2 Sheets—Sheet 1.

H. RATHMANN.

Soap-Frame.

No. 205,136. **Patented June 18, 1878.**

Fig. 1.

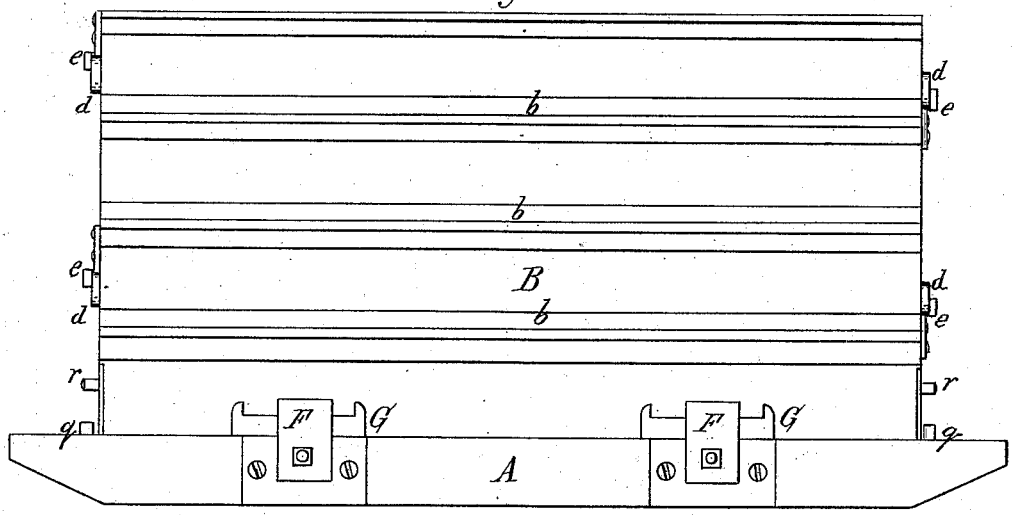


Fig. 2.

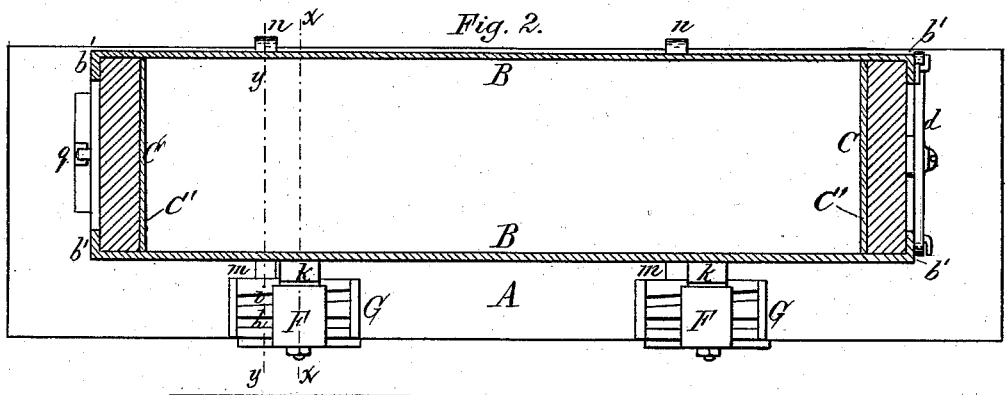


Fig. 3.

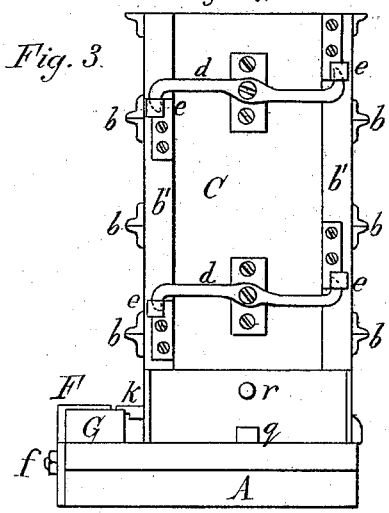


Fig. 15.

