No. 666,363. Patented Jan. 22, 1901.

F. STACY.

HAT SIZING MACHINE.

(Application filed Apr. 19, 1900.)

(No Model.)

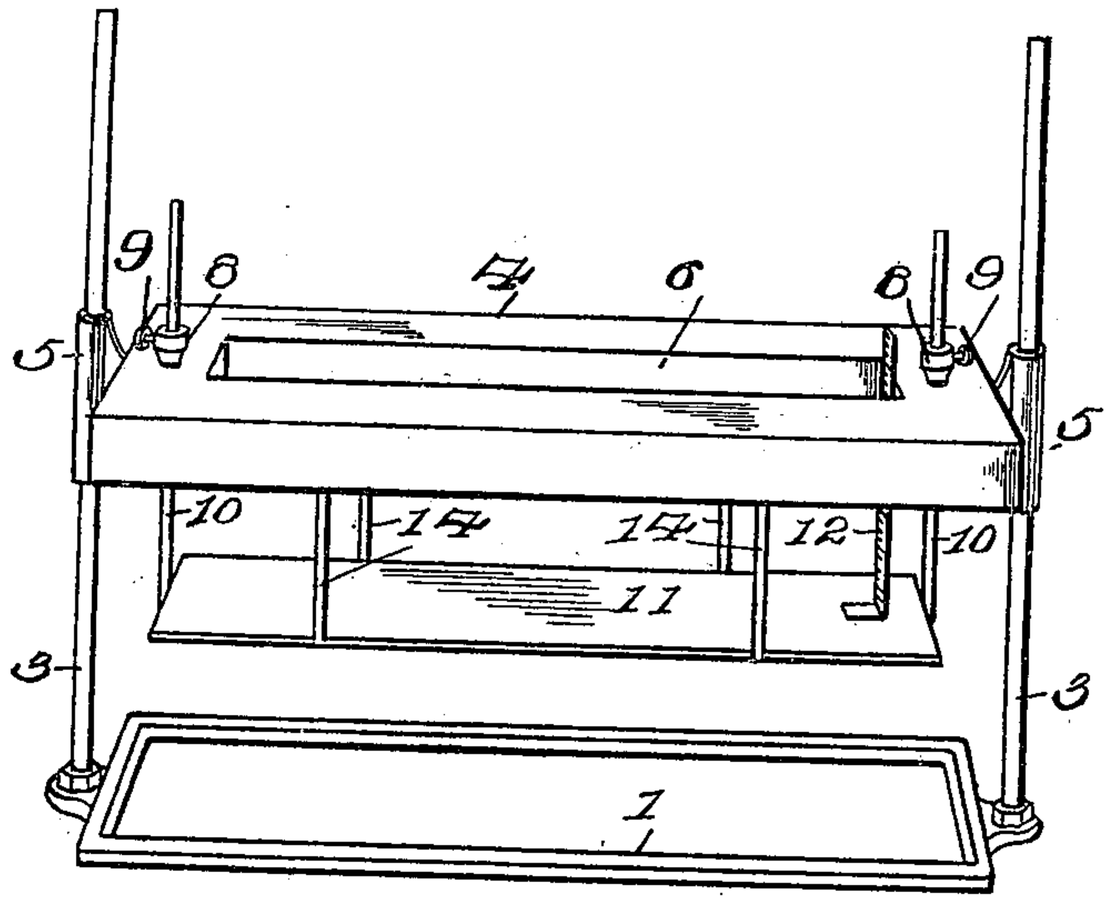

Fig. 1.

