

C. LEHMANN.

Apparatus for Mixing Soap, Paint, &c.

No. 147,412.

Patented Feb. 10, 1874.

Fig: 1.

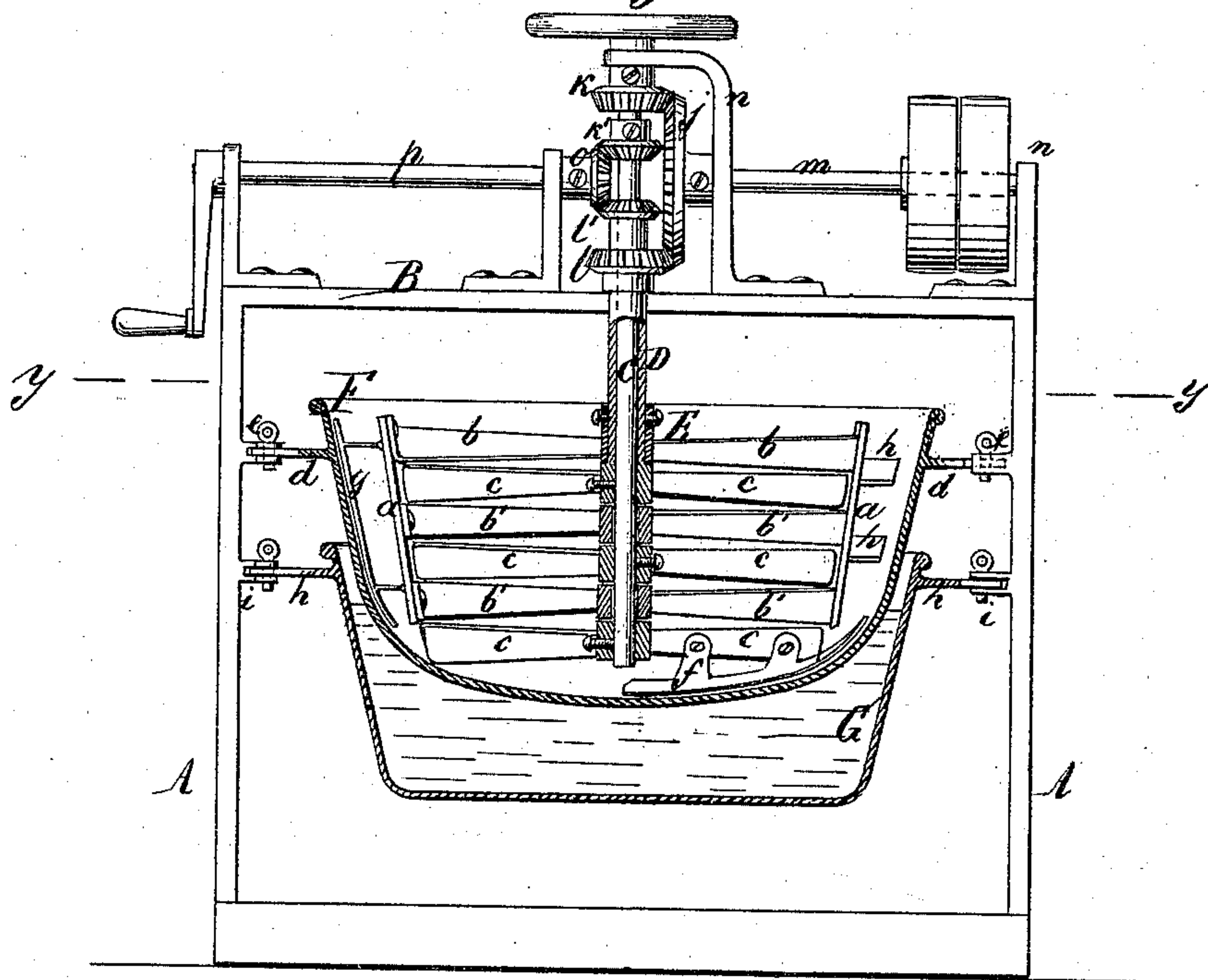


Fig: 2.

