

No. 753,580.

PATENTED MAR. 1, 1904.

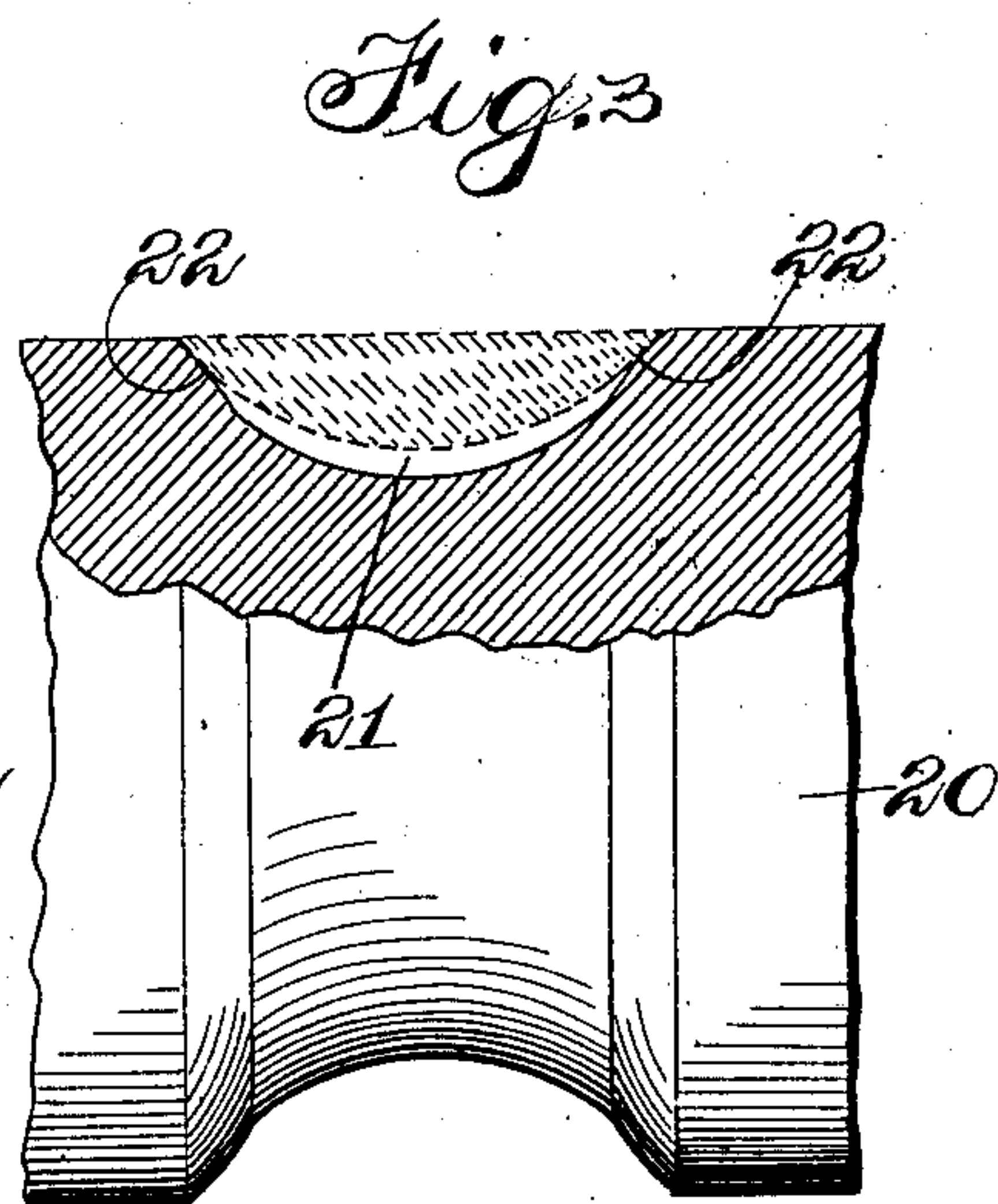
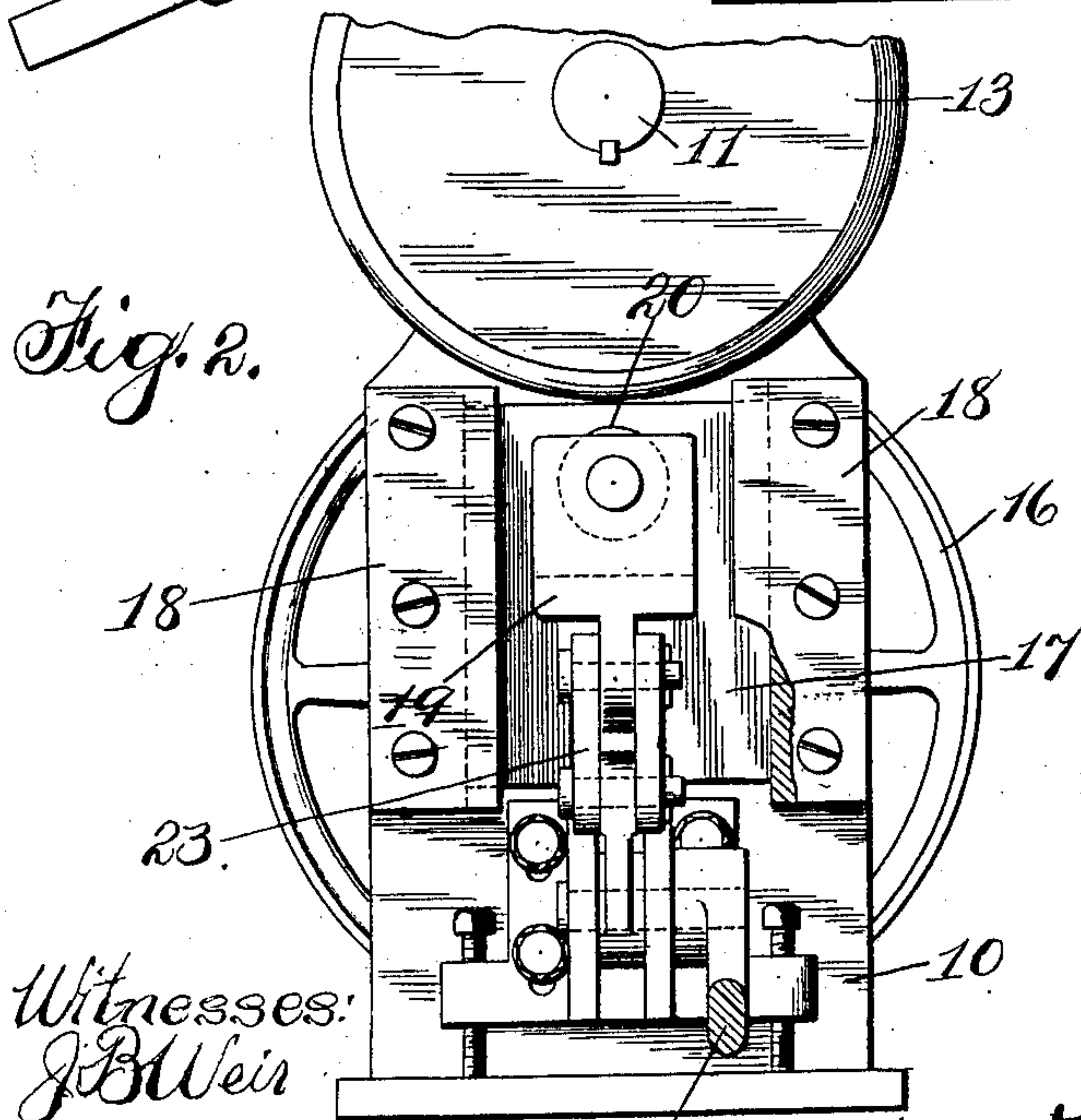
