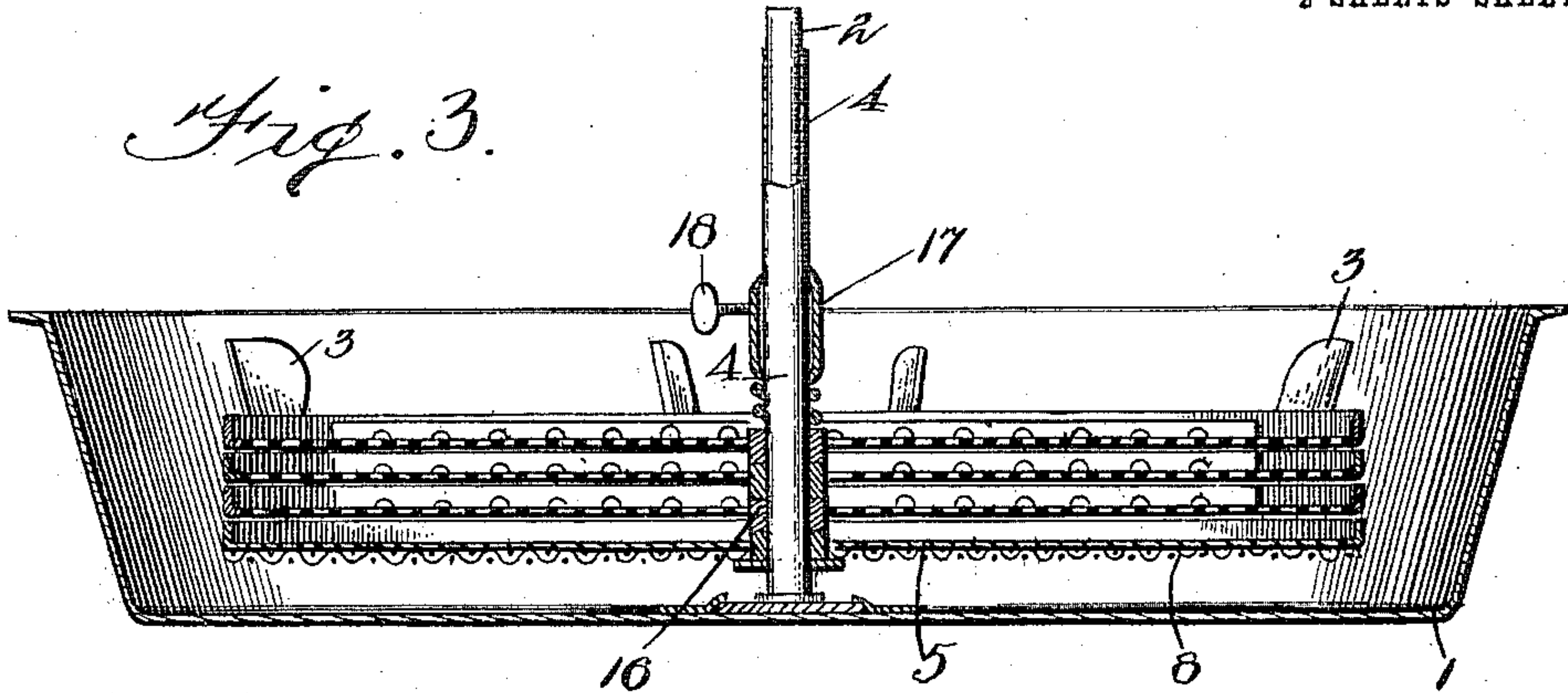


Fig. 4.