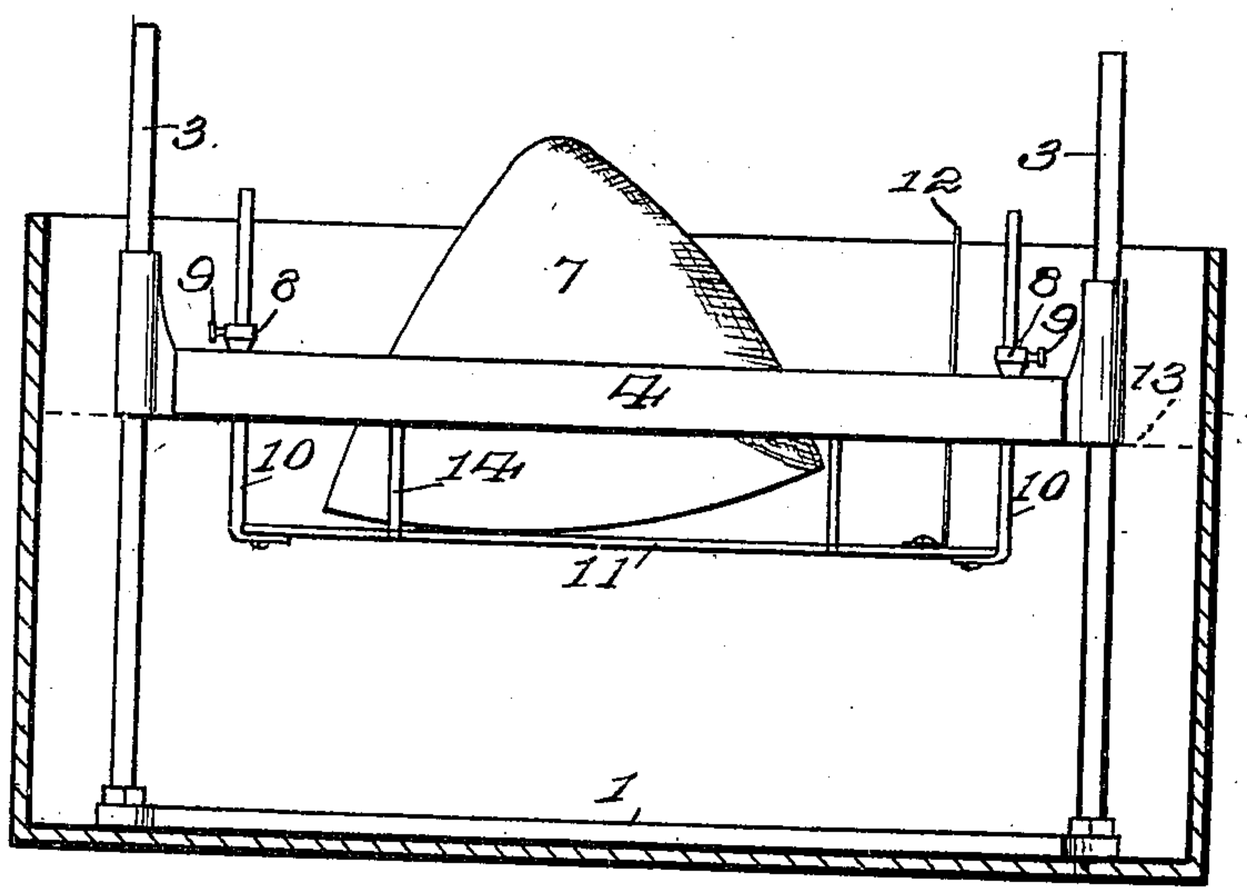

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK STACY, OF WABASH, INDIANA, ASSIGNOR TO WILLIAM F. WAGNER, OF SAME PLACE.

HAT-SIZING MACHINE.

SPECIFICATION forming part of Letters Patent No. 666,363, dated January 22, 1901.

Application filed April 19, 1900. Serial No. 13,511. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK STACY, a resident of Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Hat-Stiffening Gages; and I 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 pertains to make and use the same.

The invention relates to an apparatus for use in stiffening hats or the like; and it has for its object the construction of a device for regulating the depth to which a hat is subjected in the stiffening-bath and also for automatically maintaining uniformity.

The invention consists in the construction herein described and pointed out.

In the accompanying drawings, Figure 1 is a perspective of the device. Fig. 2 is a side elevation of the same, showing a hat in position and a tank in dotted outline.

The device is particularly designed for use in treating soft hats, in which only the brim is to be stiffened.

