J. E. WINNE.

DRUM.

APPLICATION FILED MAY 23, 1918.

1,284,526.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

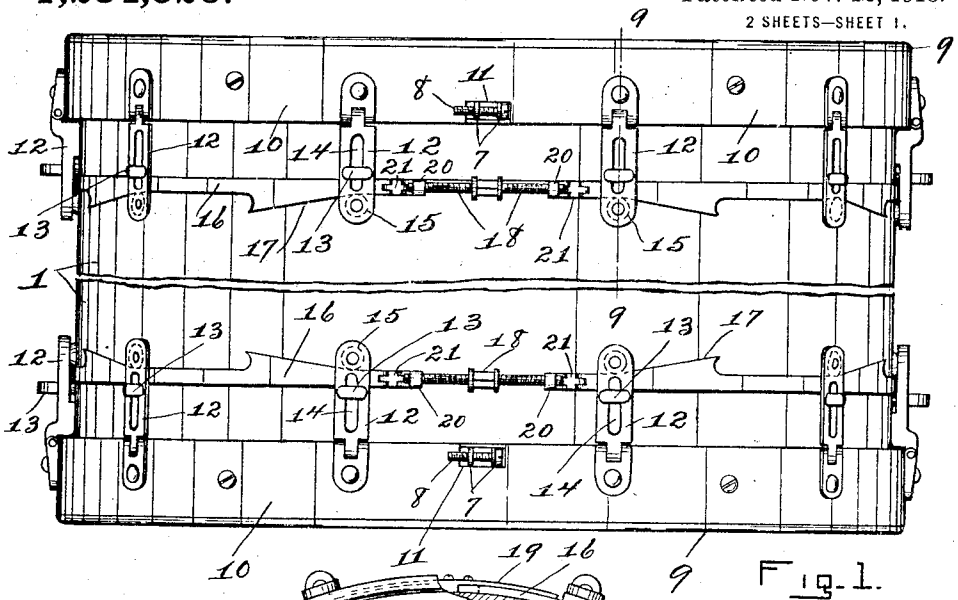


Fig. 1.