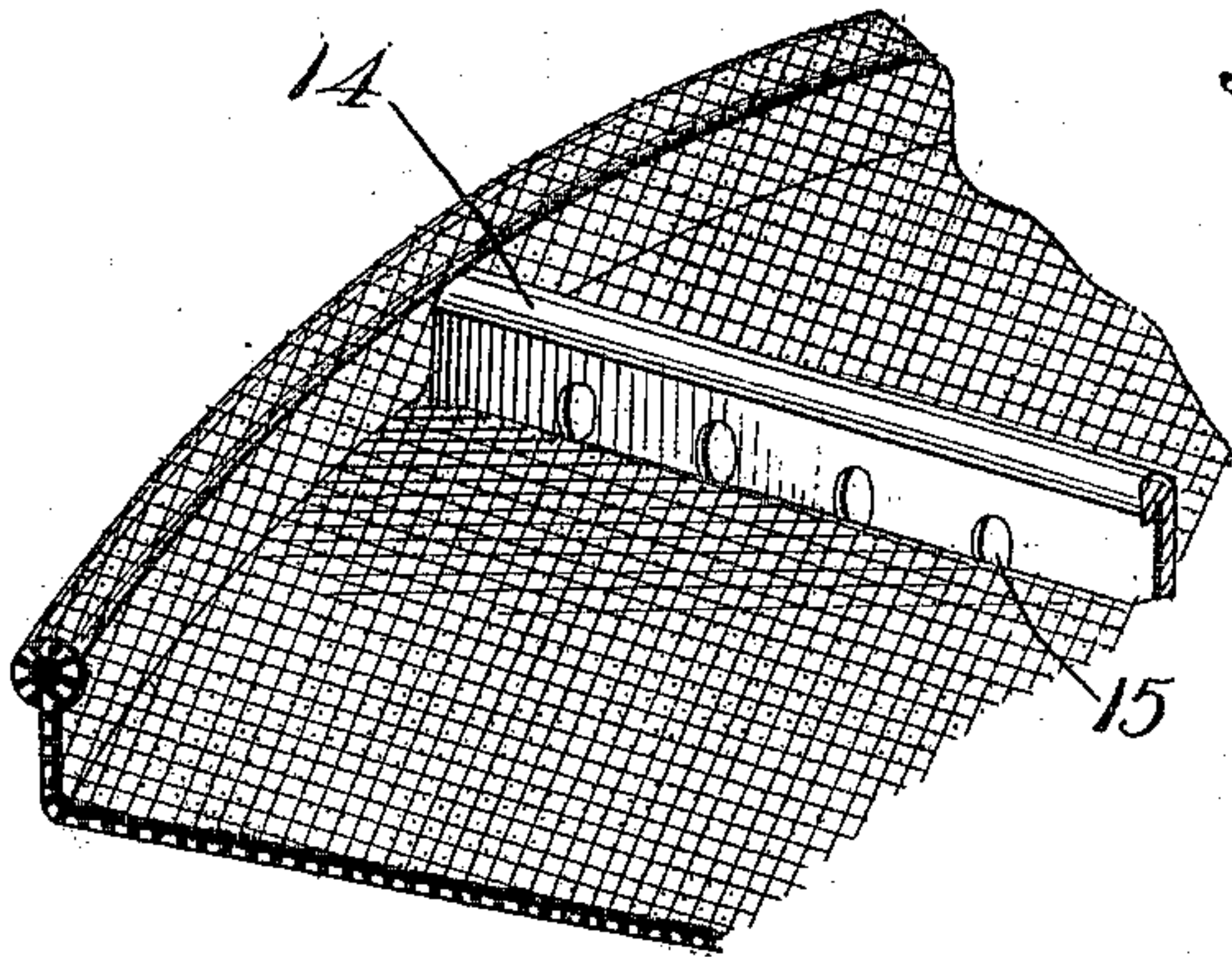


Fig. 5.

