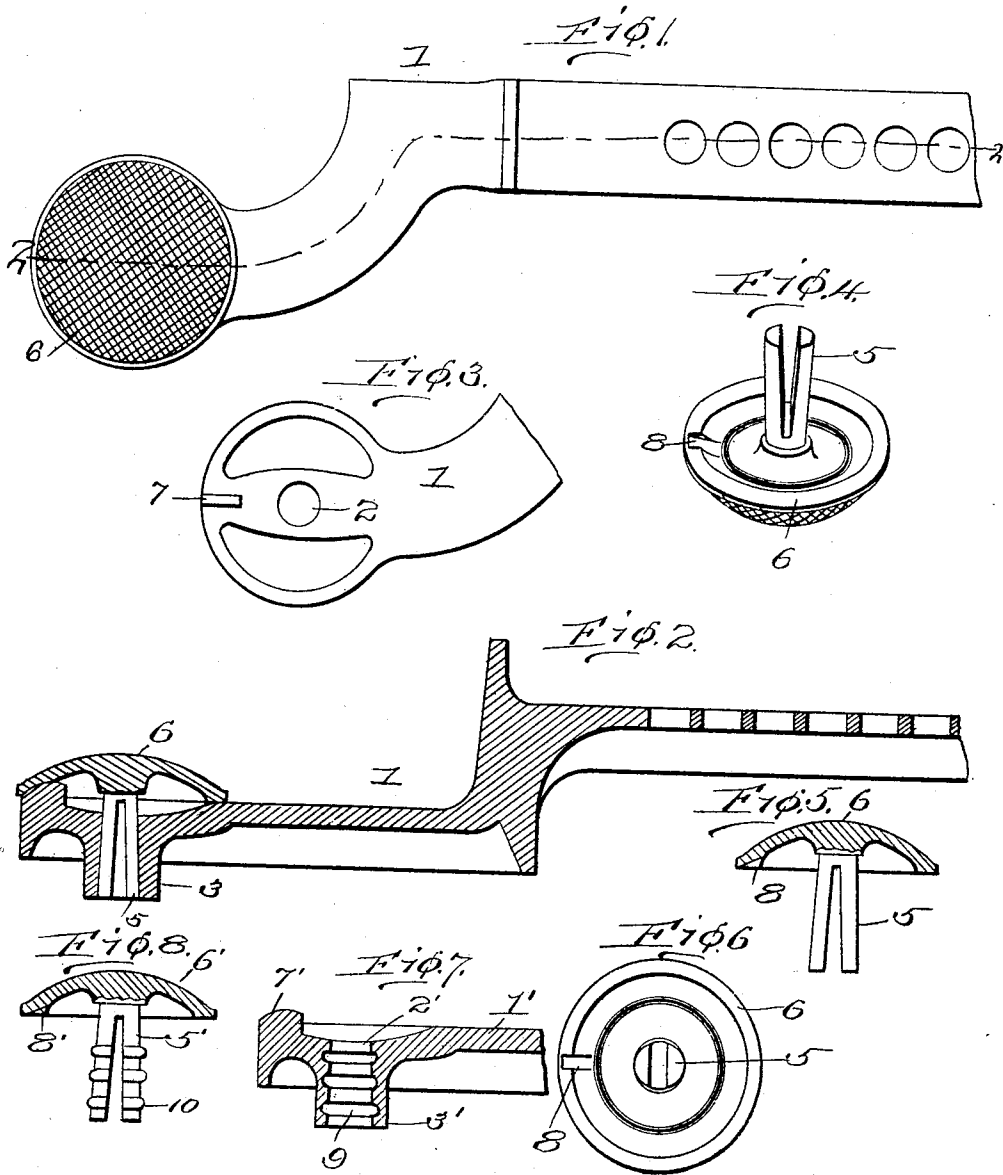


A. F. & C. H. NORRIS.
 PEDAL AND TOE CAP THEREFOR.
 APPLICATION FILED AUG. 13, 1909.

969,651.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.