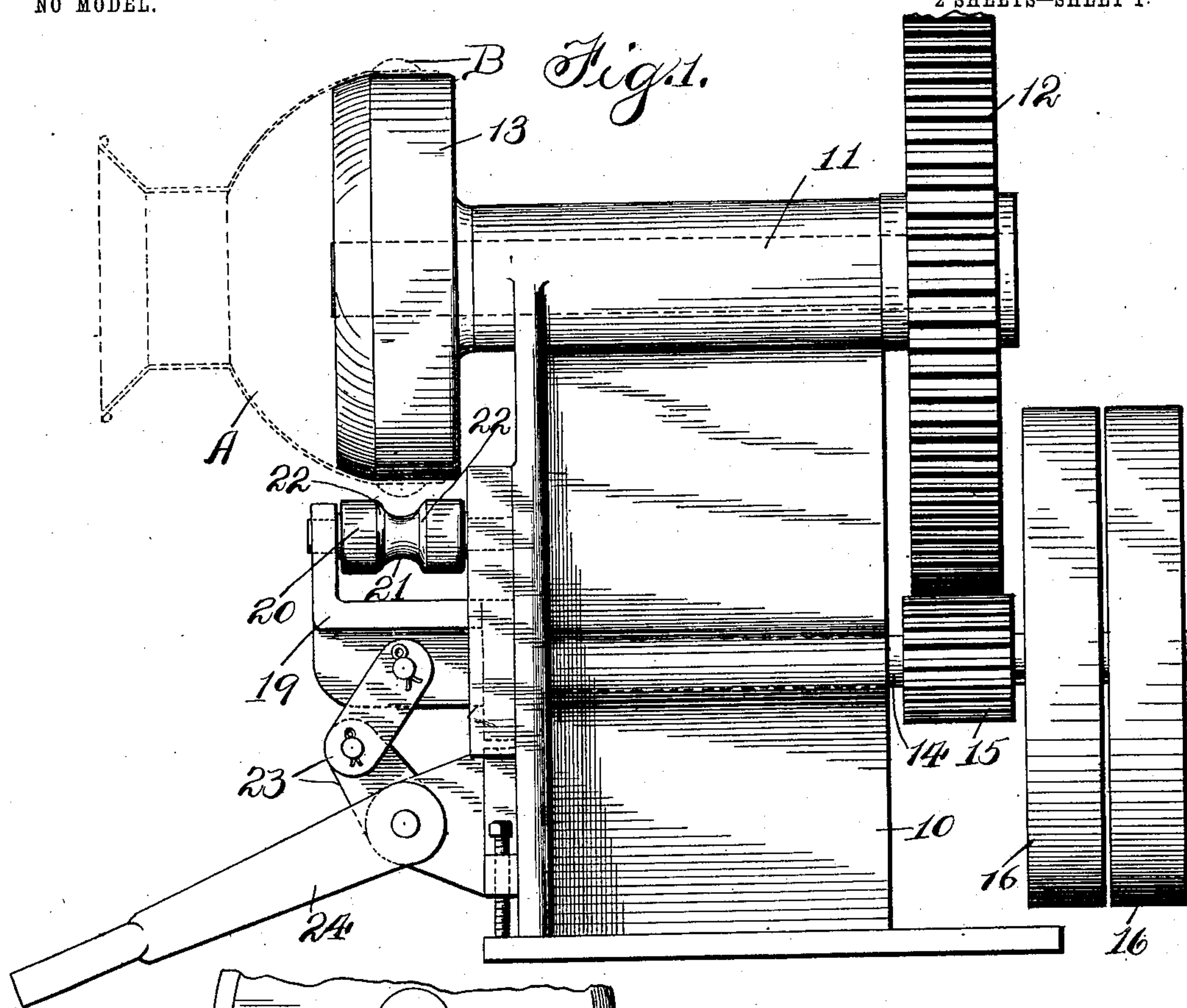
A. T. KATES.

