J. H. DROSSER.

DEVELOPING TANK.

APPLICATION FILED SEPT. 25, 1912.

1,075,905. Patented Oct. 14, 1913.

Fig. 1.

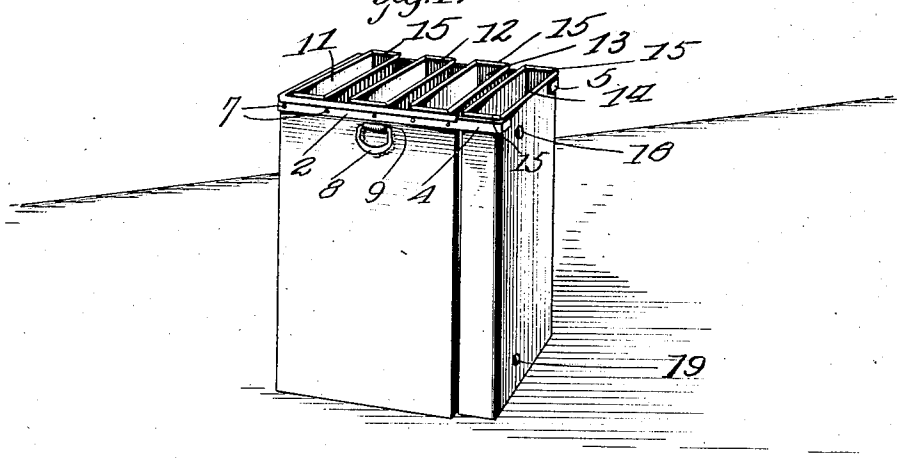


Fig. 2.

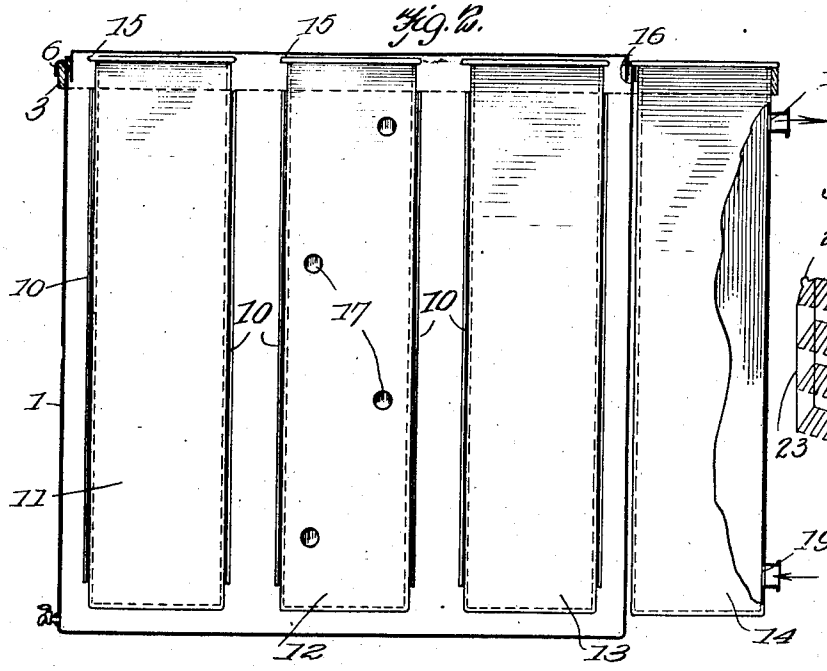


Fig. 4.

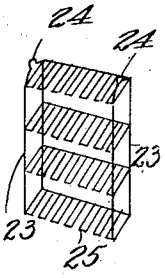
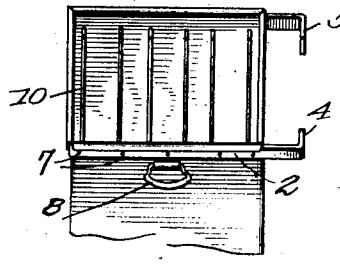


Fig. 3.



WITNESSES

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DEVELOPING-TANK.

