L. GIBBS.

HOOP SIZING AND CLAMPING DEVICE.

APPLICATION FILED JAN. 2, 1907.

958,390. Patented May 17, 1910.

Fig. 1.

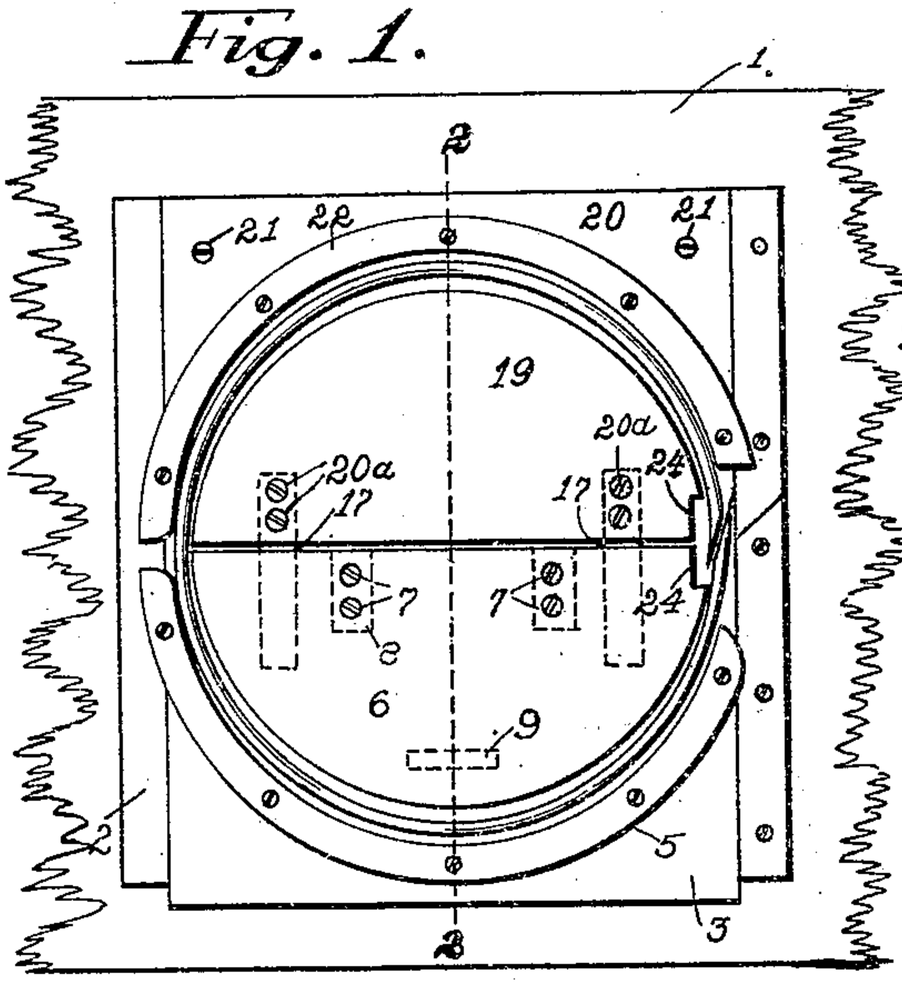


Fig. 2.