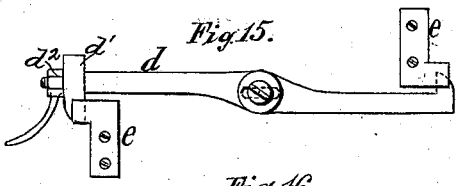
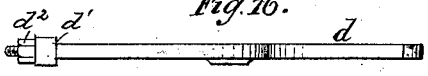


Fig. 16.



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Soap-Frame.

No. 205,136. **Patented June 18, 1878.**

Fig. 4.

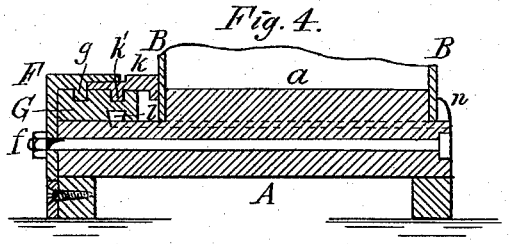


Fig. 5.

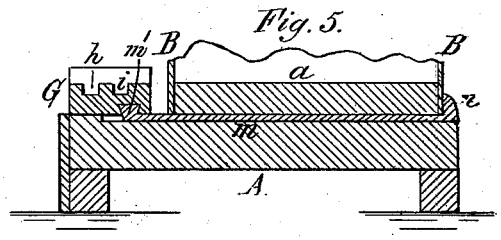


Fig. 6.

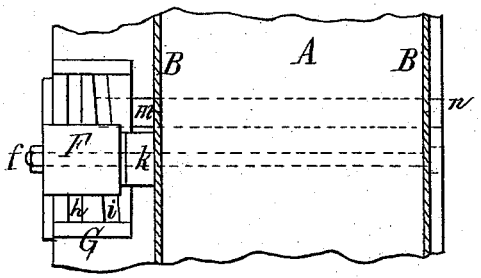


Fig. 7.

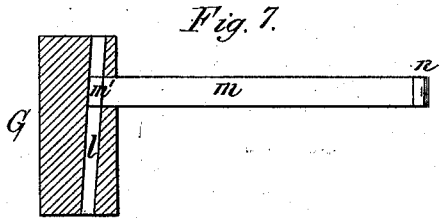


Fig. 11.

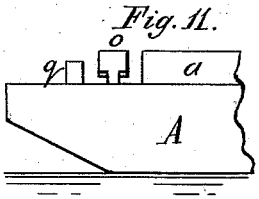


Fig. 10.

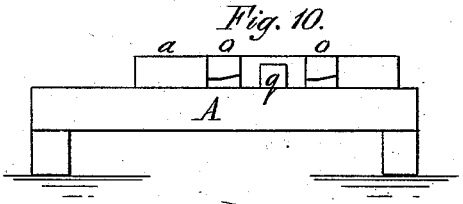


Fig. 8.

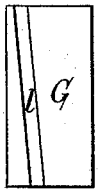


Fig. 12.

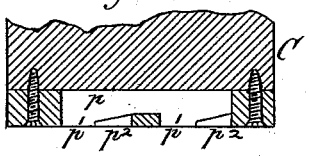


Fig. 9.

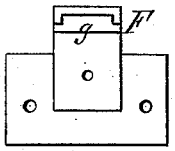


Fig. 14.

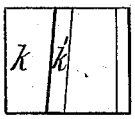
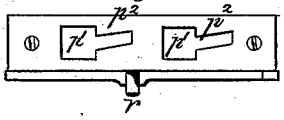


Fig. 13.



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UNITED STATES PATENT OFFICE.

HENRY RATHMANN, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SOAP-FRAMES.

Specification forming part of Letters Patent No. **205,136**, dated June 18, 1878; application filed March 13, 1878.

To all whom it may concern:

Be it known that I, HENRY RATHMANN, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Soap-Frames, of which the following is a specification, reference being had to the accompanying drawing.

