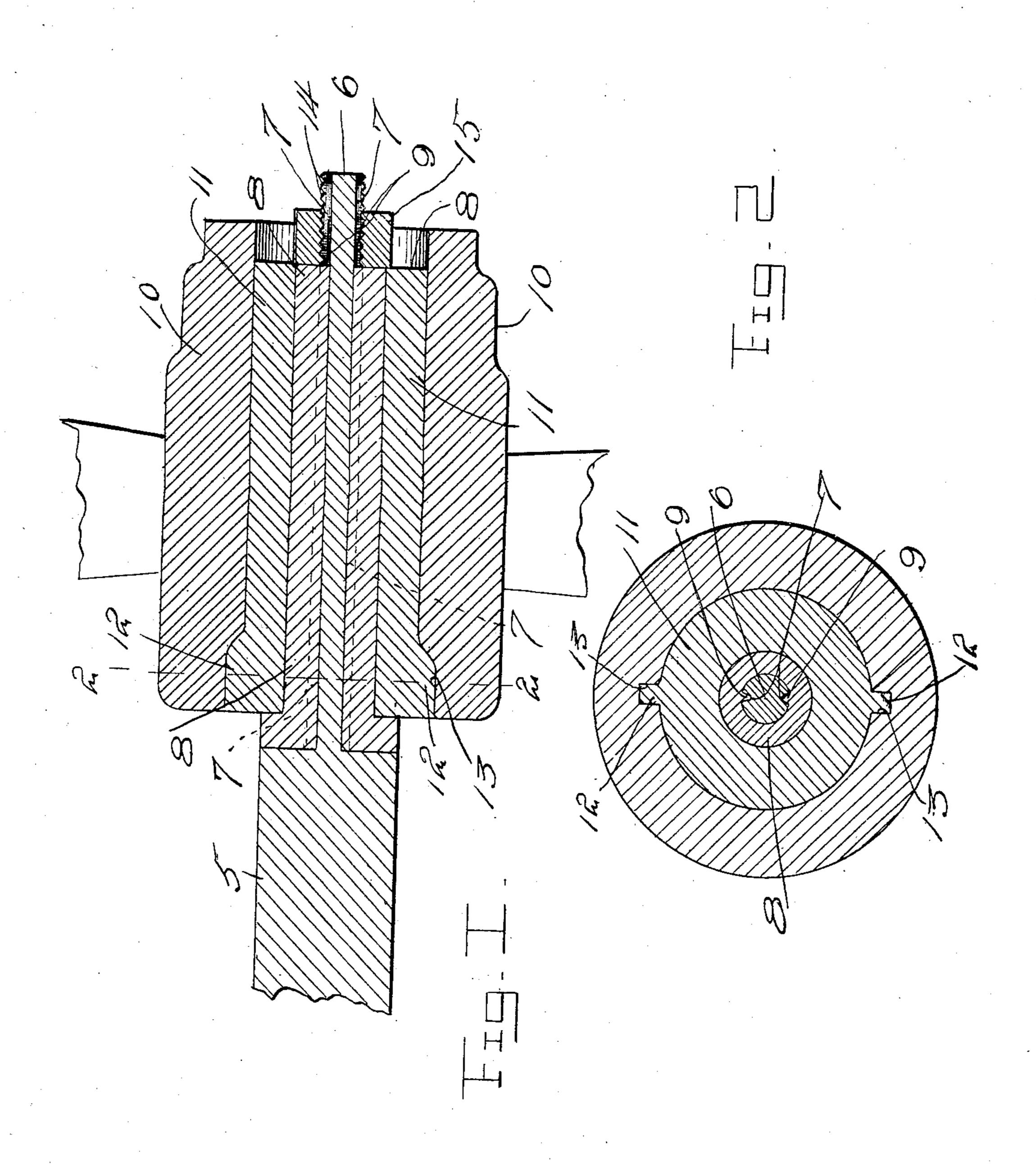
No. 862,605.

PATENTED AUG. 6, 1907.

T. T. BOOKMAN & J. M. BUTLER.

AXLE SKEIN.

APPLICATION FILED JUNE 27, 1906.



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## UNITED STATES PATENT OFFICE.

THOMAS T. BOOKMAN AND JAMES M. BUTLER, OF BLANEY, SOUTH CAROLINA.

## AXLE-SKEIN.

No. 862,605.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed June 27, 1906. Serial No. 323,652.

To all whom it may concern:

Be it known that we, Thomas T. Bookman and James M. Butler, citizens of the United States, residing at Blaney, in the county of Kershaw, State of 5 South Carolina, have invented certain new and useful Improvements in Axle-Skeins; 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 10 the same.

The invention relates to axle skeins, and has for its object to provide a simple construction of skein and hub box, which may be readily applied and removed for replacement.

15 A further object of the invention is to provide an axle skein which may be removed and turned when worn on one side to present a new wearing surface, and to provide a removable hub box, which will be held for rotation with the hub.

In the accompanying drawings, Figure 1 is a vertical 20sectional view through an axle fitted with a skein and hub embodying my invention. Fig. 2 is a transverse vertical sectional view therethrough.

Referring more specifically to the drawings, the 25 numeral 5 denotes an axle, and 6 the spindle thereof, which latter is provided upon diametrically opposite sides with grooves 7.

Disposed upon the spindle is a skein comprising a sleeve 8, provided in its bore with longitudinally ex-30 tending tongues 9, which are seated in the grooves 7 in the spindle, and at one end with a collar which abuts against the shoulder formed by the junction of the main portion of the axle 5 and its spindle 6.

The spindle and its skein are designed for the recep-35 tion thereon of a hub 10, in the bore of which is seated a box 11, which turns upon the said skein and prevents wear of the hub. The said bex comprises a sleeve |

which is provided at one end and at diametrically opposite points upon its outer side with lugs 12, which, when the box is in position in the hub, are seated in 40 recesses 13 formed at corresponding points in the inner periphery of the sleeve or box.

From the above, it will be seen that the skein and box are held against rotation independently of the spindle and hub, respectively, but that either may be re- 45 moved for repair or replacement, and, furthermore, that the skein may be turned half way around to present a new wearing surface. The end of the spindle is threaded, as at 14, and engaged upon the said threaded end is a nut 15, which abuts against the ends of the box oppo- 50 site that at which the lugs are formed to prevent disengagement of the same from the spindle and skein.

What is claimed, is:

A device of the class described comprising an axle spindle provided with diametrically oppositely located grooves 55 which extend longitudinally of the spindle from the point of junction of the same with the axle to the extreme end of the same, a skein removably engaged upon the spindle and provided in its bore with diametrically oppositely located ribs which are seated in the grooves in the spindle, 60 the skein being provided at its inner end with an annular shoulder, the skein being reversible upon the spindle, a hub provided in its bore with diametrically oppositely located recesses, and a box removably received in the bore of the hub and provided at its inner end with lugs which are 65 seated in the recesses in the bore of the hub, whereby the box will be held for rotation with the hub, the box being rotatably engaged upon the skein, and a nut removably engaged upon the outer end of the spindle and adapted to bear against the adjacent end of the skein and box.

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

> THOMAS T. BOOKMAN. JAMES M. BUTLER.

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Witnesses: FANNIE MOORE, AMIE HINSON.