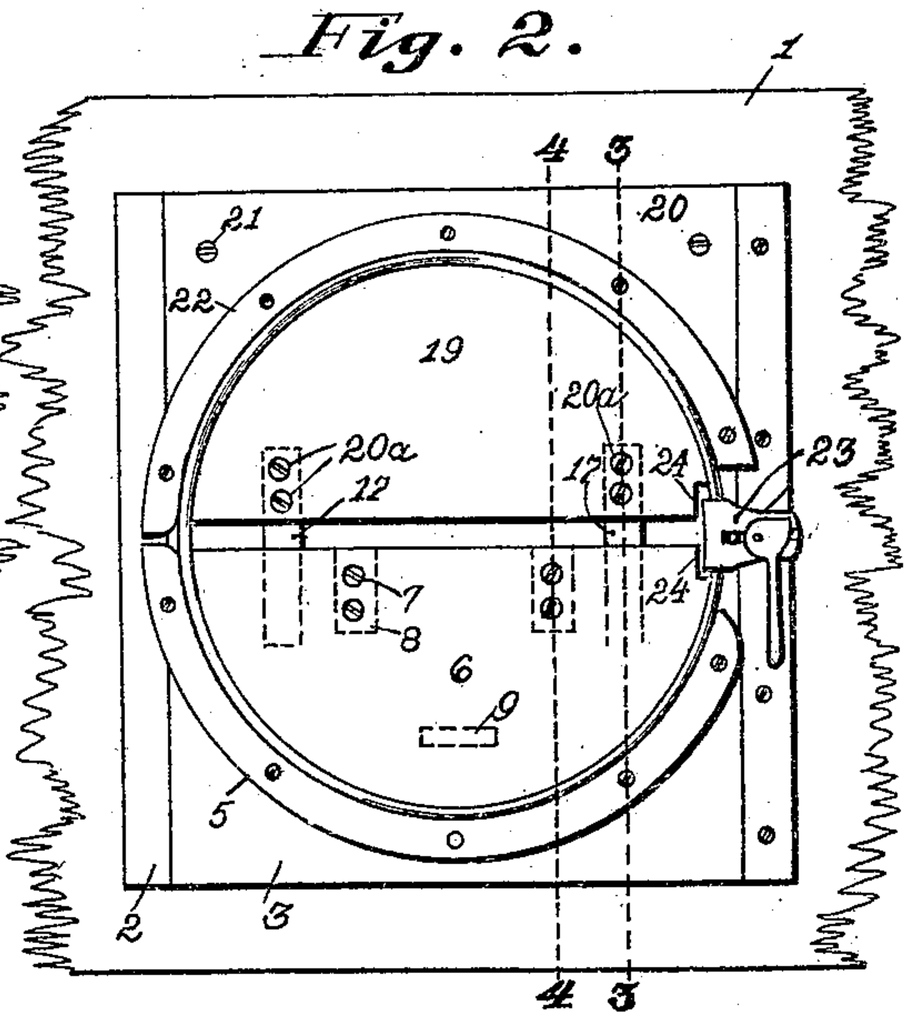
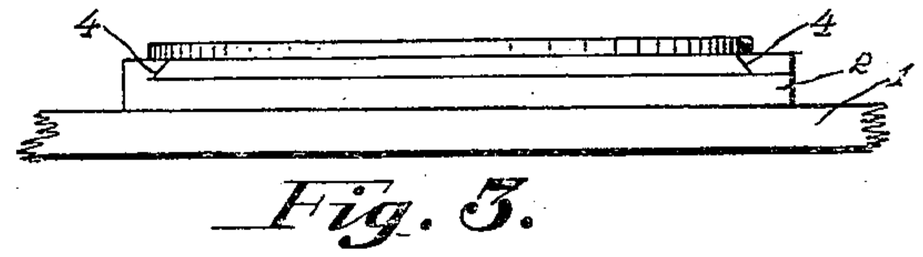


Fig. 3.