My invention has for its object the construction of a soap-frame which is adapted to be readily set up and taken down, and in which the side and end plates are firmly locked together when in use, and are easily drawn away from the soap in taking the frame down, so that the soap does not adhere to the plates.

The nature of my invention will be fully understood from the following description.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of a soap-frame provided with my improvements. Fig. 2 is a top-plan view, with the plates in section, and Fig. 3 an end elevation thereof. Figs. 4 and 5 are cross-sections in lines *x x* and *y y*, Fig 2. Fig. 6 is a plan view of Fig. 4. Fig. 7 is a plan view of the sliding bar, with the sliding wedge in section. Fig. 8 is a bottom-plan view of the sliding wedge. Fig. 9 is an inside elevation of the fixed guide. Fig. 10 is an end elevation of the bottom of the soap-frame on an enlarged scale. Fig 11 is a side elevation thereof. Fig. 12 is a sectional view of the lower portion of one of the end plates. Fig. 13 is a bottom-plan view thereof. Fig. 14 is a bottom view of the clamp on an enlarged scale. Fig. 15 is a side elevation of a locking-lever, and Fig. 16 is a plan view thereof.

Like letters of reference refer to like parts in each of the figures.

A represents the bottom, B B the side plates, and C C the end plates, of the soap-frame. The bottom A is provided on its upper side with a raised rectangular portion, *a*, against which the lower ends of the plates A and B fit. The end plates C are preferably constructed of wood, and provided with a facing, C′, of sheet metal, to prevent the soap from adhering to the end plates, while permitting the side plates to form a tight joint therewith, by being drawn against the wooden body of the end plates. The side plates B are made of suitable sheet metal, stiffened by angle-irons *b*, and provided with bent end portions *b′*, overlapping the end plates C. *d d* represent two-armed locking-levers, pivoted centrally to the end pieces C, and engaging with catches *e e*, secured to the bent end portions *b′* of the side plates, so that by turning the locking-levers *d* in the proper direction the side plates are firmly drawn against the end plates.

d^1 is an adjustable claw, (see Fig. 15,) mounted on one or both ends of the locking-lever *d*, so as to slide thereon, the lever being provided with an oblong pivot-hole when the claw is arranged on one end of the lever only. It is held in contact with the catch *e* by a screw-nut, d^2, so that, by turning the latter in one or the other direction, the side plates can be drawn tightly against the end plates, or be slightly withdrawn therefrom, as may be desired.

The soap, in cooling in the frame, remains longest in a liquid state near the middle of the side plates, and as the latter frequently bulge inwardly near the middle, the block of soap will be wider at the ends than at the middle.

To avoid this irregular form, the side plates are slightly loosened when the soap has sufficiently hardened near the ends, while it is still plastic near the middle, when the soap will follow the receding side plates near the middle, and thereby compensate for the irregular form of the side plates and form a block with straight sides.

The side plates B are secured to the bottom A in the following manner: F represents a stationary guide-piece, made angular in form, and secured with its vertical portion to the side of the bottom A by a bolt, *f*, while its horizontal portion is provided on its under side with a feather, *g*, arranged parallel with the longitudinal direction of the side plates B.

G is a sliding wedge-piece, arranged between the horizontal portion of the guide F and the bottom A. It is provided on its upper side with an outer groove, *h*, arranged parallel with the side plates B, and engaging with the feather *g* of the guide F, and an inclined inner groove, *i*, as clearly shown in Figs. 2 and 6.

k is a sliding clamp, arranged upon the sliding wedge G, and provided on its under side

with an inclined feather, k', engaging in the inclined groove i of the slide G.

The outer end of the clamp k is guided in ways formed on the under side of the horizontal portion of the stationary guide F at right angles to the side plates B, as shown in Fig. 9, so that, by moving the slide G in one or the other direction, the clamping-piece k is caused to press against the plate B or to recede therefrom, as may be desired. l is an inclined groove, preferably of dovetail form, arranged in the under side of the slide G, contrary to the upper inclined groove i.

m is a sliding bar or rod, arranged in a transverse recess or mortise of the bottom A, and provided at one end with an inclined feather, m', engaging in the groove l on the under side of the slide G. The bar m carries at its opposite end a hook or shoulder, n, of suitable size to grasp the lower edge of the side plate.