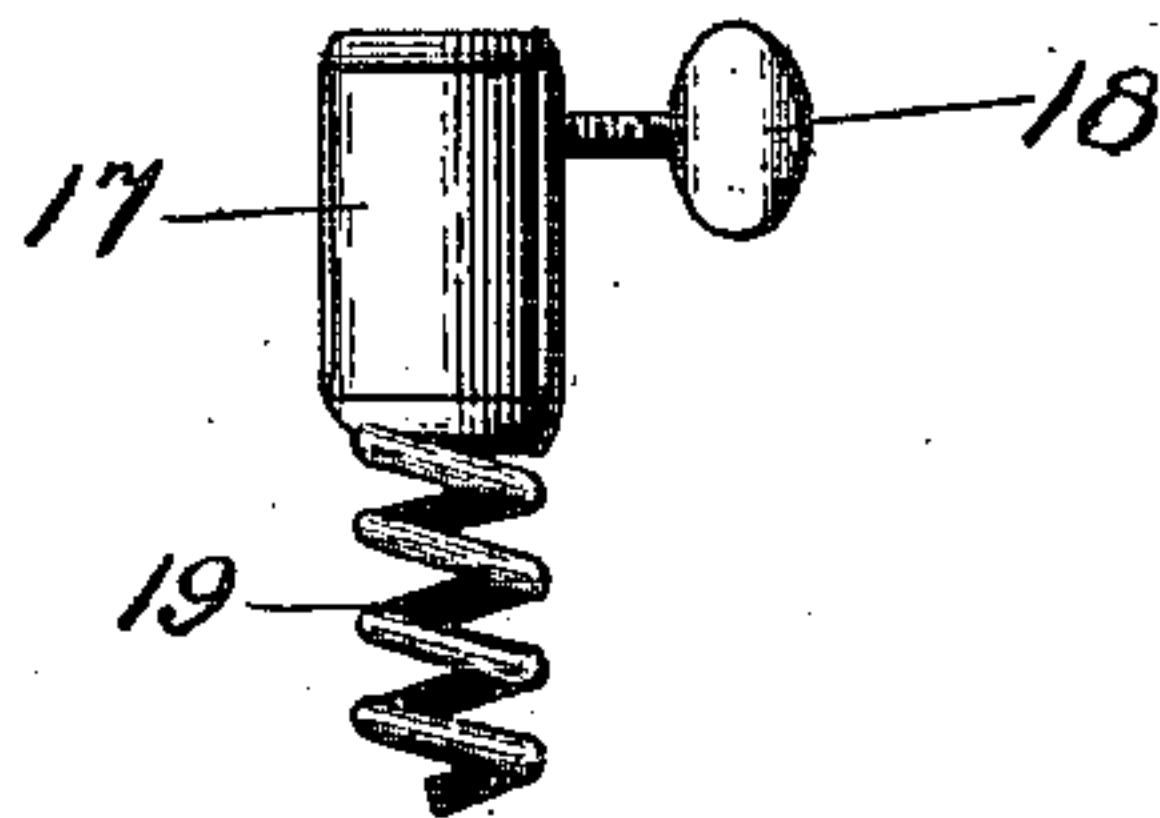


Fig. 6.

