

(No Model.)

C. T. HENDERSON.
DRUM TIGHTENER.

No. 583,372.

Patented May 25, 1897.

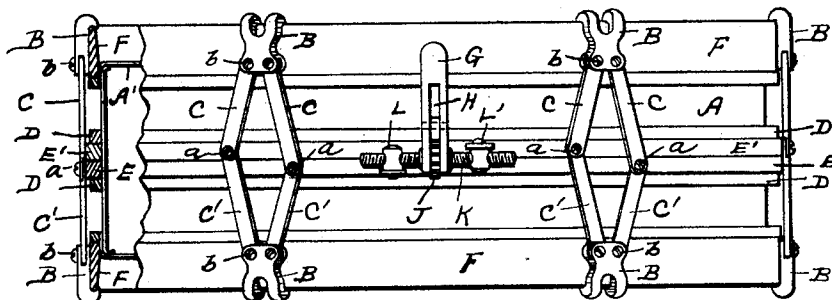


Fig 1.

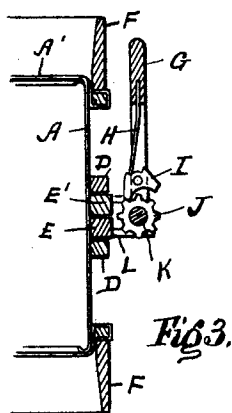


Fig 3.

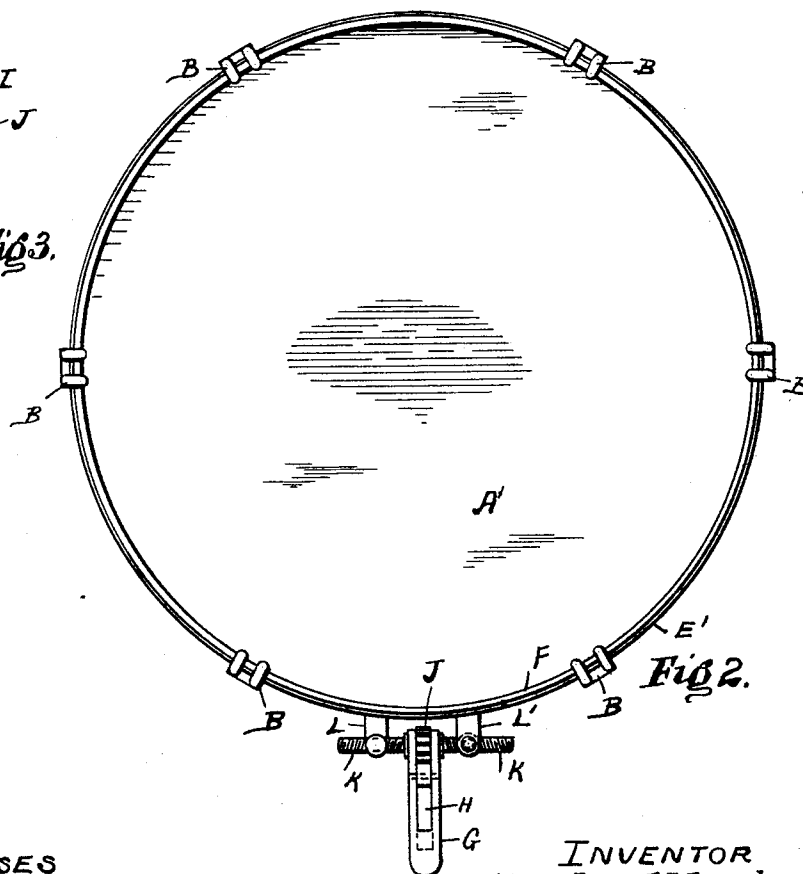


Fig 2.

WITNESSES
Charles Marion.
M. McDonald

INVENTOR
Charles T. Henderson
By *Thurman & Sibbins*
ATTORNEYS:

UNITED STATES PATENT OFFICE.

CHARLES T. HENDERSON, OF DUNKIRK, OHIO.

DRUM-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 583,372, dated May 25, 1897.

Application filed September 21, 1896. Serial No. 606,560¹. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. HENDERSON, a citizen of the United States, residing at Dunkirk, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Drum-Tighteners; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to drums, banjos, and like musical instruments; and it consists of a device applicable thereto by means of which the heads may be uniformly tightened automatically, as will be more fully described hereinafter.

The object of my invention is to provide a device to be attached to such an instrument by means of which the heads may be tightened quickly by a simple operation and uniformly and also as readily loosened when desired. All these advantages are attained in my invention, which is, furthermore, easily constructed, durable, and economical in use.

Referring to the drawings, Figure 1 represents a side elevation of a drum having my device applied; Fig. 2, a plan view, and Fig. 3 a central sectional view of the front portion.

In the drawings, A designates the shell, A' the heads, and F the hoops of a drum; and B designates the hooks, C C' the links, E E' the straining-rings, and G the operating-lever of my device.