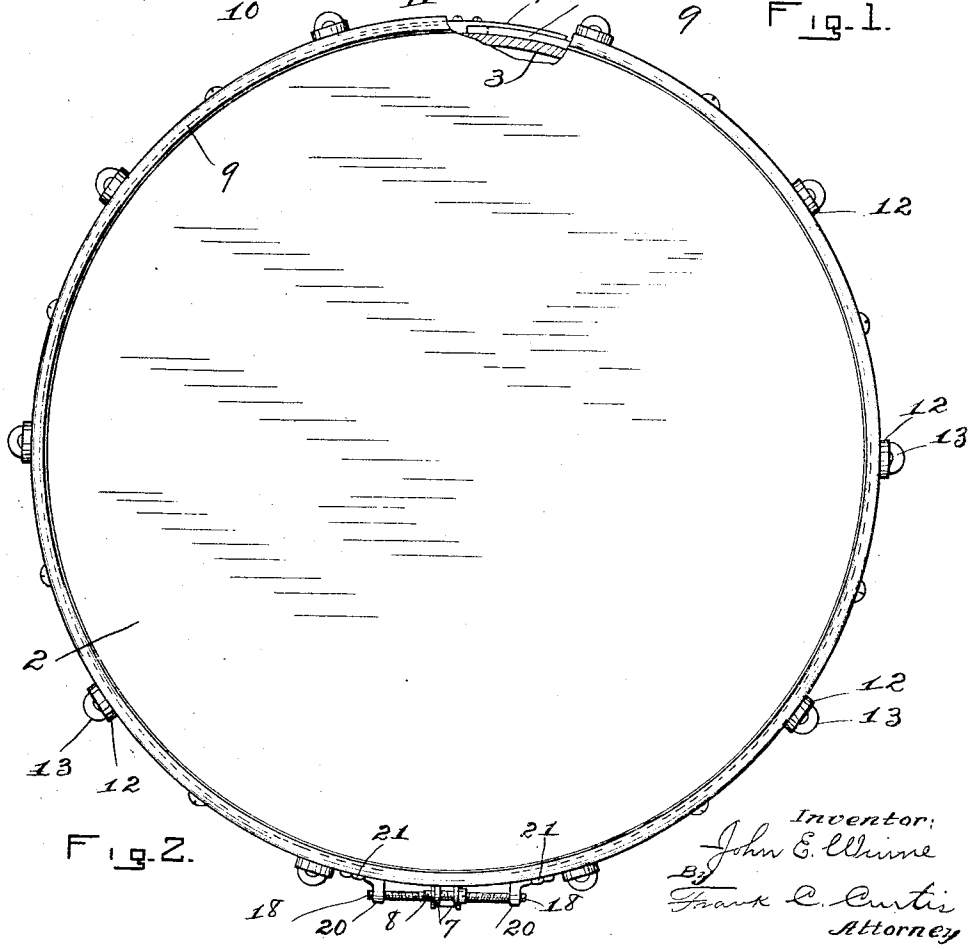


Fig. 2.

Inventor:
John E. Winne
By
Frank C. Curtis
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

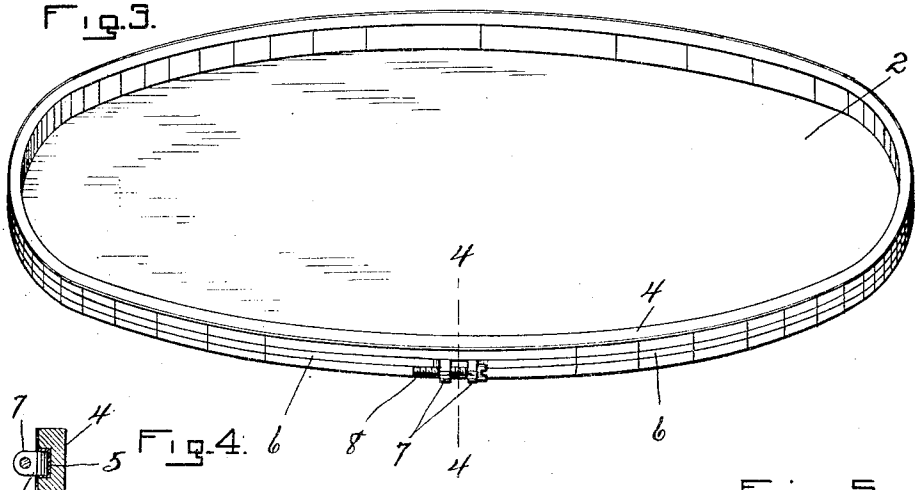


Fig. 4.

Fig. 5.

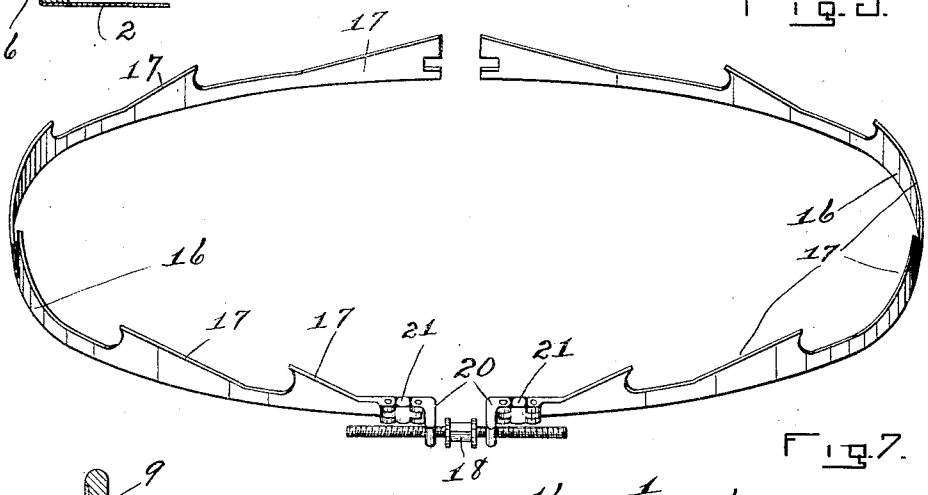
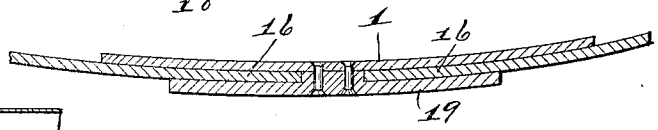


Fig. 7.