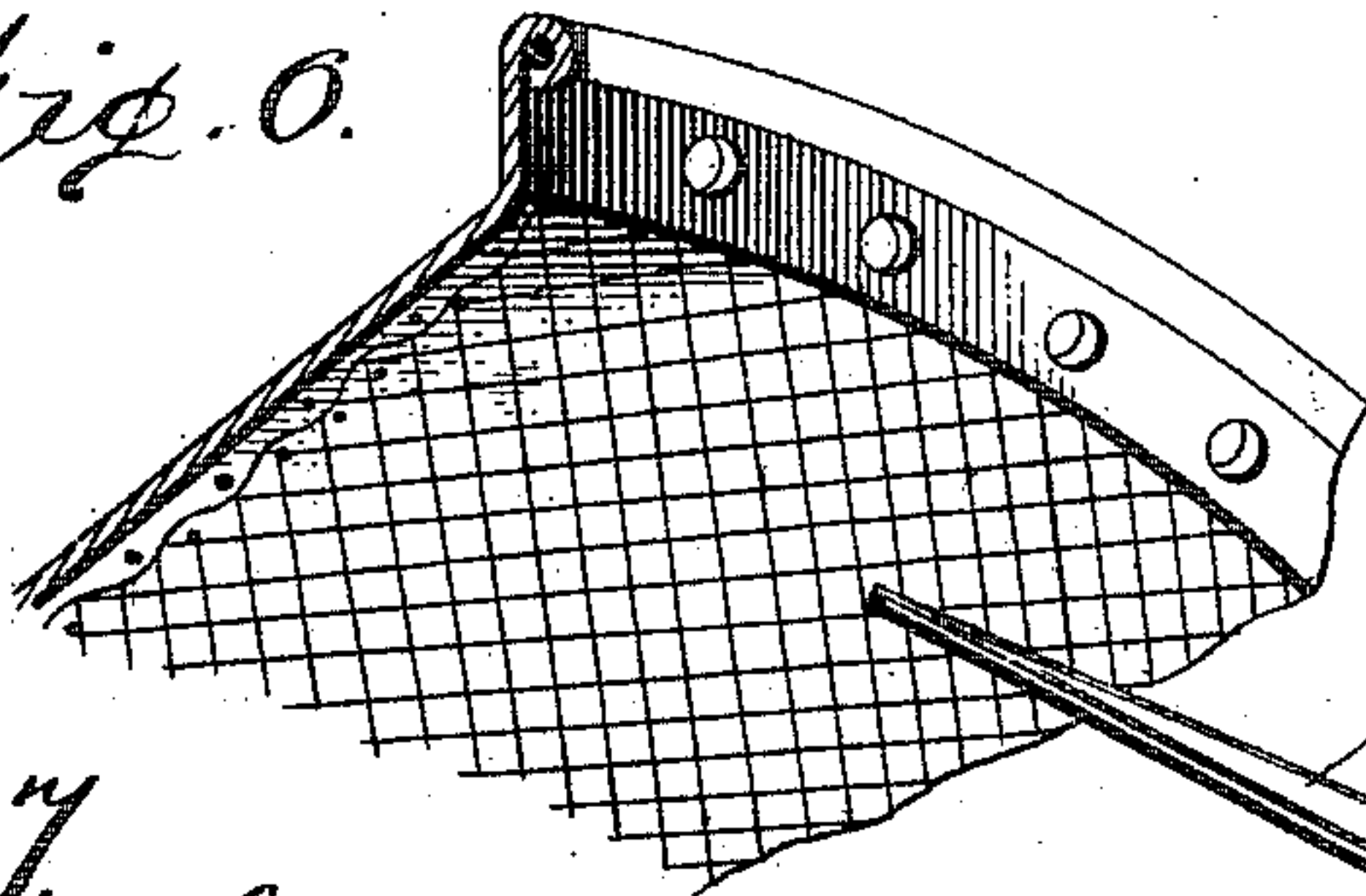
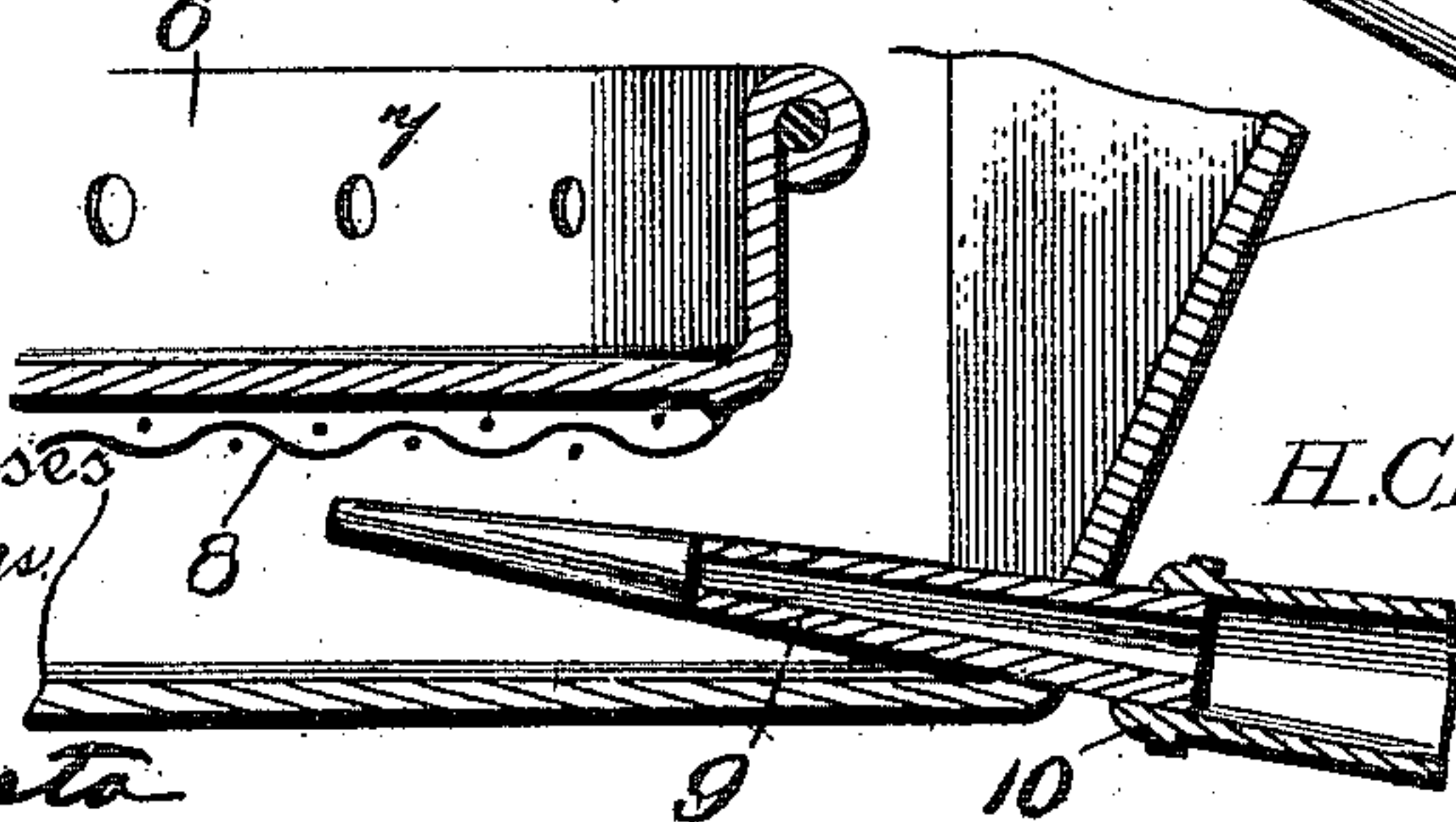