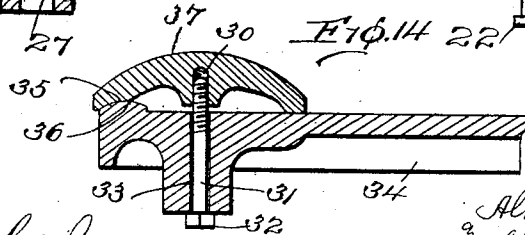
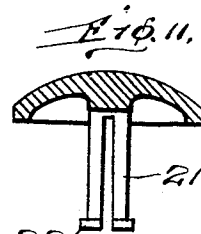
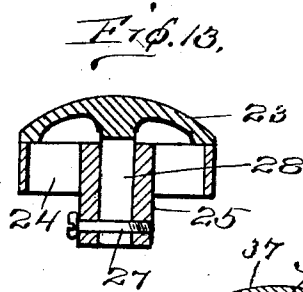
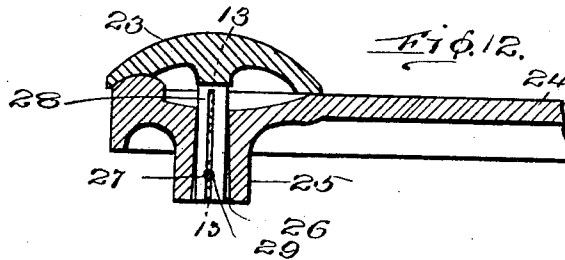
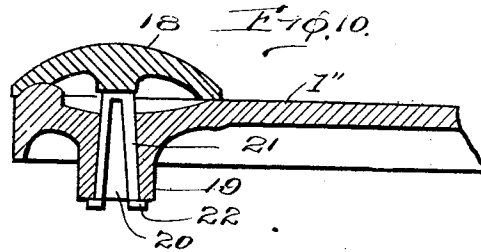
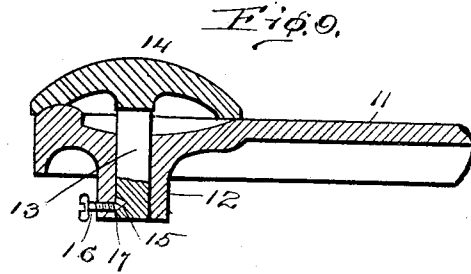
Witnesses
J. M. Fowler Jr.
A. L. Kitchen.

Inventors
Albert F. Norris
Clifton H. Norris
 By *Mason Farnick Lawrence*
 Their Attorneys

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 2 SHEETS—SHEET 2.



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J. M. Fowler Jr.
W. L. Kitchen.

Inventors.
Albert F. Norris
Clifton H. Norris
 By *Mason F. Lawrence*
 their Attorneys

UNITED STATES PATENT OFFICE.

ALBERT F. NORRIS AND CLIFTON H. NORRIS, OF BOSTON, MASSACHUSETTS.

PEDAL AND TOE-CAP THEREFOR.

969,651.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ALBERT F. NORRIS and CLIFTON H. NORRIS, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pedals and Toe-Caps Therefor; and we do hereby 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.

This invention relates to improvements in pedals for musical instruments, and particularly to pedals arranged to receive a removable cap.

The object in view is the arrangement of a pedal formed with an aperture therein for receiving means for clamping a cap to the pedal.

Another object of the invention is the arrangement of a pedal formed with a tapered aperture passing therethrough and a cap provided with a bifurcated extension fitting into said aperture and formed from resilient or springy material, so as to yieldingly engage the sides of the aperture for normally preventing the removal of the cap.

A further object of the invention is the arrangement of a pedal and a removable toe cap therefor, and a lug projecting from the pedal into a notch in the toe cap for preventing rotation thereof.

Another object of the invention is the arrangement of a pedal having an aperture therein with annular grooves and a toe cap having an extension formed with annular ridges adapted to spring into the annular grooves in said pedal for normally preventing the removal of the toe cap.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a top plan view of a pedal and toe cap embodying the invention. Fig. 2 is a longitudinal section through Fig. 1, approximately on line 2—2. Fig. 3 is a top plan view of the outer end of the pedal with the toe cap removed. Fig. 4 is an inverted perspective view of the cap removed. Fig. 5 is a section through a toe cap removed, showing the arrangement of the slot formed therein. Fig. 6 is a bottom plan view of