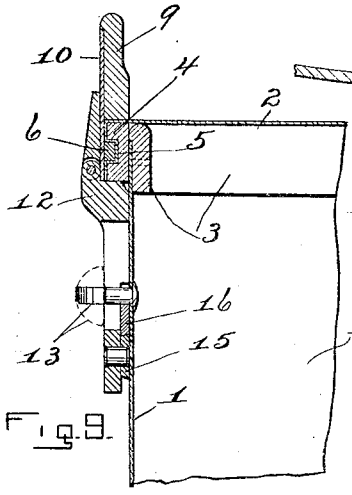


Fig. 9.

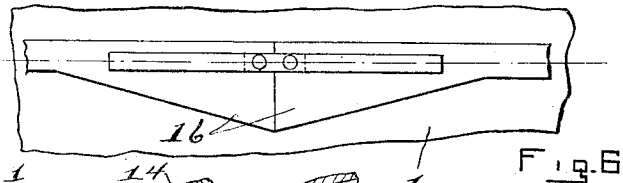


Fig. 6.

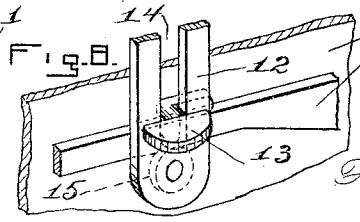


Fig. 8.

Inventor

John E. Winne

By

Frank C. Curtis

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. WINNE, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO FREDERICK C. CLAESSENS, OF TROY, NEW YORK.

DRUM.

1,284,526. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed May 23, 1918. Serial No. 236,219.

To all whom it may concern:

Be it known that I, JOHN E. WINNE, a citizen of the United States, residing at Troy, county or Rensselaer, and State of New York, have invented certain new and useful Improvements in Drums, of which the following is a specification.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

The principal object of the invention is to facilitate the mounting and adjustment of the head of a drum or like instrument.

Other objects will appear in connection with the following description.

Figure 1 of the drawings is a view in side elevation of a drum made in accordance with my invention.

Fig. 2 is an end view of the same.

Fig. 3 is a view in perspective of the flesh-hoop with the head clamped thereupon.

Fig. 4 is a cross-section of the same taken on the broken line 4—4, in Fig. 3.

Fig. 5 is a view in perspective of the cam-segments for stretching the drum-head.

Fig. 6 is a view in side elevation of a broken-away portion of the drum-barrel, showing the guide-strap for the ends of the cam-segments which are not connected together by screw-mechanism.

Fig. 7 is a horizontal section of the same taken on the broken line 7—7 in Fig. 6.

Fig. 8 is a view in perspective of a broken-away portion of the drum, showing the button-mechanism for locking one of the stretching-hasps to the drum-barrel.

Fig. 9 is a vertical cross-section on the broken line 9—9 in Fig. 1.

Referring to the drawings wherein the invention is shown in preferred form, 1 is a drum-barrel, which may be made of wood or metal.

At each end the drum is provided with a head, 2, and with means for stretching the head over the end of the barrel. As this stretching-mechanism is the same for each end of the drum, a single description will suffice for both.

The end of the barrel is preferably reinforced by an inner hoop, 3, as shown in Fig. 9.

The head is stretched over a flesh-hoop, 4, preferably formed as a continuous integral hoop.

The flesh-hoop is formed with a peripheral groove, 5, and is encircled by a divided clamping-ring 6, the edge-portion of the head being clamped within the groove, 5, between the clamping-ring, 6, and the walls of the groove.

The clamping-ring, 6, and the groove, 5, are preferably rectangular in cross-section, so that when the divided ring, 6 is contracted within the groove, 5, the edge-portion of the head will be securely clamped upon the flesh-hoop.

The ends of the divided clamping-ring, 6, have outwardly projecting lugs, 7, which are adjustably connected together by a screw, 8, whereby the ring can be contracted to tightly fit within the groove, 5, in the flesh-hoop, and thereby to securely clamp the edge-portion of the head upon the flesh-hoop.