1,075,905. Specification of Letters Patent. Patented Oct. 14, 1913.

Application filed September 25, 1912. Serial No. 722,244.

To all whom it may concern:

Be it known that I, JOSEPH H. DROSSER, a citizen of the United States, and a resident of Douglas, in the county of Cochise and State of Arizona, have invented certain new and useful Improvements in Developing-Tanks, of which the following is a specification.

My invention is an improvement in developing tanks, and has for its object, the provision of a main tank for holding water, and so arranged that a continuous flow of cooling liquid may be passed through the main tank during the operation, together with a plurality of auxiliary tanks for containing the various fluids, supported in the main tank, and means in connection with the main tank for holding one of the auxiliary tanks outside of the main tank.

In the drawings: Figure 1 is a perspective view of the improved tank; Fig. 2 is a transverse vertical section of the main tank; Fig. 3 is a perspective view from above, with the auxiliary tanks removed; and Fig. 4 is a perspective view of a rack for use with the improved tank.

The present embodiment of the invention consists of a main tank 1 of suitable material, as for instance sheet iron or tin, or the like, having an open top, and having at the top a frame of metal or the like, the said frame consisting of integral side pieces 2, and an end 3, connecting one end of the said side pieces, each of the said side pieces extending beyond the main tank at the opposite end, as shown at 4, and having an inwardly extending lateral lug 5 at its extremity.

The upper edge of the material forming the main tank is bent outward and downwardly over the frame, as shown at 6, to cover that portion of the said frame adjacent to the tank. The frame is secured to the sides and one end of the main tank in any suitable manner, as for instance by means of rivets 7. The main tank is also provided with oppositely arranged handles 8, each of which is in the form of a split ring or loop, having its ends engaged with a bearing 9 secured to the side of the tank.

The main tank is provided with a plurality of partitions 10, the said partitions being arranged transversely of the tank, and having their upper and lower edges spaced apart from the top and the bottom of the tank respectively. The partitions are so arranged that each pair of partitions forms a guideway for receiving an auxiliary tank, of which there are four in the present instance. Each of the auxiliary tanks 11, 12, 13 and 14 is provided with a laterally extending marginal flange 15 at its upper edge, for engaging the upper edges of the main tank, to limit the downward movement of the auxiliary tank in the main tank.

Three guideways are provided within the main tank, and three of the auxiliary tanks may be supported in the three pairs of guideways. The fourth tank 14 is supported by the extensions 4 and the lugs 5 at one end of the main tank. The auxiliary tanks are of the same dimensions, so that they may be interchanged, and the upper edge of the main tank adjacent to the extensions 4 is flanged downwardly, as shown at 16 in Fig. 2, to space the outside tank away from the adjacent end wall of the main tank.

In operation, the tank 11 is for containing the developing fluid, and the tank 12, that is the center tank, is for rinsing, and the said tank is provided at each end with a plurality of openings 17, one near the top and one near the bottom, and the others on each side of the middle of the said tank, so that the water can flow from the main tank through the auxiliary tank 12 to thoroughly rinse and wash the films or plates. The tank 13 is for containing the fixing fluid, while the tank 14 is for washing the plates or films after they have been fixed. The said tank 14 is arranged outside of the main tank, in order that a colder fluid may be used, and the said tank 14 is provided with openings 18 and 19, the opening 18 being at the top, and the opening 19 at the bottom. The cooling fluid enters at the lower opening 19 and leaves the tank at the upper opening 18.

It will be evident that the improved tanks are of any desired size, depending upon the use to which they are to be put, and they may be made of any desired material. The main tank is filled with water with the auxil-

iary tanks in place, and the water in the main tank may be regulated by adding ice or warm water. After the plates or films have been developed in tank 11 they are placed in tank 12, and the said tank is lifted or lowered to start the flow of water. The films or plates are then moved into tank 13 where the fixing takes place. After they have been fixed they are moved into tank 14 and washed.