## METHOD OF ATTACHING HOOPS TO MILK CAN BREASTS.

APPLICATION FILED MAR. 30, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

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Phys.

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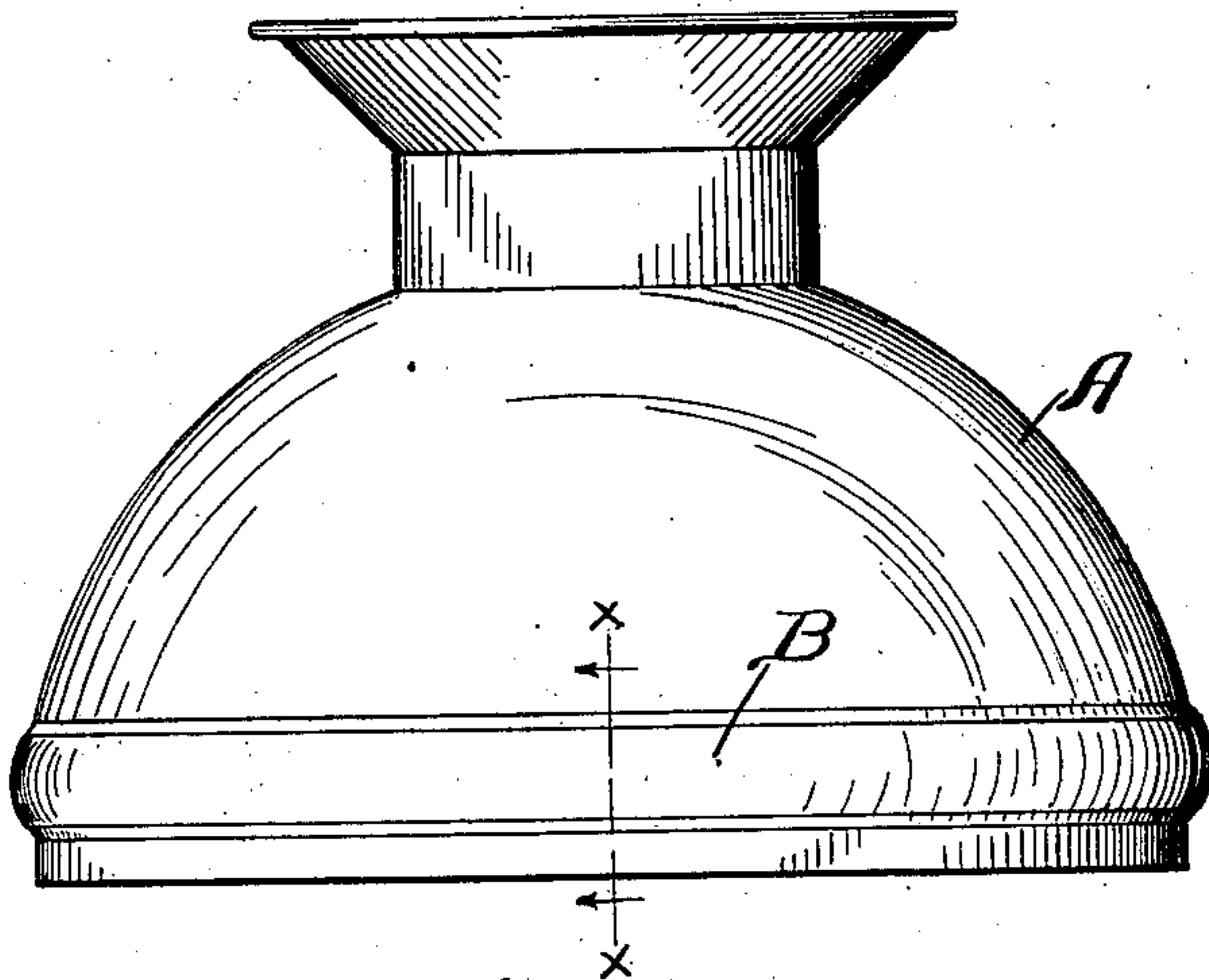
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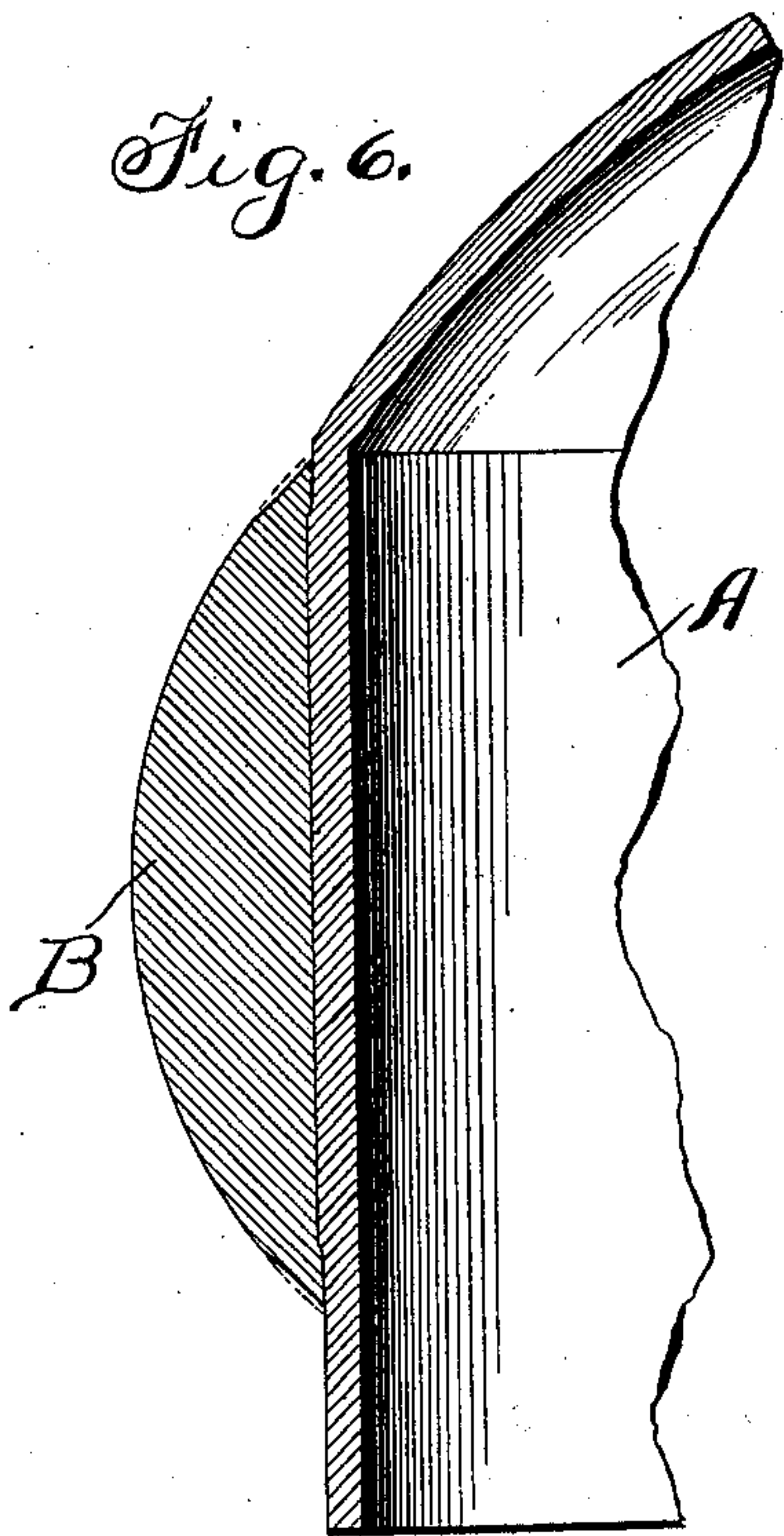
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2 SHEETS—SHEET 2.