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC APPARATUS.

983,141.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed February 9, 1910. Serial No. 542,972.

To all whom it may concern:

Be it known that we, HANS C. HUTTEBALLE and CHRISTIAN MORLER, both citizens of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Photographic Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in photographic apparatus, and while it is principally designed for use in connection with the washing of photographic prints it will be obvious from the construction of the apparatus that the use of the machine is not limited to photographic prints, as it may equally as well be used in connection with washing off glass or film negatives, and in other relations. It will be understood, therefore, that the particular apparatus in its broad usage is not restricted to a print washing machine, and in the following description where the term print washing machine is used it will be understood that it is not used in a restricted sense but broadly refers to the other usages above mentioned.

The primary object of the invention is to provide means for treating the photographic production without the necessity of manually handling the same during the treatment, and particularly with reference to print or negative washing machines the utility of the invention will the more readily be seen.

With this and other objects in view it will be understood that the invention is not restricted to the exact details shown and described, but for the purpose of disclosure reference is had to the accompanying drawings illustrating a practical embodiment of the invention, and the particular features of novelty will be more succinctly pointed out in the claims.

In the accompanying drawings like letters designate the same parts in the several views, and Figure 1 is an interior perspective view of the apparatus. Fig. 2 is an internal plan view of the same. Fig. 3 is a central cross section. Fig. 4 is a detail fragmentary perspective view of one of the holding trays. Fig. 5 is a detail view of the tray locking device. Fig. 6 is a fragmentary

perspective view looking toward the bottom of the motor and the impact nozzle, and Fig. 7 is a fragmentary sectional view showing the operating means in detail.

Broadly we provide a liquid containing vessel with means for supporting a photographic production therein and means for imparting motion to said support in the plane of the photographic production, whatever the direction of movement may be, but in the preferred form, as disclosed in the present drawings, we provide a liquid containing vessel 1 provided with a central vertical stationary post 2, the internal wall of said vessel being provided with deflecting plates 3. On the post 2 is revolubly mounted a sleeve 4, and slightly above the lower end of the sleeve 4 is rigidly affixed a tray or pan having a solid bottom 5, with the upturned flange or wall 6 apertured as at 7 (Fig. 7). The bottom of this pan is provided with any suitable means for receiving the impact from a jet of water, but the simplest and preferred method, adapting the pan to comparatively slow rotation, is to provide the bottom of the pan with a covering of wire gauze 8. Coöperating with this wire gauze bottom is an injection or impact nozzle 9, to which is connected a hose or other suitable piping 10 leading to the water supply. This injection nozzle, as shown more clearly in Fig. 7, is arranged at such an angle as to cause a jet of water to strike against the gauze bottom 8.

