Nov. 3, 1942. J. R. BERNSTEIN 2,300,866

COMPOUND TOOL

Filed May 24, 1940

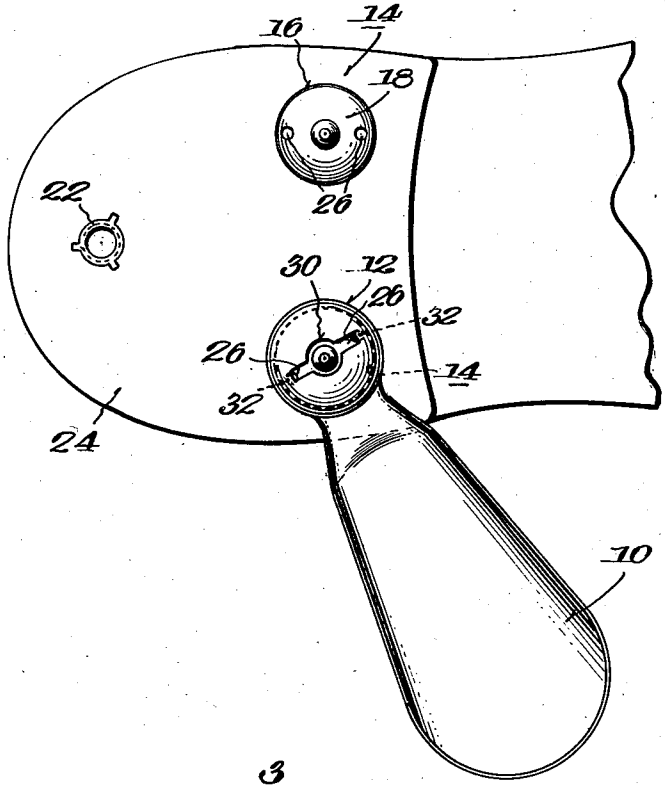


Fig. 1.

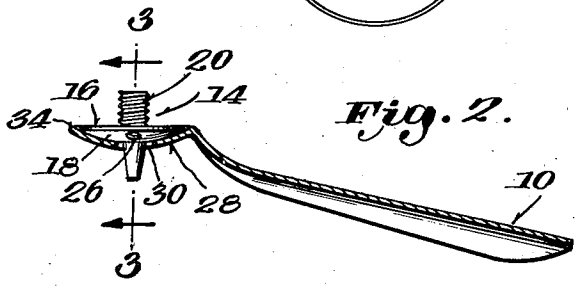


Fig. 2.

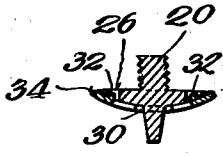


Fig. 3

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COMPOUND TOOL

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1 Claim. (Cl. 81—90)

This invention relates to compound tools and has particular reference to a spanner wrench designed for use in inserting and removing cleats or spikes from tapped bushings in the soles of shoes and provided with a handle adapted for use as a shoe horn.

While in its broadest aspect a compound tool of this general nature is not novel, this invention contemplates the formation of a spanner wrench so designed and constructed with relation to its handle as to obtain a very definite improvement in the functioning of the tool both as a shoe horn and as a spanner wrench.

Compound tools of this nature as heretofore known have been so constructed that the fingers forming a part of the spanner wrench have projected a considerable distance beyond the lip of the dished-out wrench plate. As a result the considerable force exerted on the wrench plate and necessary to withdraw the handle, when used as a horn, from the shoe has often caused the wrench fingers to scrape across the hand or finger, especially the thumb, of the operator and cause injury or serious inconvenience. In addition to this, the construction of the spanner wrench itself has been such as to render centering of the wrench with reference to the cleat to be inserted or removed from the shoe somewhat difficult. A further objection to the tools available heretofore resides in the fact that the fingers of the spanner wrench extend outwardly from the wrench plate so far that the surface of the leather to which the spike is attached is very apt to become mutilated during insertion or removal of the spike by the wrench.