Numeral 1 represents the base, preferably rectangular in shape and of sufficient weight to support the device upright in a tank 2, adapted to contain a suitable liquid. Standards 3 rise from the ends of the base. A float 4, preferably hollow and of light metal, is provided at its ends with sleeves 5, which loosely encircle and slide upon the standards 3. The float is provided with a central walled opening 6 of a size to readily receive a flattened partly-finished hat 7. Intermediate the ends of the float and the end walls of opening 6 are fixed collars 8, having set-screws 9. Through the collars and float pass rods 10, which support at their lower ends a shelf 11, which latter is designed to support the partly-formed hat, as shown in Fig. 2. A scale 12, fixed to the shelf, and projecting through opening 6, serves to indicate the distance between the shelf and float.

In use the base rests on the bottom of the tank, the float being supported at the level of the liquid, (indicated at 13, Fig. 2.) The shelf is adjusted to project into the liquid to the depth desired to stiffen the hats and fixed by set-screws 9, the partly-formed hat being in practice passed through opening 6, with its edge resting on the shelf.

If desired, vertical guide-rods 14, fixed to the shelf, may be used to prevent the edge of the hat sliding off the shelf.

The construction of my device provides for a uniform stiffening of the hats, notwithstanding the diminution of the liquid, as the shelf and float will maintain the same relative distance, subjecting the hats to the same depth of liquid.

The vertical adjustment of the shelf with relation to the float provides ready variation in the depth to which different-shaped hats may be dipped.

By preference a thermometer and hydrometer are used in connection with the device.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base resting on the bottom of the tank, a float supported by the liquid and having a sliding connection with the base, and a hat-supporting shelf carried by the float.

2. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base resting on the bottom of the tank, a float supported by the liquid and having a sliding connection with the base and a shelf adjustably supported by the float.

3. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base, standards rising therefrom, a float vertically movable on said standards and supported by the liquid and a shelf carried by the float.

4. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base resting on the bottom of the tank, a float formed with a central opening and having a sliding connection with the base, and a shelf supported by the float directly beneath said opening.

5. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base resting on the bottom of the tank, a float formed with a central open-

ing and having sliding connection with the base, a shelf supported by the float beneath said opening, and a scale carried by the shelf.

6. The combination with a liquid-containing tank, of a regulator for stiffening hats comprising a base resting on the bottom of the tank, a float having a sliding connection with the base, a shelf supported by the float, and guide-rods projecting vertically from the shelf.

7. In a regulator for stiffening hats, a base, standards rising therefrom, a float having a central opening and free to slide on said standards, a shelf adjustably supported by the float beneath said opening, a scale projecting from the shelf through the opening in the float, and guide-rods projecting from said shelf to the float.

8. The combination with a liquid-containing tank, of a device to regulate the depth to which hats may be dipped, said device being controlled by the buoyancy of the liquid in the tank.

9. The combination with a liquid-containing tank, of a device to regulate the depth to which hats may be dipped, said device comprising a hat-supporting float adapted to be supported by the liquid in the tank.

10. The combination with a liquid-containing tank, of a device to regulate the depth to which hats may be dipped, said device comprising a float and hat-supporting means carried by the float, said float being supported by the liquid in the tank.

11. The combination, with a liquid-containing tank, of a device to regulate the depth to which hats may be dipped, said device comprising a float, and vertically-adjustable means carried by the float for supporting hats.

12. The combination with a liquid-containing tank, of a hat-supporting shelf normally below the level of the liquid in the tank, and means to maintain the shelf always at the same depth notwithstanding the diminution of the liquid.

13. The combination with a liquid-containing tank, of a hat-supporting shelf normally below the level of the liquid in the tank, and means for maintaining the shelf at the same depth, said means being operative through the buoyancy of the liquid.

14. The combination with a liquid-containing tank of a hat-supporting shelf normally below the level of the liquid in the tank, and a float with which the shelf is adjustably connected, said float being always maintained at the level of the liquid.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FREDERICK STACY.

Witnesses:
OLIVER H. BOGUE,
CYRIL MERRIMAN.