The drum may be constructed in the usual manner with suitable heads and hoops for securing the heads to the shell. The shell, hoops, and the parts comprising my invention are preferably composed of aluminium, but any other suitable metal may be substituted therefor. To the exterior of the shell near the center I secure by soldering or other suitable means a pair of guide-rings D D, of any suitable form in cross-section, to perform the required functions, they being separated sufficiently to admit the straining-rings between them. The straining-rings are also

made of any suitable form in cross-section that may be adapted for their purpose to slide around the shell between the guide-rings and connect the ends of the links, so that they may be actuated in unison.

The hooks B may be made in any suitable form, but preferably in that shown, in which a broad bearing is provided at the edge of the hoops F, the opposite ends being adapted to be connected pivotally to two links C C' or C' C' by means of pivot-screws b, for which I sometimes substitute rivets. The opposite ends of the links are pivotally connected to the straining-rings by means of screws or rivets a, one of the links of each pair connected at one end to a hook being connected at the opposite end to the ring E and the other link to the ring E', alternating, as shown in Fig. 1, around the ring.

The straining-rings have each attached to it an ear L', to which is swiveled nut L, the nut on one ring having right and that on the other ring having left hand screw-threads. The screw K has right and left hand threads adapted to fit into the nuts, and at the center is a ratchet-wheel J, having teeth adapted to be engaged reversibly. Connected to the screw at the wheel is the ratchet or operating-lever G', carrying the pawl I, which is pressed by a suitable spring H, secured at one end to the lever, the opposite end engaging the pawl in either a forward or reverse motion.

When constructed as shown, it is obvious that when the lever is moved in one direction the straining-rings are caused to move around the shell in opposite directions, so that the ends of the links connected to them are drawn apart, thus in effect reducing their length between the opposing hooks. Consequently the hoops are drawn toward each other simultaneously, tightening the heads. A reverse motion of the lever will as quickly release the tension on the hoops.

It is obvious that the device may be of very light weight and of neat appearance, though shown somewhat disproportioned in the drawings for the purpose of clearly illustrating the essential features.

When adapting my invention to a banjo or like instrument having but one head where

there is no hoop at the bottom, the hooks engage the edge of the shell instead. Instead of the guide-rings shown I may form suitable annular grooves or beading around the exterior of the shell, or the guides may be made as well in short sections instead of extending entirely around the body.

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

1. A drum-tightener consisting of a pair of straining-rings adapted to encircle the shell or cylinder of a drum or like musical instrument, said rings being supported laterally by suitably-arranged guides and having each a suitably-threaded swiveled nut secured thereto; a reversible ratchet mounted on a screw having right and left threads engaging said nuts, a series of links pivotally attached at one end to said rings and at the opposite end to a suitable hook adapted to engage the hoop for securing the head to the shell, said links differing in lengths and being arranged to connect said hooks in pairs of one short and one long link, the opposite ends of which are connected to opposite rings, substantially as and for the purpose shown and described.

2. In a drum or like instrument, the combination, with the shell or body thereof, and the head-securing hoops, of a tightener comprising a pair of guide-rings encircling said shell and secured thereto, a pair of straining-rings encircling said shell and free to move between said guide-rings, a tension device connected to said rings whereby they may be drawn in opposite directions and the movements reversed, a series of hooks adapted to engage said hoops, a series of links adapted to connect said straining-rings and said hooks whereby said hoops may be drawn uniformly toward and against the head of said instrument or in the opposite direction, substantially as shown and described.

3. In a drum or equivalent musical instrument, the combination, with the shell or body and hoops thereof, of the straining-rings around said shell and suitably guided, the hooks adapted to engage the hoops for retaining the heads, the links operatively connecting said rings and said hooks, the ratchet connecting said straining-rings whereby they

may be actuated in opposite directions, substantially as shown and described.

4. In a drum-tightener, the combination of the hooks engaging the hoops which retain the head, the pair of links pivotally connected at one end to said hooks, said links being connected at their opposite ends to suitable straining-rings whereby they may be drawn apart simultaneously to produce a tension on said hoops, and means whereby said rings may be operated, substantially as shown and described.

5. In a drum-tightener, the combination of a shell having annular guides around the exterior thereof, straining-rings encircling said shell in conjunction with said guides, the hoops adapted to retain the drum-heads, the hooks engaging said hoops, the links connecting the straining-rings with the hooks, the swiveled nut on each of said straining-rings, the screw engaging said nuts and having at the center thereof the ratchet-wheel, the lever mounted on said screw and having the pawl adapted to engage said wheel, and the spring secured to said lever and engaging said pawl, substantially as shown and described.

6. The combination of a cylindrical drum-body having heads stretched over the ends thereof and hoops securing them thereon, said body having around the central portion of the exterior a pair of loosely-fitting straining-rings and means attached to said body whereby said rings may be guided laterally, hooks engaging said hoops and provided with ears having pivot-holes, links connected to said ears, said links being in pairs of different lengths and connected at their opposite ends to said straining-rings, whereby when said rings are moved in opposite directions said hoops are drawn toward each other and when the movement is reversed they are pushed away from each other, and suitable means whereby said straining-rings may be actuated.

In testimony whereof I affix my signature in presence of two witnesses.

CHAS. T. HENDERSON.

Witnesses:

D. F. FRYER,

T. S. HENDERSON.