The receptacle 1 is provided with an overflow outlet 11 at its top, and may also be provided with a second outlet 12 at its bottom which may be stoppered, as at 13, and through which outlet the contents of the vessel 1 may be drained.

Above the lower pan is arranged a plurality of similarly shaped trays, with the exception that the bottoms of said trays are foraminous, and for the purpose of simplicity of illustration these foraminous bottoms are shown as being formed by meshed wire. It will be observed also that these trays have their outer or retaining walls apertured, whether the apertures are merely in the form of several holes or form a foraminous wall. These trays are provided with vertical division plates 14 having openings 15 therethrough and forming a plurality of compartments for the reception of plates, films, prints or other photographic

production. The several trays or pans are each provided with a centrally apertured bearing 16 and the trays may be held spaced apart as shown in the drawing, wherein the central bearings 16 extend on both sides of the trays and form abutting bosses. Disposed above the trays is a locking sleeve 17 encompassing the sleeve 4 and provided with a set screw 18. The lower end of the locking sleeve 17 is provided with a coiled spring 19 which engages the bearing or boss on the upper tray and holds all of the trays locked together on the sleeve 4.

From the foregoing the operation of the apparatus will be apparent, but it might be stated that under normal conditions the rotation of the trays or supports would cause the water surrounding them to circulate in the same direction, but by the provision of the deflecting plates 3 the water is deflected inwardly, passing through in between the trays and more effectively washing the photographic productions, relieving them of the fixative solution which is conducted off through the outlet 11.

It will be understood, of course, that the trays, containing receptacle and other parts will be made out of aluminum, fiber or other suitable material that will not readily corrode or become rusted.

What we claim is:—

1. The combination of a liquid containing vessel, a movable tray therein adapted to be rotated, said tray having an apertured bottom and an apertured unbroken vertical wall therearound, and being further provided with upright unbroken radial division plates having apertures therein and of substantially the same height as said vertical wall and coöperating with said vertical wall to provide a plurality of compartments for receiving the photographic productions to be treated and retain same flatwise therein against displacement while being treated, substantially as described.

2. The combination of a liquid containing vessel, provided with a vertical rod, a centrally apertured tray mounted on said rod and provided with an upright sleeve rotatably surrounding said rod, a plurality of superposed centrally apertured trays detachably fitting over said sleeve, means for holding said trays locked together, and means

whereby said trays are caused to rotate, substantially as described.

3. The combination of a liquid containing vessel, provided with a vertical rod, a centrally apertured tray mounted on said rod and provided with an upright sleeve rotatably surrounding said rod, a plurality of superposed centrally apertured trays fitting over said sleeve, means for holding said trays locked together comprising a locking sleeve surrounding said vertical rod and provided with a set screw and a coiled spring between said locking sleeve and the uppermost tray, and means whereby said trays are caused to rotate, substantially as described.

4. The combination of a liquid containing vessel, of a member rotatably mounted therein, said member comprising a flat unbroken surfaced disk provided with a wire gauze facing covering the bottom thereof, an injection nozzle disposed adjacent said wire gauze facing and adapted to be connected with a water supply to cause a jet of water to impinge said gauze faced solid disk and supporting means for photographic productions to be treated carried by said disk, substantially as described.

5. The combination of a liquid containing vessel, provided with an inlet at its base and an outlet at its top and having inwardly and radially projecting deflecting plates disposed therearound, a disk member rotatably supported within said vessel, an injection nozzle connected with said inlet, a gauze facing covering the bottom of said disk for receiving the impact from said injection nozzle, and a tray rotatable with said disk, said tray having an unbroken annular wall and being provided with a foraminous bottom and with apertures in its unbroken annular wall and being further provided with unbroken apertured radial walls, dividing the tray into a plurality of compartments, substantially as described.

In testimony whereof, we affix our signatures, in presence of two witnesses.

HANS C. HUTTEBALLE.
CHRISTIAN MORLER.

Witnesses:

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CHAS. F. KOELSCH.