The flesh-hoop is adapted to fit over the outside of the end of the drum-barrel, 1, so that when the flesh-hoop is drawn inwardly along the barrel the head, 2, will be stretched over the inner hoop, 3.

The end of the drum terminates in a counter-hoop which may be formed of any suitable material, but which I have shown as preferably formed of a wooden hoop, 9, superimposed upon and coincident with the flesh-hoop, 4, and a metal-band, 10, inclosing the wooden hoop, 9, and extending inwardly to substantially lap the flesh-hoop, 4.

The metal-band, 10, of the counter-hoop is cut-away or notched at 11, to receive and permit access to the screw-connection, 8, between the ends of the divided head-clamping ring, 6, as shown in Fig. 1.

Pivotally mounted upon the counter-hoop are a plurality of hasps, 12, each adapted to swing downwardly or inwardly parallel with the barrel of the drum.

Pivotally mounted upon the barrel, 1, are a like plurality of buttons, 13, with flattened heads adapted when turned parallel with the axis of the drum to pass freely through the respective slots, 14, in the hasps, and when turned at right angles from such position to lock the hasp to the drum-barrel.

Mounted upon the inner end of each hasp,

12, is a cam-follower preferably in the form of a roller, 15, located between the hasp and the barrel of the drum.

Mounted between the hasp and the barrel of the drum and between the respective buttons, 13, and rollers, 15, are a pair of cam-segments, 16, having cams or wedge-shaped portions, 17, adapted to engage the respective rollers, 15.

On one side of the drum these cam-segments are connected together by a turn-buckle or right-and-left-hand-threaded screw, 18, whereby said segments may be drawn together in a direction to cause the higher parts of the cam surfaces, 17, to engage the respective rollers, 15.

The shanks of the buttons, 13, engage the outer side of the respective cam-segments, 16, preventing any yielding outward movement of the cam-segments, and holding the respective cams to their work.

The other ends of the cam-segments on the other side of the drum are left free for a movement of separation, but are guided and held close to the barrel of the drum by means of a strap, 19, riveted to the barrel of the drum, as shown in Figs. 6 and 7.

The several rollers, 15, are preferably made frusto-conical with their end of larger diameter adjacent to the barrel of the drum, and the cam-segments, 16, are preferably chamfered on the inner side of the respective cams to make a dove-tailed engagement with the respective frusto-conical rollers.

The shank of each button, 13, is preferably formed with a lateral lug, extending parallel with the head of the button and adapted when the button is in locked position to extend, and substantially fill the space, between the hasp and the barrel of the drum, leaving between said lug and the head of the button a comparatively narrow slot adapted for close fitting engagement with the hasp at one side of the slot, 14, in the hasp, as shown in Fig. 8.

The turn-buckle or screw, 18, engages a pair of angle-plates, 20, pivotally connected with short links, 21, which links in turn are pivotally connected with the ends of the respective cam-segments, as shown in Fig. 5.

Between the respective pivotal connections of their ends with the angle-plates, 20, and the neighboring cam-segments, these links, 21, are made of the full depth or width of the angle-plates, 20, and serve by engagement with the barrel of the drum to aid the angle-plates, 20, in resisting a tendency to a lateral movement in response to the rotative movement of the turn-buckle.

By turning the turn-buckle in the proper direction the cam-segments will be so operated as to draw the hasps, 12, and the counter-hoop with which the hasps are connected inwardly to stretch the head to the desired tension.

By turning the turn-buckle in the opposite direction the cam-pressure upon the rollers, 15, is relieved permitting the hasps and the counter-hoop to yield and to relieve the tension on the drum-head.

By turning the heads of the buttons, 13, parallel with the slots, 14, the hasps, 12, can be swung outwardly from the drum-barrel to permit removal of the counter-hoop, and when the counter-hoop is removed the flesh-hoop, 4, and head of the drum can be readily removed.

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

1. In an instrument of the class described and in combination, a barrel; a continuous flesh-hoop encircling one end of the barrel, provided with a peripheral groove; a head stretched over said flesh-hoop and the neighboring end of the barrel; a divided clamping-ring encircling said flesh-hoop and seated in said groove with the edge-portions of said head clamped between said ring and the walls of said groove; means for contracting said divided ring; a counter-hoop engageable with the outer side of said flesh-hoop; and means for drawing the counter-hoop inwardly along said barrel.