the toe cap. Fig. 7 is a fragmentary sectional view through the outer end of a slightly modified form of pedal. Fig. 8 is a sectional view through a slightly modified form of cap adapted to fit into the pedal shown in Fig. 7. Fig. 9 is a fragmentary sectional view through another slightly modified form of the invention, showing the clamping pin. Fig. 10 is a section similar to Fig. 9, except through a slightly modified form of cap and end of pedal. Fig. 11 is a section through the cap shown in Fig. 10, before the same has been expanded. Fig. 12 is a still further modified form of the invention showing the cap having a stem designed to spring together. Fig. 13 is a transverse section through the structure shown in Fig. 12, approximately on line 13—13. Fig. 14 is a sectional view similar to Fig. 10, but of a slightly modified form of the invention, wherein cap securing means pass through the pedal and are connected to the cap above the pedal.

In forming a pedal and cap according to the present invention, the pedal may be made of any desired contour, provided with an aperture preferably tapering at the outer end, into which is fitted a bifurcated lug or projection of the cap, which covers the outer end of the pedal. The bifurcated extension or lug on the cap is made from springy material, so as to afford friction between the same and the pedal when the cap has been placed in position with the lug or extension in the aperture in the pedal. This is designed to prevent the accidental removal and to hold the cap correctly in position. The cap is also formed with a slot designed to receive a lug or extension from the pedal for preventing any rotation of the pedal, and for assisting in firmly holding the toe cap in position. If desired the aperture in the end of the pedal may be formed with one or more annular grooves and the cap may be made accordingly with a number of annular ridges for fitting into the annular grooves, the springy nature of the lug or bifurcated extension of the cap permitting the annular ridges to engage properly the annular grooves, and thus normally prevent the removal of the cap.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings, in which 1 indicates a pedal of any desired contour having an aperture 2 formed

therein, which is preferably flared from the top of the pedal downward. Aperture 2 is designed to extend through a lug or extension 3 of pedal 1 so as to form an ample bearing surface for a bifurcated lug or extension 5 projecting from cap 6. The lug or extension 5 is preferably formed integral with cap 6 and is made of some springy material, so as to snugly fit or engage the sides of the aperture 2. The end of pedal 1 is formed with a lug or extension 7 which is designed to fit into a slot or notch 8 of cap 6. This will prevent any rotary movement of the cap when in use. The bifurcated projection 5 may be forced into the small end of opening 2, and will gradually spread as the same is forced downward. When it is desired to remove the cap the same may be forced upward against the action of the bifurcated extension 5.

In Figs. 7 and 8 will be seen a slightly modified form of the invention in which a pedal 1' is shown as provided with an aperture 2' flared from the top down, and extending through a lug 3'. The aperture 2' is formed with a plurality of annular grooves 9 for receiving annular beads or ridges 10 on the bifurcated projection 5' of cap 6'. The bifurcated projection 5' is of a springy nature so that the same may be forced into aperture 2' and the beads or ridges 10 caused to fit into the annular grooves 9. A lug 7' is provided for engaging a notch or slot 8' in cap 6'.

In constructing the toe caps 6 and 6' and their lugs or projections 5 and 5' the same are made of material of a springy nature, but are sufficiently stiff to require a considerable force pressing against the bottom of the end of the same to force the cap out of contact with the pedal. As will be evident the toe cap covers the end of the pedal at the place where the same is adapted to wear. By the construction set forth the cap may be easily removed without the use of screws or the like, and another cap substituted at a very small cost. The ringed or beaded construction shown in Figs. 7 and 8 has substantially the effect of a threaded connection, and also has the addition of the use of the lug 7' and slot 8'. If desired the lug or extension on the cap could be threaded, and also the pedal or aperture in the pedal could be threaded, and the cap screwed in place. If the lug or extension on the cap was threaded into place the lug 7 would be removed, so as to permit the cap to firmly engage the upper surface of the pedal.

In Fig. 9 will be seen a slightly modified form of cap secured to a pedal 11. Pedal 11 is formed with a downward projection 12 provided with an aperture passing there-through for accommodating a stem 13 of cap 14. The stem 13 is provided with a

conical recess 15, preferably circular in cross section. A clamping member, as screw 16, is threaded into extension 12 and is formed with a conical end 17 designed to engage the conical walls of recess 15 when screwed into place, so as to tightly clamp cap 14 against pedal 11.

