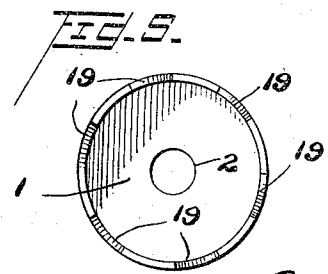
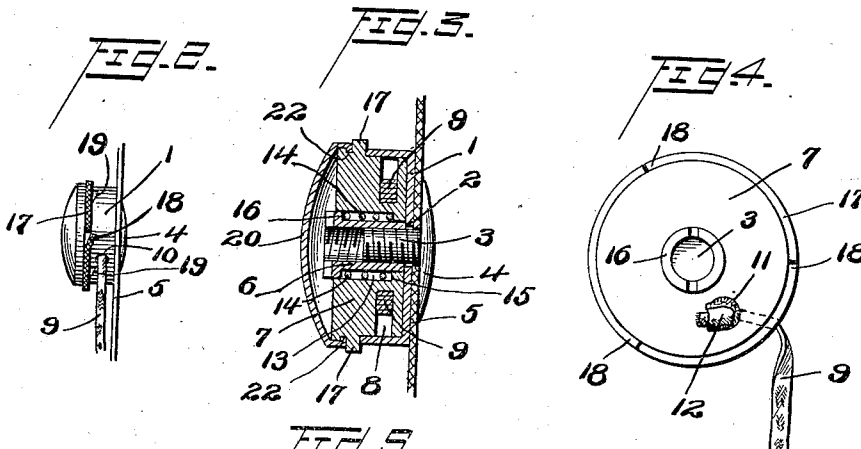
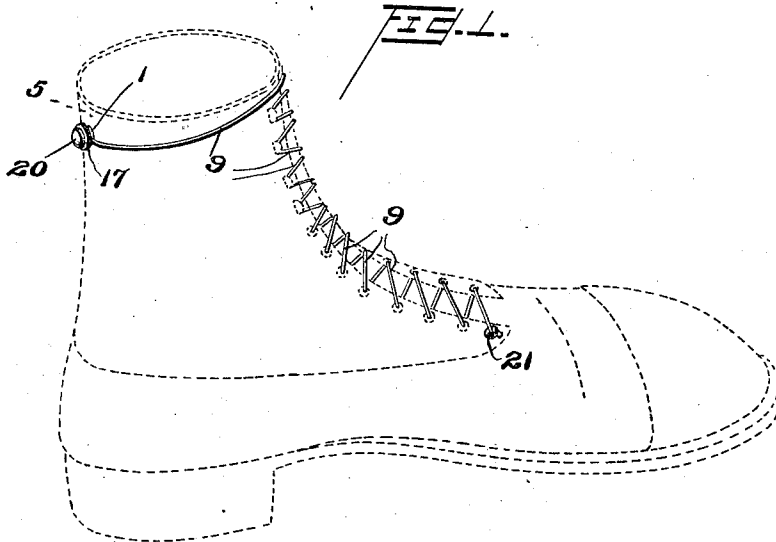


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 LACING HOLDER.  
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1,090,438.

Patented Mar. 17, 1914.



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# UNITED STATES PATENT OFFICE.

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## LACING-HOLDER.

1,090,438.

Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed February 20, 1913. Serial No. 749,586.

*To all whom it may concern:*

Be it known that we, CHARLES H. WORTH and BENJAMIN LEON, citizens of the United States, residing, respectively, at Barrington, county of Camden, and State of New Jersey, and Camden, county of Camden, and State of New Jersey, have invented certain new and useful Improvements in Lacing-Holders, of which the following is a specification.

10 Our invention relates to improvements in lacing holders, and more particularly to an improved attachment adapted to be secured to a shoe and secure one end of a shoe lacing, permitting the lacing to be loosened and  
15 tightened as desired.

A further object is to provide an attachment of this character which may be manufactured and sold at a reasonably low price, which may be attached to the shoe by any  
20 one of average intelligence, and which is designed to wind thereon one end of a shoe lacing, keeping the shoe lacing tight, yet permitting the same to be loosened whenever it is desired to remove the shoe.