It will be evident that with the improved device, the plates or films need to be handled but once, and when a rack is used, since with the plates or films in place in the rack, they may be transferred from tank to tank without removing them from the rack, that is the plates or films may be placed in tank 11 in the racks, and may be handled without removing them from the racks, the tanks being shaped and of a size to fit the racks. The main tank 1 is also provided with an outlet opening 20 for permitting the same to be drained, and a cover 21 is also provided for closing the top of the same, the said cover fitting down upon the tops of the auxiliary tanks and closing them as well as the top of the main tank.

In Fig. 4 is shown a rack for supporting the plates while they are being acted upon. The rack shown is intended for use with films, and the said rack consists of end frames 23 of wire or the like, and substantially rectangular in form, each having at its upper end an open ring or loop 24, for grasping to handle the rack. The end frames 23 are connected at spaced intervals by holders 25, each of the said holders being formed from wire, and consisting of a single wire connecting the adjacent side members of the frames and having connected with each of the said wires a plurality of laterally extending tongues. The films are arranged between the tongues and the said tongues of the several holders register with each other as shown. Any preferred form of rack may be used, the above form being shown as a convenient form.

I claim:—

1. A device of the character specified, comprising a main tank, pairs of partitions arranged transversely of the main tank, the members of each pair being spaced apart laterally from each other to form a guideway, said partitions stopping short of the top and bottom of the tank to permit the free circulation of the fluid beneath and above the partitions, a plurality of auxiliary tanks, sundry of the said tanks being arranged within the guideways, each auxiliary tank having a lateral flange at its upper end for engaging the upper edge of the main tank to limit the downward movement of the auxiliary tank, said auxiliary tanks being of lesser depth than the main tank, so that a space will be left between the bottoms thereof and the bottom of the main tank, one of the auxiliary tanks having a series of openings at each end to permit the entrance and exit of fluid from the main tank, said main tank having longitudinally extending arms at one end, each arm having a lateral inwardly extending lug at its free end, said extension and lugs forming a guideway for another auxiliary tank, said last-named auxiliary tank having an inlet opening near its bottom and an outlet opening near its top, handles on the main tank, and a cover for closing the tops of the main tank and the auxiliary tanks.

2. A device of the character specified, comprising a main tank, pairs of partitions arranged transversely of the main tank, the members of each pair being spaced apart laterally from each other to form a guideway, said partitions stopping short of the top and bottom of the tank to permit the free circulation of the fluid beneath and above the partitions, a plurality of auxiliary tanks, sundry of the said tanks being arranged within the guideways, each auxiliary tank having a lateral flange at its upper end for engaging the upper edge of the main tank to limit the downward movement of the auxiliary tank, said auxiliary tanks being of lesser depth than the main tank, so that a space will be left between the bottoms thereof and the bottom of the main tank, one of the auxiliary tanks having a series of openings at each end to permit the entrance and exit of fluid from the main tank, means at one end of the main tank for supporting one of the auxiliary tanks outside of the main tank, said last named auxiliary tank having an inlet opening at its bottom and an outlet opening at its top.

3. A device of the character specified, comprising a main tank, said main tank having a plurality of guideways for holding the auxiliary tanks in spaced relation, said main tank having means at one end for supporting another auxiliary tank outside the main tank, auxiliary tanks in the guideways and in the supporting means, said tanks being of lesser depth than the main tank and having means for engaging the upper edge of the main tank to space their bottoms above the top of the main tank, one of the auxiliary tanks having a series of perforations at each end, and the tank in the supporting means having openings near its top and bottom.

4. A device of the character specified, comprising a main tank having a plurality of guideways for holding auxiliary tanks, said main tanks having means at one end for supporting other auxiliary tanks outside the main tank, and auxiliary tanks supported in the guideways and in the said supporting means, each of the said tanks

having lateral flanges at its upper end for engaging the top of the main tank or for engaging the supporting means to support the said tank.

5. A device of the character specified, comprising a main tank having a plurality of guideways for holding auxiliary tanks, said main tank having means at one end for supporting other auxiliary tanks outside the main tank, and auxiliary tanks supported in the guideways and in the said supporting means.

JOSEPH H. DROSSER.

Witnesses:
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