

J. S. WILSON.
Thrust-Block.

No. 215,782.

Patented May 27, 1879.

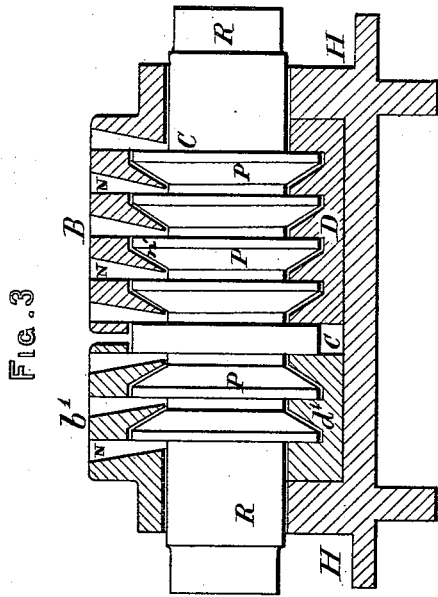


FIG. 3

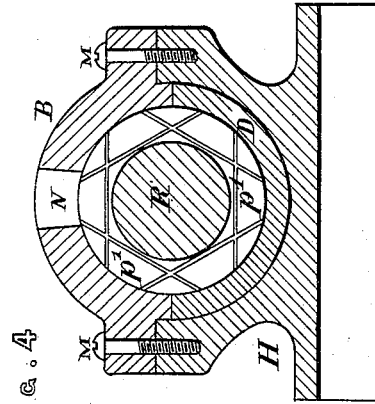


FIG. 4

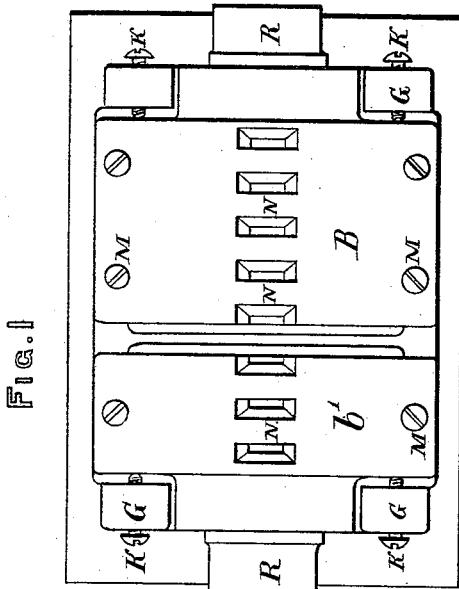


FIG. 1

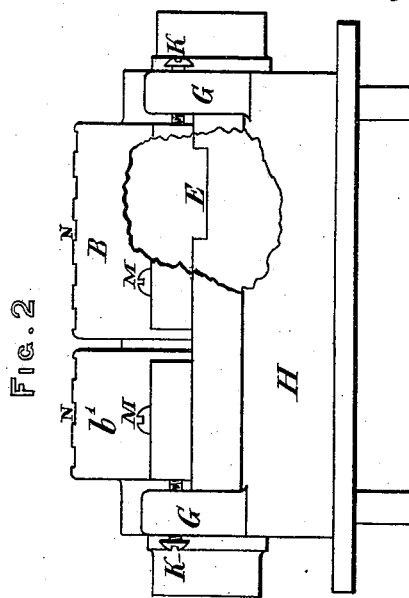


FIG. 2

Witnesses
Caleb W. Farland, Jr.
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UNITED STATES PATENT OFFICE.

JOSEPH SHIELDS WILSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN THRUST-BLOCKS.

Specification forming part of Letters Patent No. 215,782, dated May 27, 1879; application filed February 14, 1879.

To all whom it may concern:

Be it known that I, JOSEPH SHIELDS WILSON, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Thrust-Blocks, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a plan. Fig. 2 is a side elevation, with a part broken away. Fig. 3 is a longitudinal section. Fig. 4 is a cross-section.

The nature of my invention in thrust-blocks for taking the end thrust on shafts of marine propeller-engines, and for use in other places, consists in providing good and efficient thrusting-surface, having the wearing parts adjustable and removable without disturbing the shaft; also, in an improved system of lubrication, the whole device being of compact form.

To accomplish this I construct the caps B *b'* in one piece, or united with the top halves of the collars of resistance, or thrust-collars, C.

D *d'* are the lower halves, made semicircular, so that they can be removed without raising the shaft. They are toggled or fastened to the top halves by the interlocking projection E, (shown in Fig. 2,) by which means any adjustment of the top cap causes the lower half to move endwise correspondingly.

The adjustments endwise to take up the wear upon the shaft-collars are made by moving the cap-pieces, either by liners placed between the cap and lugs G on the bed-piece H, or by set-screws K.

When the end adjustments are complete, the cap-bolts M force the caps hard down on the bottom halves, and retain them firmly in their places within the bed-piece.

The cap B and its corresponding shaft-collars for receiving the forward thrust, and the cap *b'* for receiving the backward thrust are unequal in the number of collars for marine propeller-engines; but where the strain is always in one direction, one set would be omitted; or if the strains are equal, both sets of collars would be equal.

A lining of anti-friction metal may be let into the wearing-surface of the cap and its corresponding bottom half.

I make no claim to the bevel-shaped collars on the shaft. I prefer to use them in connec-

tion with my improvements, as they take up less room than square-shaped collars of equal strength.

The collars P on the shaft R are in contact with the thrust-block collars on the flat side only. The weight of the shaft is not supported by the thrust-blocks, but by other independent bearings.

Great difficulty has heretofore existed in introducing oil between the two surfaces in contact under heavy pressure, and they are liable to heat and absorb much power. To prevent this injury I make the top cap with large pockets M between each thrusting-collar, to the whole depth of the said collars, which openings are of sufficient size to admit the hand, or, in very small thrust-blocks, the finger. They are separated from each other by the web *n'*, so that the condition of each collar may be ascertained and water applied, if necessary, to each collar separately before it becomes injuriously heated. The lubricant is applied by these openings to the wearing-surfaces of each collar exposed by the opening, and the revolution of the shaft causes the whole surface to be constantly lubricated.

I make no claim to a hand-opening in the cap common to all the collars of the cap.

I also cut grooves *p'* in the thrusting-faces of the collars, of a scroll or zigzag shape, as an additional means of forcing the lubricant into contact with the face of the collars.

I claim—

1. In thrust-blocks, the combination of the shaft R, the thrust-collars P, the cap B, hand-holes N, and intervening web *n'*, whereby each collar can be separately cooled, as described.

2. The combination of the shaft R, with its collars P, and the forward and backward thrust-blocks B *b'*, each adjustable endwise within the bed-piece H.

3. The combination of the bed-piece H, lugs G, screws K, or their equivalent, cap B, toggled into the bottom pieces D, and the hand-openings N, substantially as herein described.

J. SHIELDS WILSON.

Witnesses:

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