When the side plates are placed against the raised portion a of the bottom, a movement of the slide G in the proper direction will cause the clamp k and hook n to be pressed against their respective side plates so as to hold the same firmly against the raised portion a, while a reverse movement of the slide G will cause a reverse movement of the clamp k and hook n, and release the side plates.

The bolt f, while securing the guide F to the bottom A, serves at the same time as a cross-stay for holding the parts of the bottom together.

The end plates C C are secured to the bottom in the following manner: o represents one or more upwardly-projecting hooks, each consisting of a narrow shank and enlarged head, arranged underneath the end plates and projecting into a cavity or recess, p, formed in the lower end of the end plate C, or in a casting secured thereto.

The cavity p consists of a large part, p^1, adapted to receive the head of the hook o, and a narrow part, p^2, to receive the shank of the hook.

The narrow part p^2 of the cavity p is made inclined, in such manner that when the end plate C is placed with the large part p^1 of the cavity over the hook o, and then moved sidewise to engage the head of the hook over the narrow part of the cavity, the end plate will, by the inclination of this narrow part, be forced against the raised portion a of the bottom, while in removing the end plate it will be drawn away from the raised portion of the bottom.

If desired, the heads of the hooks o may be made inclined on their under side, and the cavity p may be provided with corresponding inclines on each side of the narrow parts p^2, as shown in Fig. 12, for drawing the end plates C against the bottom in a vertical direction when being set up.

q is a stop, secured to the bottom A opposite each end plate C; and r, a stud or pin secured to the latter above the stop q, so that by applying a suitable wrench having an opening adapted to engage over the pin r and abutting with its lower end against the stop q, the end plates C can be readily moved backward and forward in applying and removing them.

In my improved soap-frame the side and end plates are readily and firmly secured to the bottom and to each other when the frame is set up; and in taking the frame down, the removal of the plates is readily accomplished by moving the plates away from the soap, thereby preventing the soap from adhering to the plates.

I claim as my invention—

1. The combination, with the bottom A and end plates C C, of the side plates B B, having overlapping end portions b', hooks or catches e secured thereto, and one or more locking levers or clamps, substantially as and for the purpose set forth.

2. The combination, with the bottom A and side plates B B, of the end plates C C, provided with locking devices, said plates being adaped to slide laterally on the bottom in applying and removing them, in order to facilitate the separation of the end plates from the block of soap, substantially as set forth.

3. The combination, with the bottom A and side plates B, of the fixed guide F, sliding wedge G, and clamp k, substantially as and for the purpose hereinbefore set forth.

4. The combination, with the bottom A and side plates B, of the fixed guide F, provided with feather g, sliding wedge G, provided with straight groove h and inclined groove i, and clamp k, provided with inclined feather k', substantially as and for the purpose set forth.

5. The combination, with the bottom A and side plates B, of the fixed guide F, sliding wedge G, provided on its under side with inclined groove l, and sliding bar m, provided with inclined feather m' and shoulder n, substantially as and for the purpose set forth.

6. The combination, with the bottom A and side plates B, of the fixed guide F, sliding wedge G, clamp k, and sliding bar m, provided with shoulder n, substantially as and for the purpose set forth.

7. The combination, with the bottom A, provided with one or more hooks, o, of the end plate C, provided with cavity p, composed of a large part, p^1, and a narrow inclined part, p^2, arranged and adapted to operate as and for the purpose hereinbefore set forth.

8. In a soap-frame, the locking-lever d, provided with adjustable claw d^1, substantially as and for the purpose set forth.

9. The combination, with the metallic side plates B, of the end plates C, composed of a wooden body and a metallic facing, substantially as and for the purpose set forth.

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