In Figs. 10 and 11 will be seen a still further modified form of the invention, in which a cap 18 is secured to pedal 1''. Pedal 1'' is formed with an extension 19 having an aperture 20 formed therein for accommodating stem 21 of cap 18. Stem 21 is made any desired size, and has formed on the lower end thereof an annular bead or ridge 22. After the stem has been made the desired size and the bead 22 formed thereon the same is split longitudinally, as shown in Fig. 11. The stem is then forced open, and as the material of which the cap is made is of springy consistency the bifurcated portions of the stem 21 will remain open so that when the same is forced temporarily partially closed at the end when the cap is being placed in position they will again automatically spring apart, and take the position shown in Fig. 10, for causing the flange 22 to engage the lower surface of projection 19. This will prevent the accidental removal of the cap. When it is desired to remove the cap, all that is necessary is to force the lower ends thereof sufficiently close together for permitting flange or bead 22 to enter opening 20, and then pull upward on the cap. By this construction and arrangement the cap may be quickly and easily placed in position, and then removed without the use of tools, and yet the cap present all the advantages of caps rigidly held in place by more or less complicated means.

In Figs. 12 and 13 another modified form of the invention is shown, in which a cap 23 is mounted upon pedal 24, having extension 25, through which is formed an aperture 26. Extension 25 is provided with a pin or bolt 27 which is preferably removably secured in position by means of threads. The aperture 26 is preferably slightly tapered in order that the stem 28, which is bifurcated, may spring apart and move past pin or bolt 27 until the notched portions 29—29 come opposite pin or bolt 27. When the notched portions 29—29 come opposite pin 27 the bifurcated portion of stem 28 will spring together, and grip pin or bolt 27, for preventing accidental removal of cap 23.

In Fig. 14 will be observed a form of cap 37 which is formed with an interiorly threaded bore 30 for receiving a binding screw or bolt 31. The binding screw or bolt 31 may be formed with a squared head 32 or with any desired shaped head with a kerf formed therein. Bolt 31 is designed to snugly fit bore 33 in pedal 34 but is permitted a free movement therein when apply-

ing and removing the toe cap 37. When it is desired to place the toe cap 37 in position the same is placed upon pedal 34 with bore 30 above bore 33, and then bolt 31 inserted and screwed into place until cap 37 has been clamped tightly against the pedal. Cap 37 is preferably formed with a cut-out portion 35 for engaging the raised portion or lug 36, so as to prevent any turning of the cap.

10 What we claim is:

1. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with a stem provided with a recess having flared walls, and a clamping screw arranged to engage part of said flared walls for drawing said toe cap against said pedal.

2. In a device of the character described, the combination with a pedal having an aperture therein and a lug extending therefrom, of a toe cap having a recess portion fitting over said lug, whereby said toe cap is prevented from rotating, and a shank extending through said aperture, and means independent of the cap at the lower end of said shank for preventing accidental removal of the cap.

3. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with a stem designed to fit into said aperture, and means independent of said stem and engaging the same for locking said cap against said pedal and for drawing the under surface of said cap against said pedal.

4. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with

a stem adapted to fit into said aperture, said stem being formed with a recess having 40 flaring walls, and a set screw formed with a tapering end for engaging part of the flaring walls of said recess, whereby said cap is held clamped to said pedal.

5. In a device of the character described, 45 the combination with a pedal having an aperture therein with a projection extending therefrom, of a toe cap formed with a recess portion for fitting over said projection, whereby said toe cap is prevented from rotating, said toe cap being also formed with a stem designed to fit into said aperture, and means independent of said stem and said pedal but arranged to engage said stem for locking said cap to said pedal and at the 55 same time causing said cap to press against said pedal.

6. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap therefor 60 formed with a stem designed to project through said aperture, said toe cap being formed with a notch, and said pedal being formed with a lug projecting therefrom for engaging said notch for preventing a rotary 65 movement of said cap, and a set screw mounted in said pedal and engaging said stem for clamping said toe cap to said pedal.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT F. NORRIS.
CLIFTON H. NORRIS.

Witnesses:

ALBERT L. WYMAN,
MICHAEL GOODMAN.