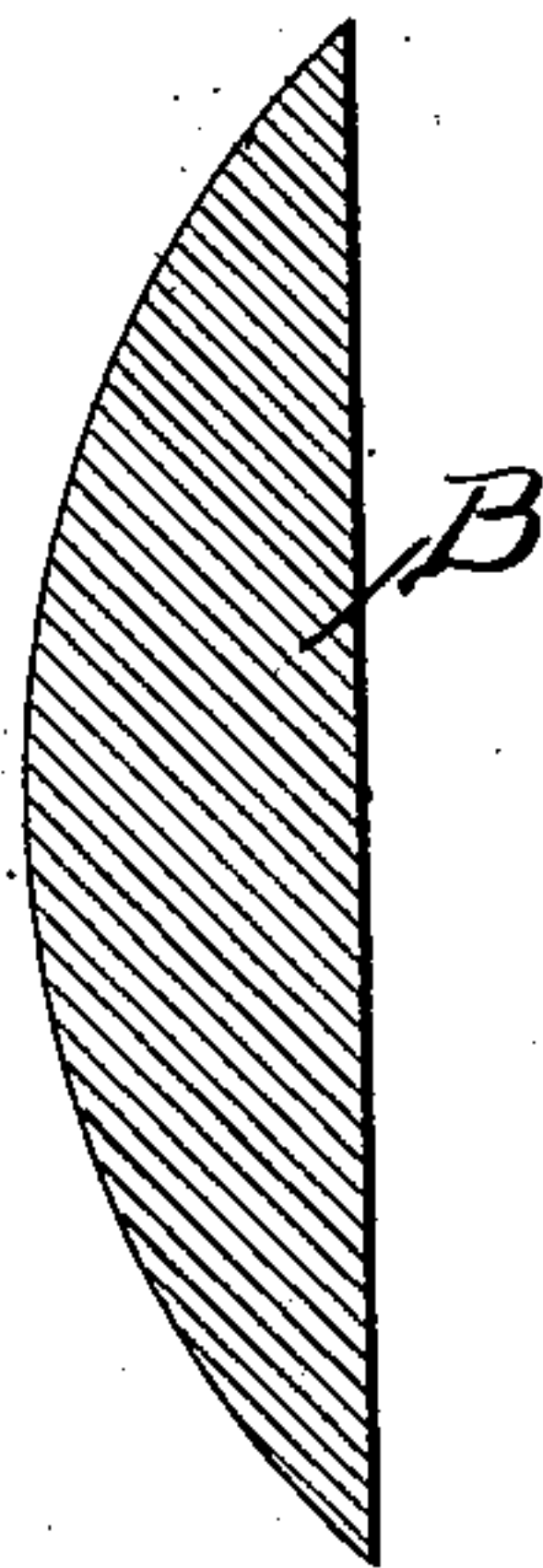
*Fig. 4.*



*Fig. 6.*



*Fig. 5.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## METHOD OF ATTACHING HOOPS TO MILK-CAN BREASTS.

SPECIFICATION forming part of Letters Patent No. 753,580, dated March 1, 1904.

Application filed March 30, 1903. Serial No. 150,257. (No model.)

*To all whom it may concern:*

Be it known that I, ANTHONY T. KATES, a citizen of the United States, residing at Arlington Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods of Attaching Hoops to Milk-Can Breasts, of which the following is a specification, reference being had to the accompanying drawings.

On the large cans used by dairymen and milk-dealers it is customary to apply to the breast of the can a heavy metal hoop for the purpose of strengthening such part and guarding it in large measure from injury as a result of the rough usage to which such cans are ordinarily subjected. Various means have been adopted for securing such hoops in place, such as riveting it to the breast, and also by providing the inner face of the hoop with an annular groove into which the metal of the breast was forced. The various means adopted have been found objectionable either on account of the expense involved or the liability of the hoop to become loosened more or less. A milk-can to be perfectly satisfactory to the user must have such hoop fit with great accuracy upon the breast, so as to absolutely prevent the admission between it and the breast of milk or dirt, for it will be readily understood that the admission of such matters beneath the hoop and the practical impossibility of entirely removing them will soon cause a disagreeable odor. By my invention I secure this hoop upon the can by a novel method cheaply and expeditiously and in such manner as to effectually preclude any milk, dirt, or other matter from becoming lodged between the hoop and the breast.

My invention consists generally in placing the metal hoop around the milk-can breast, said hoop being of a size to fit quite snugly thereon, and then subjecting such hoop near its edges to great pressure, thereby causing the metal of the hoop to be displaced along such edges and slightly forced into the metal of the breast. Very tight joints will be caused between the hoop and the breast by this manner of treating the hoop; but by subjecting the breast and its attached hoop to a tinning-bath, which is the next step taken, any minute opening which may be left between the

hoop and the breast, due to slight imperfection of workmanship in either of the parts will be effectually closed.

In the drawings I have shown mechanism which I have found well adapted for giving the requisite pressure to the hoop to secure it in the manner stated to the can-breast; but as the tinning operation differs not at all from the ordinary methods of tinning any sheet-metal article I have not deemed it necessary to show any mechanism for use in connection with such tinning.