25 With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the  
30 claims.

In the accompanying drawings: Figure 1 is a view illustrating in perspective in dotted lines a shoe having a lacing which is held at one end by our improved attachment. Fig.  
35 2 is a view in side elevation of the attachment. Fig. 3 is a view in longitudinal section on an enlarged scale. Fig. 4 is an end view of the attachment with the outer button removed. Fig. 5 is an end view of the  
40 cylindrical casing.

Our improved attachment comprises a cylindrical casing 1 having a central opening 2 in its end through which a threaded stud 3 projects. This stud 3 has an integral head  
45 4 which is adapted to be positioned against the inside of the shoe as indicated at 5, and project through the shoe and through the opening 2 in casing 1, and engage internal threads in a tubular screw 6. A drum 7 is  
50 mounted to turn within the casing 1, and is provided adjacent its inner end with an annular groove 8 which accommodates a large number of windings of the shoe lacing 9, the said shoe lacing being projected  
55 through an opening 10 in casing 1, and then

through an opening 11 in one side of drum 7, and knotted as indicated at 12 in Fig. 4. The drum 7 is provided centrally with a cylindrical recess 13, and a coiled spring 14 is located within the recess 13, and bears at its  
60 inner end against a shoulder 15 at the inner end of the recess, and at its outer end against an enlarged head 16 on tubular screw 6. This coiled spring 14 therefore holds the drum 7 in its inward position, and said drum  
65 is provided with an annular milled flange 17 to facilitate the gripping of the drum to allow it to be manually turned. This milled flange 17, at regular intervals, is provided with beveled teeth 18 which ride into beveled  
70 notches 19 in the wall of casing 1, and hold the drum against movement in one direction. It is to be understood that the lacing 9 is wound on the drum when the latter is turned in a direction to compel its teeth  
75 18 to ride into and out of the notches, and is held by the straight walls of said notches against release. When it is desired to loosen the lacing, it is necessary to draw the drum outwardly against the action of spring 14,  
80 when a pull on the lacing will turn the drum to unwind the same. The drum 7 is provided at its outer end with an annular groove 22 into which the edge of a metal disk button 20 is sprung. This button 20  
85 therefore hides the end of the drum 7, and the end of screw 5, and turns with the drum, it being understood that the milled flange 17 projects outwardly beyond the button, so that it may be readily grasped.

The shoe lacing 9 is knotted at one end as indicated at 21, and then laced backwardly and forwardly through the shoe eyelets. The free end of the lacing 9 is then projected through the opening 11 in drum 7,  
95 and knotted as shown at 12. When the shoe is in position on the foot, the lacing is drawn tight, and drum 7 is turned in a direction to wind the lacing thereon. Any retrograde movement of the drum is prevented by the  
100 ratchet teeth 18. When it is desired to remove the shoe, the operator grasps the milled flange 17 between his thumb and fingers, and draws the drum outwardly, when by exerting a pull on the lacing, he  
105 can turn the drum in a direction to unwind and allow as much slack in the lacing as desired.

It will thus be seen that with our improvements in position on a shoe, the annoyance  
110

of untied shoe strings is entirely overcome, and furthermore the shoe remains tightly laced or laced to suit the user without any change after once adjusting.

5 Various slight changes might be made in the general form and arrangement of parts described without departing from our invention, and hence we do not limit ourselves to the precise details set forth, but consider  
10 ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

Having thus described our invention, what we claim as new and desire to secure  
15 by Letters Patent is:

1. A device of the character described, comprising a cylindrical casing having notches in its wall, a drum having rotary mounting in the casing and adapted to be  
20 connected to one end of a lacing and wind the latter thereon, an annular flange on the drum of larger diameter than the casing, a ratchet tooth on the flange, and a spring pressing the drum inwardly in the casing  
25 tending to hold the ratchet tooth in one of the notches, substantially as described.