2. In an instrument of the class described and in combination, a barrel; a flesh-hoop encircling one end of the barrel; a head stretched over said end of the barrel and connected with said flesh-hoop; a counter-hoop engageable with the outer side of said flesh-hoop; members connected with said counter-hoop extending inwardly along the barrel; cam-followers on said inwardly extending members; a pair of cam-segments substantially encircling said barrel having means engageable with the respective cam-followers on said inwardly extending members; means for preventing outward movement of said cam-segment; and means for moving said cam-segments toward each other circumferentially of the barrel.

3. In an instrument of the class described and in combination, a barrel; a flesh-hoop encircling one end of the barrel; a head stretched over said end of the barrel and connected with said flesh-hoop; a counter-hoop engageable with the outer side of said flesh-hoop; a plurality of slotted hasps hinged to said counter-hoop; flat-headed buttons having their shanks pivoted upon said barrel, adapted when in one rotative position to pass through the respective slots in said hasps and when turned at right angles thereto to lock the respective hasps to the barrel; cam-followers on the inner ends of the respective hasps; cam-segments extending circumferentially part way around the barrel between the hasps and the barrel, and confined between the shanks of said buttons and the cam-followers on the respective hasps, and having cam-surfaces engageable

with the respective cam-followers; and means for imparting to said cam-segments a movement circumferentially of the barrel.

4. In an instrument of the class described and in combination, a barrel; a flesh-hoop encircling one end of the barrel; a head stretched over said end of the barrel, and connected with said flesh-hoop; a counter-hoop engageable with the outer side of said flesh-hoop; a plurality of slotted hasps hinged to said counter-hoop; flat-headed buttons having their shanks pivoted upon said barrel, adapted when in one rotative position to pass through the respective slots in said hasps and when turned at right angles thereto to lock the respective hasps to the barrel; cam-followers on the inner ends of the respective hasps; a pair of cam-segments substantially encircling the barrel between the barrel and said hasps and confined between the shanks of said buttons and said cam-followers, and having cam-surfaces engageable with the respective cam-followers; and a turn-buckle for moving said cam-segments toward and from each other.

5. In an instrument of the class described and in combination, a barrel; a flesh-hoop; a head stretched over one end of the barrel and connected with said flesh-hoop; a counter-hoop engageable with the outer side of said flesh-hoop; members connected with said counter-hoop extending inwardly along the barrel; cam-followers on the respective inwardly extending members; a cam-segment extending circumferentially part-way around the barrel and confined against outward movement; and having cam-surfaces engageable with said respective cam-followers; and means for imparting to said cam-segment a movement circumferentially of said barrel.

6. In an instrument of the class described and in combination, a barrel; a flesh-hoop; a head stretched over one end of the barrel and connected with said flesh-hoop; a counter-hoop engageable with the outer side of said flesh-hoop; members secured to said counter-hoop extending inwardly along said barrel; frusto-conical rollers rotatively mounted upon the respective inwardly extending members with their larger ends adjacent to the barrel; a cam-segment extending circumferentially part-way around the barrel, and having chamfered cam-surfaces in dove-tailed engagement with the respective rollers; and means for imparting to said cam-segment a movement circumferentially of the barrel.

7. In an instrument of the class described and in combination, a barrel; a continuous flesh-hoop encircling one end of the barrel, provided with a peripheral groove; a head stretched over said flesh-hoop and the neighboring end of the barrel; a divided clamping-ring encircling said flesh-hoop and seated in said groove with the edge-portions of said head clamped between said ring and the walls of said groove, the ends of said ring having outwardly projecting offsets; a screw-connection between said offsets for contracting the ring; a counter-hoop engageable with the outer side of said flesh-hoop and having an inwardly extending flange lapping said flesh-hoop, and provided with an opening to afford access to said screw-connection between the offsets on the end of said ring; and means for drawing the counter-hoop inwardly along the barrel.

In testimony whereof, I have hereunto set my hand this 21st day of May, 1918.

JOHN E. WINNE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."