In the drawings, Figure 1 is a side elevation of a machine suitable for applying the desired pressure, showing also in dotted lines a milk-can breast and its hoop in proper position on the machine. Fig. 2 is an end elevation of the mechanism shown in Fig. 1, a portion of the rotary support for the milk-can breast being broken away. Fig. 3 is a side elevation, partly in section, of the roller-die. Fig. 4 is a side elevation of a milk-can breast with its hoop applied thereto by my improved method. Fig. 5 is a cross-section through the hoop before it is affixed by my method to a can, such hoop being shown on a considerably-enlarged scale; and Fig. 6 is a section at line *xx* of Fig. 4, the parts being enlarged to the same degree as in Fig. 5.

Referring to the several figures of the drawings, in which corresponding parts are indicated by the same reference characters, 10 indicates a supporting-framework, in the upper end of which is suitably journaled a shaft 11, to one end of which is keyed or otherwise secured a large gear 12, and upon the other end is secured an annular head 13 of a diameter and shape closely approximating the interior diameter and shape of an ordinary milk-can breast.

14 indicates another shaft carrying another and smaller gear 15, adapted to mesh with the large gear 12.

16 16 indicate two pulleys on the shaft 14, one of them being a driving-pulley and the other a loose pulley.

17 indicates a plate movably held by guides 18 18, secured to one end of the framework 10.

19 indicates a bracket carried by the mov-



able plate 17, said bracket having an upturned arm in which and in the plate is journaled a roller-die 20, said roller-die being located directly beneath the head 13, that forms a support for the milk-can breast when being operated upon. This roller-die is provided with an annular groove 21, corresponding approximately to the oval outer face of the hoop that is to be applied to the breast, but shaped, as at 22, at each side so that when the roller-die is forced up against a hoop on the breast the parts 22 will be brought in contact with the hoop near its edges.

23 indicates toggle-levers, and 24 a lever for operating them, through which the plate 17 and attached parts can be moved upward and the roller-die made to bear with great force against the hoop on the breast.

A indicates a milk-can breast, and B the hoop applied thereto.

In following my method with apparatus such as shown and described a milk-can breast with a hoop fitting comparatively closely thereupon is placed upon the head 13, in which position the hoop will be directly over the groove 21 in the roller 20. Power being then applied to the machine, the shaft 11 will be rotated, causing also, of course, a rotation of the head 13 and the breast that is snugly fitted thereupon. While such breast is rotating, the roller-die is to be forced with great pressure against the hoop, the contact of the roller-die with the hoop being only near the sides of such hoop. The effect of such pressure as the contacting parts continue to revolve will be to slightly displace the metal of the hoop along its edges, as indicated by dotted lines in Fig. 6, and force it slightly into the sheet-metal breast, the effect being to cause the hoop to become affixed to the breast so firmly as to require no additional fastening device. The close fit of the breast upon its supporting-head prevents any inward bulging of the breast during the time the hoop is being pressed. The joints formed between the hoop

and the breast by the method described are very close ones, as will be readily understood; but in the event of any minute openings being left between the breast and the hoop, in which small particles of milk or dirt might become lodged, such openings are effectually closed upon the performance of the next step, which consists in immersing the breast, with its hoop attached, in a tinning-pot filled with molten tin.

The article shown and described in this application forms the subject-matter of a separate application, Serial No. 173,348.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The method of securing a metal hoop upon a sheet-metal body, consisting in placing such body with the hoop surrounding it upon a suitable support, and then applying pressure to said hoop near its edges sufficient to force it at its edges into the said sheet-metal body, substantially as specified.

2. The method of securing a metal hoop upon a sheet-metal body, consisting in placing such body with the hoop surrounding it upon a suitable support, then applying pressure to said hoop at opposite points near its edges, and thereafter causing such pressure to be applied near such edges throughout the length of said hoop to cause the hoop at its edges to be forced into the said sheet-metal body, substantially as specified.

3. The method of securing a metal hoop upon a sheet-metal body, consisting in placing such body with the hoop surrounding it upon a suitable support, rotating such support and sheet-metal body, and then, during such rotation, applying pressure to said hoop near its edges sufficient to force it at its edges into the sheet-metal body, substantially as specified.

ANTHONY T. KATES.

Witnesses:

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