2. A device of the character described, comprising a cylindrical casing, a screw located centrally in the casing, a drum  
30 mounted to turn in the casing and around the screw, said drum having a central cylindrical recess with an annular shoulder at the inner end thereof, a coiled spring located between the enlarged outer end of the  
35 screw and said shoulder, pressing the drum within the casing, said casing having a circular series of notches in its outer edge, and said drum having a circular series of beveled teeth engaging in said notches, substantially  
40 as described.

3. A device of the character described, comprising a cylindrical casing, a screw located centrally in the casing, a drum mounted to turn in the casing and around the  
45 screw, said drum having a central cylindrical recess with an annular shoulder at the inner end thereof, a coiled spring located between the enlarged outer end of the screw and said shoulder, pressing the drum  
50 within the casing, said casing having a circular series of notches in its outer edge, said drum having a circular series of beveled teeth engaging in said notches, and an annular milled flange on said drum projecting  
55 beyond the wall of the casing, substantially as described.

4. A device of the character described, comprising a cylindrical casing, a screw located centrally in the casing, a drum mounted to turn in the casing and around the  
60 screw, said drum having a central cylindrical recess with an annular shoulder at the inner end thereof, a coiled spring located between the enlarged outer end of the screw and said shoulder, pressing the drum

within the casing, said casing having a circular series of notches in its outer edge, said drum having a circular series of beveled teeth engaging in said notches, said drum  
70 having an annular groove adjacent its outer end, and a metal button having its edges sprung into said groove, substantially as described.

5. A device of the character described, comprising a cylindrical casing, a screw located centrally in the casing, a drum mounted to turn in the casing and around the screw, said drum having a central cylindrical recess with an annular shoulder at the  
75 inner end thereof, a coiled spring located between the enlarged outer end of the screw and said shoulder, pressing the drum within the casing, said casing having a circular series of notches in its outer edge, said drum  
80 having a circular series of beveled teeth engaging in said notches, an annular milled flange on said drum projecting beyond the wall of the casing, said drum having an annular groove adjacent its outer end, and a  
85 metal button having its edges sprung into said groove, substantially as described.

6. A device of the character described, comprising a cylindrical casing having beveled notches in its outer wall, a drum mounted to turn in the casing and having a central  
90 cylindrical recess, an internally screw-threaded tubular screw projecting through said cylinder and having an enlarged outer end, a screw-threaded stud adapted to be projected through an opening in a shoe  
95 and screwed into a tubular screw, an enlarged head on said stud adapted to be located inside the shoe, a coiled spring around the tubular screw between the annular shoulder of the drum and the enlarged end of  
100 the tubular screw, a circular series of ratchet teeth on said drum engaging in the notches in the casing, said casing having an opening therein, and a lacing projected through the opening in the casing and secured to the  
105 drum, substantially as described.

7. A device of the character described, comprising a cylindrical casing having beveled notches in its outer wall, a drum mounted to turn in the casing and having a central  
110 cylindrical recess, an internally screw-threaded tubular screw projecting through said cylinder and having an enlarged outer end, a screw-threaded stud adapted to be projected through an opening in a shoe and  
115 screwed into a tubular screw, an enlarged head on said stud adapted to be located inside the shoe, a coiled spring around the tubular screw between the annular shoulder of the drum and the enlarged end of the  
120 tubular screw, a circular series of ratchet teeth on said drum engaging in the notches in the casing, said casing having an opening therein, a lacing projected through the opening in the casing and secured to the  
125 drum, substantially as described.

drum, and a button sprung over the outer end of the drum, substantially as described.

8. A device of the character described, comprising a cylindrical casing, a drum  
5 mounted to turn in the casing and movable longitudinally relative to the casing, a ratchet means between the drum and the casing, and a spring exerting inward pressure on the drum normally holding the ratchet  
10 means in operative engagement, yet permitting the drum to be moved longitudinally so

that it may be turned in either direction, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of  
15 two subscribing witnesses.

CHARLES H. WORTH.  
BENJAMIN LEON.

Witnesses:

C. R. ZIEGLER,  
R. H. KRUNKEL.

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

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