It is the object of my invention to eliminate all of these difficulties, i. e., the danger of projecting spanner wrench fingers while operating as a shoe horn, the difficulty in centering the fingers of the spanner wrench properly with reference to the cleat, and mutilation of the surface of the leather during application or removal of the spike or cleat.

Other objects and meritorious features of the invention will be apparent from the following description taken in conjunction with the drawing, wherein like numerals refer to like parts throughout the several figures, and wherein:

Fig. 1 is a bottom plan view illustrating my improved tool;

Fig. 2 is a section of the tool through line 2—2 of Fig. 1, and

Fig. 3 is a section along line 3—3 of Fig. 2.

The compound tool comprises a handle 10 in the form of a shoe horn merging into a wrench 12 constructed in the particular manner about to be described. For purposes of illustration the tool has been shown in Fig. 1 positioned for removing or inserting a cleat or stud, broadly indicated by the numeral 14 and comprising a face plate 16 having an arcuate convex outer surface 18 and a threaded shank 20 adapted to be inserted into a tapped bushing 22 positioned in the sole or heel of the shoe 24. The face plate includes cut-away portions, which may comprise apertures 26 as shown, or slots, exending inwardly from the margin of said plate.

The handle 10 is concavo-convex, generally arcuate in cross-section along its length, and wider than wrench plate 28. The wrench 12 comprises a dished-out plate 28 generally spherical in form as illustrated and the direction of its concavity is reverse to that of the handle. Whereas the handle may aptly be described as of concavo-convex curvature, the curvature of the wrench plate is aptly defined as convexo-concave and the two surfaces merge into each other through a substantially plane surface contiguous to the plate.

The plate 28 is apertured to provide a central opening 30. Spanner wrench fingers 32 extend away from the plate from a point within the concavity and spaced inwardly from the lip thereof, but their length is such that they do not project to any substantial extent outwardly beyond the lip 34 thereof and be substantially in its plane. This plate is of the same concavity as the convexity 18 of the cleat face plate and thereby the fingers 32 are readily centered with reference to the openings 26 in said plate when the spanner wrench is used.

Due to the fact that the fingers 32 do not project outwardly to any substantial extent beyond the lip of the wrench plate, it will be apparent that one grasping the wrench for operating the handle as a shoe horn and withdrawing the same from operative position runs no risk of scraping the terminal points of the fingers across his own hand and thus suffering injury or serious inconvenience, nor can the wrench fingers dig into the leather when positioning the spikes. In the preferred embodiment illustrated the fingers 32 have been shown as struck or punched from the wall of the wrench plate 28.

While the wrench 12 has been illustrated as of substantially no greater area than the dished-out plate forming the centering means for the spanner wrench, it is obvious that the area of the wrench is immaterial and that the only limitation upon the dished-out plate is the area and

convexity of the cleat face plate 18 with which the spanner wrench is to be associated.

Furthermore, it is to be noted that, when the cleat is secured in its bushing and the wrench is properly positioned and centered, the lip 34 of the plate is adapted to abut the bottom of the shoe sole or heel in which the bushing 22 is inserted, thus further aiding in centering and positioning the spanner wrench for cleat removal purposes.

From the foregoing description it will be apparent that the wrench plate 28 of this particular spanner wrench cooperates with its handle during manipulation as a shoe horn, in addition to forming an unusually easily centered and operated wrench.

While I have described a preferred embodiment of my invention, various modifications will be apparent to those skilled in the art and for that reason I wish to limit myself only within the scope of the appended claim.

What I claim is:

A spanner wrench comprising a generally spherical concavo-convex plate adapted to conform to the curvature of and seat against the exposed face of a shoe cleat, said plate being apertured substantially centrally thereof, fingers extending laterally from within the concave face of said plate at spaced points lying between said aperture and the lip or peripheral edge of the concavity, said fingers being struck from the material of said plate and terminating at substantially the plane of said lip and lying substantially wholly within the concavity of the plate, and an elongated handle for said plate for the most part wider than the same extending away therefrom in a direction generally normal to said fingers, said handle being generally arcuate in cross-section throughout the major portion of its length, of a concavo-convexity reverse to that of said plate, and merging into the same through a substantially plane surface contiguous to the plate.

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