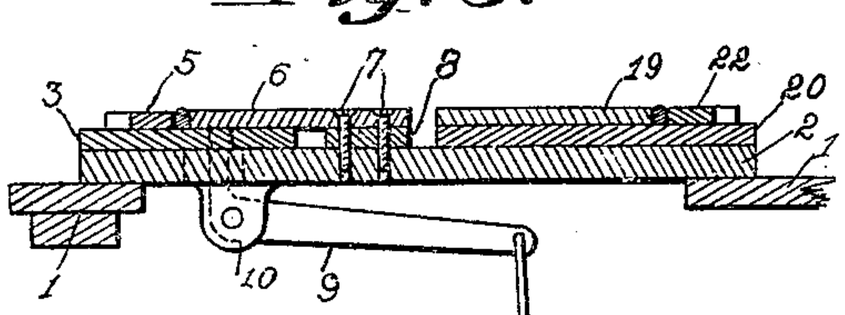


Fig. 4

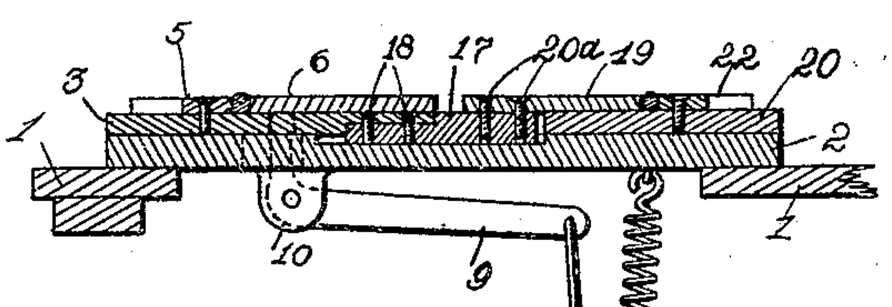


Fig. 5.

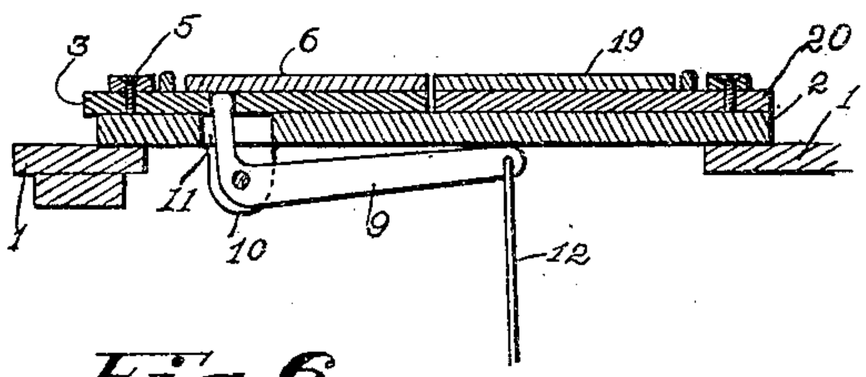
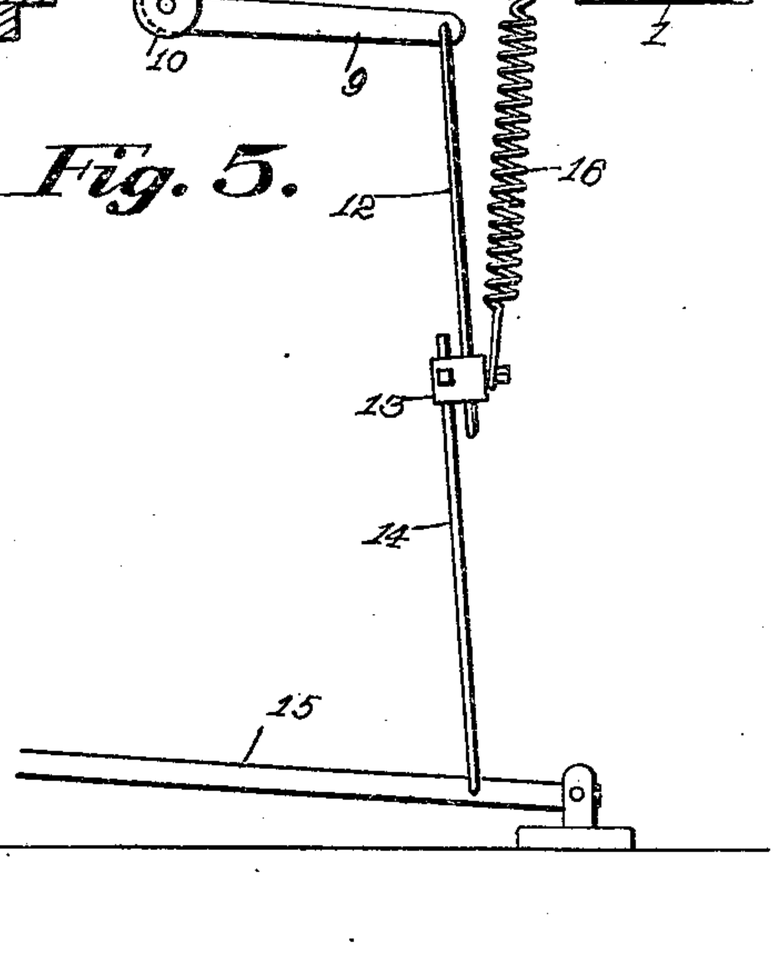