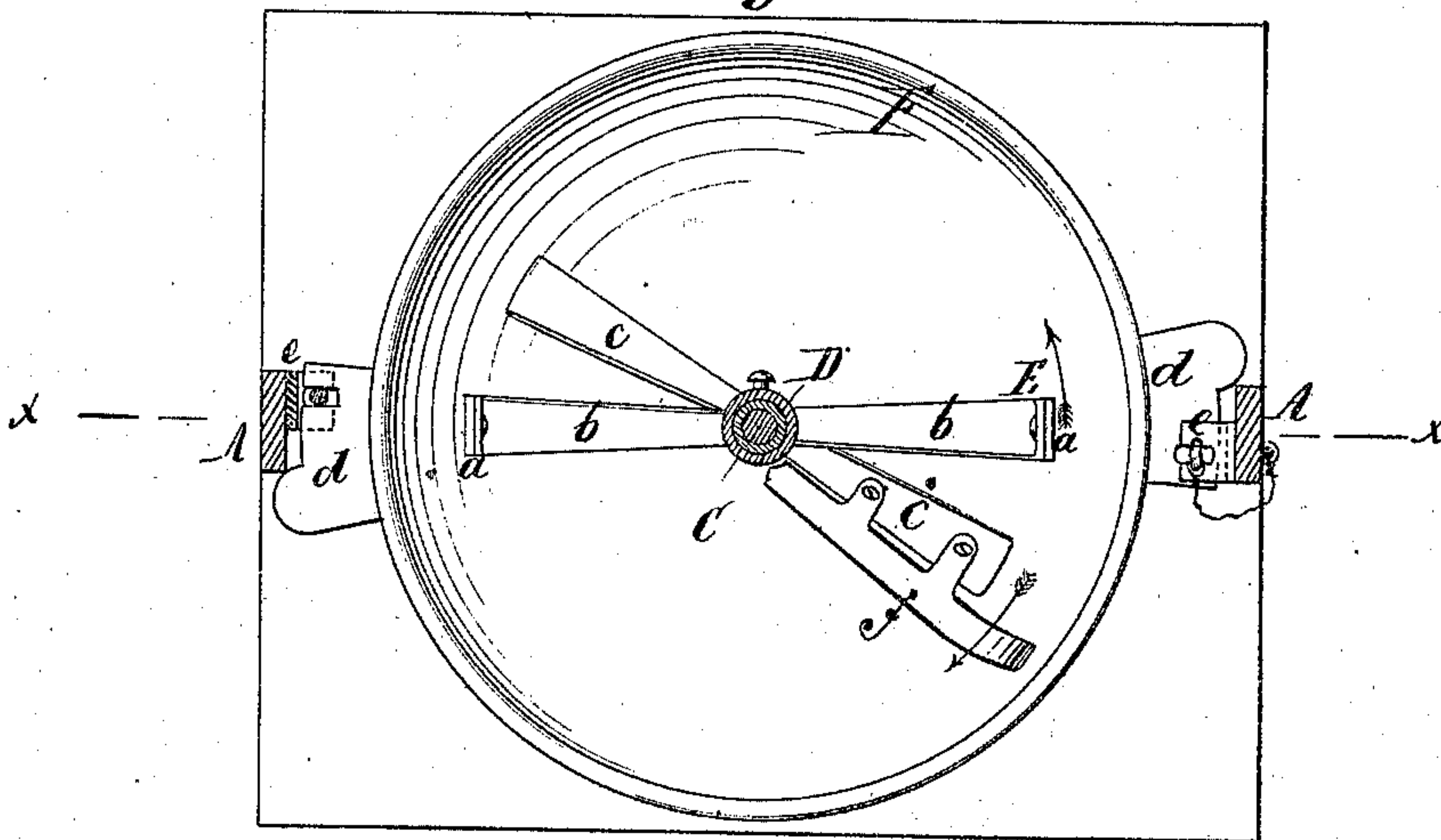


Fig: 3.

Witnesses:
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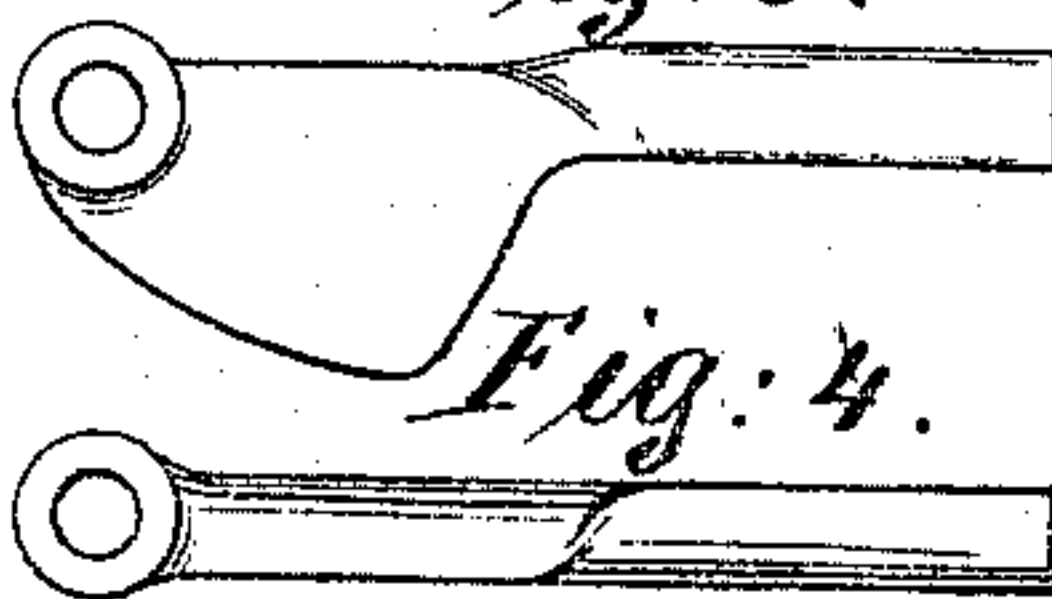


Fig: 4.