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEWIS GIBBS, OF CANTON, OHIO, ASSIGNOR TO THE GIBBS MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

HOOP SIZING AND CLAMPING DEVICE.

958,390. Specification of Letters Patent. **Patented May 17, 1910.**

Application filed January 2, 1907. Serial No. 350,427.

To all whom it may concern:

Be it known that I, LEWIS GIBBS, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Hoop Sizing and Clamping Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, and to the numerals of reference marked thereon, in which—

Figure 1 is a top view showing a portion of a bench and illustrating the hoop placed in position to be sized. Fig. 2 is a similar view showing the hoop sized and clamped. Fig. 3 is an end view of the base plate and the parts supported thereby. Fig. 4 is a section on line 4—4 Fig. 2. Fig. 5 is a section on line 3—3 Fig. 2. Fig. 6 is a section on line 2—2 Fig. 1.

The present invention has relation to a hoop sizing and clamping device, and it consists in the novel arrangement hereinafter described and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the bench or other support to which the different parts are attached or carried, and may be of any desired construction. To the bench or support 1 is attached the bed-plate 2, which bed-plate is for the purpose of holding and guiding the movable plate or slide 3 which is adapted to move upon the bed plate 2 and is held in proper position by means of the guide ways 4 formed in the plate 2. To the movable plate or slide 3 is attached the segmental movable flange or rim 5, which is curved to correspond with the curvature of the hoop when properly sized. Above the movable plate or slide 3 is the fixed form 6, which is held upon the bed plate 2, by means of the screw 7 or their equivalents.

For the purpose of bringing the fixed form 6, in a horizontal plane with the segmental movable flange or rim 5, it is located on the upper face of the movable plate or slide 3 and held in proper spaced relation with reference to the bed plate 2, by the interposed strip 8, the latter being so located that it will not interfere with the reciprocating movement of the movable plate or slide 3, and the segmental movable flange or rim 5 carried thereby.

For the purpose of imparting a reciprocating movement to the movable plate or slide 3, together with the different parts connected to and carried thereby, the L-shape lever or bell crank 9, is provided, the same being pivotally attached to the flange 10 extending from the bed plate 2. The upper end of the bell crank 9 extends through slot 11, formed in the bed plate 2, and is connected to the movable plate or slide 3. To the bell crank 9, is attached the rod 12, to which is attached the block 13, and to the block 13 is attached the foot lever rod 14, the bottom or lower end of which is pivotally attached to the foot lever 15.

For the purpose of automatically elevating the foot lever 15, and bringing the movable parts into their normal positions after a hoop has been properly sized, clamped and removed, the spring 16 is provided, one end of which is secured to the bed plate 2, and the other end is secured to the block 13. The manner of connecting the foot lever 15 to the bell crank 9 is mechanical, and operating devices for imparting movement to the bell crank 9 by means of the foot lever 15, herein shown, may be varied at will without departing from the nature of my invention, as the only object designed to be accomplished by the elements or devices connected to the bell crank and the foot lever is to bring the bell crank in action by the movement of the lever. To the movable plate or slide 3 are attached the connecting bars 17, by means of the screws 18 or their equivalents, and to the connecting bar 17 is connected a movable form 19 by means of the screws 20ª or their equivalents, which movable form reciprocates back and forth upon the fixed plate or block 20, the latter being secured to the bed plate 2, by means of screws 21, or their equivalents. To the fixed plate or block 20 is attached segmental fixed flange or rim 22 which corresponds in size and shape with the movable flange or rim 5.