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CHARLES LEHMANN, OF NEW YORK, N. Y.

IMPROVEMENT IN APPARATUS FOR MIXING SOAPS, PAINTS, &c.

Specification forming part of Letters Patent No. 147,412, dated February 10, 1874; application filed January 22, 1874.

To all whom it may concern:

Be it known that I, CHARLES LEHMANN, of the city, county, and State of New York, have invented a new and Improved Apparatus for Stirring Soap, Paint, and other materials; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a vertical central section of this invention in the plane *x x*, Fig. 2. Fig. 2 is a horizontal section of the same in the plane *y y*, Fig. 1. Figs. 3 and 4 are detached views of different beaters.

Similar letters indicate corresponding parts.

This invention relates to apparatus for stirring soap, paint, and other materials, in which two sets of beaters which revolve in opposite directions are employed. The invention consists in combining with said beaters suitable scrapers to prevent the soap or other material from adhering to the bottom or to the side of the vessel in which the stirring operation progresses. This vessel is supported by side flanges, which engage with brackets secured to standards, on which also rests the stirring mechanism in such a manner that said vessel can be removed from and readjusted under the beaters without disturbing the stirring mechanism. With the stirring-vessel is combined an additional vessel, which is supported in a similar manner to said stirring-vessel surrounding the latter, so that when the same is filled with hot water the contents of the stirring-vessel are heated. With the two beater-shafts is combined a reducing and a multiplying gear, so that the power applied to the operation of the beaters can be readily adjusted to suit circumstances.

In the drawing, the letters *A A* designate two standards, which are connected at their top ends by a cross-bar, *B*, that forms the bearing for the beater-shafts *C D*. The shaft *C* is solid, and it extends through the hollow shaft *D*. On the lower end of this hollow shaft *D* is firmly secured a beater-frame, *E*, which is composed of two upright bars, *a a*, and two or more pairs of radiating beaters, *b b'*, the inner ends of the beaters *b* being firmly

secured to the hollow shaft *D*, while the inner ends of the beaters *b'* form eyes which embrace the solid shaft *C* and turn loosely on the same. Between the beaters *b b'*, and alternating with the same, are the beaters *c*, which radiate from the solid shaft *C*, and are firmly secured to the same, and the beaters *c* are inclined in a direction opposite to the beaters *b b'*, so that when the beater-shafts *C D* are revolved in opposite directions the soap or other material to be stirred is alternately cut up and squeezed, and the mass becomes thoroughly homogeneous in a comparatively short time. The material to be stirred is put in a tub, *F*, which is provided with flanges *d d*, that can be made to engage with brackets *e e* secured to the standards *A A*, so that said tub can be adjusted under the beaters and removed therefrom without disturbing the stirring mechanism. The bottom of the tub is made concave, and to the lowest one of the beaters *c* is secured a scraper, *f*, which is curved so as to conform to the surface of said bottom, and which serves to prevent the material to be stirred from adhering to the bottom. To one of the upright bars *a* of the beater-frame *E* is secured a scraper, *g*, which prevents the soap or other material from adhering to the side of the tub. One or both of these upright bars *a a* may also be provided wings *h h*, which act as scrapers and serve to keep the side of the tub clean, and to press the material down toward the bottom. The form of the beaters *b b' c* may be changed, according to the material to be stirred, and I have used with advantage beaters such as shown in Fig. 3 or in Fig. 4. When it is desirable to heat the material during the operation of stirring I apply a heating-vessel, *G*, which is supported by flanges *h* and brackets *i*, and which, when thus supported, embraces the tub *F*, so that if said heating-vessel is filled with hot water the contents of the tub *F* can be kept at the desired temperature. The shafts *C D* are geared together by a bevel-wheel, *j*, and pinions *k l*, the wheel *j* being mounted on a horizontal shaft, *m*, that has its bearings in the standards *n*, rising from the cross-bar *B*. With this bevel-wheel and the pinions *k l* is combined a reducing-gear, composed of pinions *k'*, *l'*, and *o*, the pinions *k' l'* being mounted on

the same shaft with the pinions *k l*, while the pinion *o* is mounted on a horizontal shaft, *p*. If the driving power is applied to the shaft *m* the beaters *b b' c* move with considerable speed; but if it is desired to turn the beater-shaft slow or with comparatively little power, then the power is applied to the shaft *p*. If the power is applied to the shaft *m*, the pinion *o* is thrown out of gear with the pinions *k' l'*.

My apparatus is intended particularly for stirring soap, but it can be used with advantage for stirring paint or other materials of a similar nature.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the beaters *b b' c*, constructed as described, the reducing-gear *k' l' o* and multiplying-gear *k l j*, substantially as set forth.

2. In combination with the beaters *b b' c*, constructed as described, the tub *F*, suspended from brackets *e e*, substantially as specified.

3. In combination with the beaters *b b' c*, constructed as described, the tub *F* and heating-vessel *G*, both being applied substantially as set forth.

CHARLES LEHMANN.

Witnesses:

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