In use the hoop designed to be sized and clamped, is placed in the position illustrated in Fig. 1, after which the foot lever 15 is brought down and by reason of the connections between the foot lever 15 and the movable plate or slide 3, the latter is moved toward the fixed form 6, at which time the

movable form, is moved toward the fixed flange or rim 22, thereby securely clamping the hoop between the fixed parts and the movable parts that come in contact with the hoop. The movable flange or rim 5, and the fixed flange or rim 22, and the fixed form 6 and movable form 19 are formed of a size and shape to correspond with the size and shape of the hoop after it has been properly clamped. During the time the hoop is being sized the lapped ends of the hoop are disconnected from each other, thereby allowing the hoop to be expanded sufficiently to bring the hoop to be properly sized and the lapped ends of the hoop in proper relative position to the clamp and held against movement by means of the detachable clamp 23, which clamp may be of any desirable construction, but so formed that it can be easily attached and detached from the hoop proper.

It will be understood that the clamp is simply for the purpose of holding the ends of the hoop together after the hoop has been brought to its proper size and is to remain upon the hoop a sufficient length of time to set the ends together by some suitable adhesive substance, which is placed upon the contact faces of the lapped ends of the hoop, preferably prior to the time the hoop is placed in the machine. The clamp 23 is removed from the hoop after the adhesive substance has had sufficient time to dry.

For the purpose of providing room sufficient to connect the clamp 23 upon the hoop the movable form 19 and the fixed form 6, is each provided with recesses or notches 24, which notches or recesses are located substantially as shown in Figs. 1 and 2. It will be understood that the movable flange or rim 5, and the fixed flange or rim 22 should be spaced apart a sufficient distance to provide room for the clamp 23 to be connected to the hoop.

It will be understood that in order to produce hoops of different sizes and shapes it is necessary to provide different sized clamping parts for the hoops. I have illustrated the invention as applied to the formation of round hoops, but the principle involved can be applied and used without regard to shape and size, and I do not desire to be limited to the formation of circular hoops or of any other exact shape.

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

1. In a hoop sizing and clamping device, a movable plate, a movable flange secured to and movable with the movable plate, a fixed form located adjacent the movable flange, a movable form, a fixed flange, said movable form being located adjacent the fixed flange, and means for imparting longitudinal movement to the movable flange and the movable form.

2. In a hoop sizing and clamping device, the combination with a bed, a fixed flange, a movable flange having its ends normally spaced from the fixed flange, a movable form inside of and coöperating with the fixed flange, a fixed form inside the movable flange and coöperating therewith, said fixed form being spaced from the movable form, each of said forms being recessed at one end.

3. In a hoop sizing and clamping device, the combination of a movable and a fixed form, a movable flange, adjacent to and cooperating with the fixed form, a fixed flange adjacent to and coöperating with the movable form, means for connecting the movable form and the movable flange, and means for simultaneously reciprocating the movable form and the flange.

4. In a hoop sizing and clamping device, the combination of a bed plate, a fixed plate, a fixed flange on the fixed plate to engage the outside of a portion of a hoop being sized, a fixed form to engage a portion of the opposite inner side of said hoop, a movable plate, a flange carried by and movable with the movable plate to engage a portion of the outside of the hoop, a movable form mounted on the movable plate to engage a portion of the opposite inner side of the hoop, the inner ends of the movable and fixed forms being recessed, and means for operating the movable plate to move the flange carried thereby and the movable form toward the fixed flange and fixed form.

5. In a hoop sizing and clamping device, the combination of a bed formed with guide ways, a movable plate operating in the guide ways, a movable flange on the movable plate to engage a portion of the outside of a hoop being sized, a movable form carried by the movable plate to engage the inner opposite portion of said hoop, a fixed plate, a fixed flange on the fixed plate to engage a portion of the outside of the hoop, a fixed form to engage a portion of the inner opposite side of the hoop, means for connecting the movable form to the movable plate, means for supporting the fixed form and means for reciprocating the movable plate.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

LEWIS GIBBS.

Witnesses:
J. A. Jeffers,
S. M. Naysmith.