

(No Model.)

P. FREUND.
PULLEY BLOCK.

No. 471,519.

Patented Mar. 22, 1892.

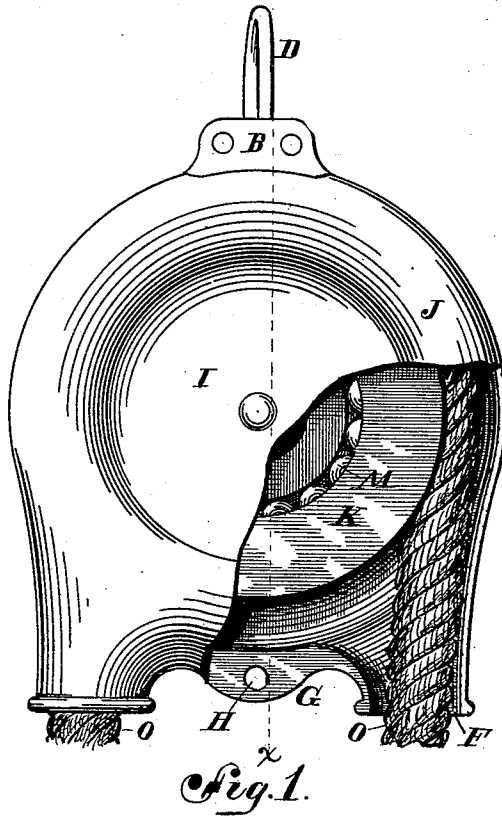


Fig. 1.

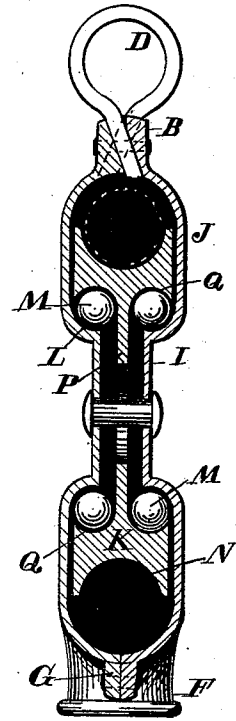


Fig. 2.

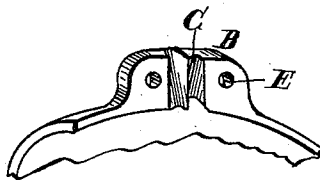


Fig. 3.



Fig. 4.

WITNESSES:

Frank Hellmuth
C. J. Buchman

INVENTOR

P. Freund

BY

[Signature]
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILIPP FREUND, OF BROOKLYN, NEW YORK.

PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 471,519, dated March 22, 1892.

Application filed January 13, 1892. Serial No. 417,985. (No model.)

To all whom it may concern:

Be it known that I, PHILIPP FREUND, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Pulley-Blocks, of which the following is a specification.

The object of my present invention is to construct a cheap, simple, and efficient anti-friction pulley or tackle block; and it consists of a case preferably made of two parts, with a central circular depression in the wall of the case, and within the case a ring provided on its periphery with a groove to receive the rope and on its inner edge with a central flange or rib and a depressed groove or annular channel on each side of the rib to receive anti-friction balls which roll against similar annular channels in the case.

It further consists of providing each half of the case at its upper end with an integral ear, on the inner face of which I cast two vertically-disposed grooves side by side, one groove being inclined in one direction and the other in the other direction from the plane of the case, into which grooves I place the ends of a suitably-bent wire eye, so that when this eye is placed in said groove and the two parts of the shell are secured together the eye will be firmly held in position, all of which will now be set forth in detail.

In the accompanying drawings, Figure 1 is a side view with a portion of the case cut away, of my improved pulley or tackle block. Fig. 2 is a central vertical section through line X of Fig. 1; Fig. 3, a perspective view of the upper end of one of the shells, showing the grooved ear; and Fig. 4, a view of the bent wire forming the eye.

In constructing my invention I preferably form the case in two parts, which are duplicates of each other. Each part A has at its upper end an ear B, provided with two vertically-disposed grooves C, said grooves being inclined in two opposite directions, as shown, to receive the crossed ends of the wire loop D. Each ear has also the two holes E to receive rivets or bolts for holding the shells together. The lower ends of the shells are cast with two openings F, through which the rope

passes, and between these openings is a projection G, extending out from the case to receive a hole H for the fastening-rivet of the lower end of the case.

Centrally the case has a circular depression, as shown at I, forming an annular bulbous enlargement J, within which I place a rim or ring K of peculiar structure, and also anti-friction balls. The inner wall of the case, or that portion of the shell which is depressed next to the rim K, has an annular groove L, adapted to receive the anti-friction balls M. The rim K has in its periphery a groove N to receive the rope O, and on its inner edge is a central annular flange or rib P, and by each side of the rib is an annular channel Q in the rim corresponding to the annular channel L in the case, so that the balls M will have suitable ways to travel therein when the rim K turns by the action of the rope.

Centrally the case may be secured by means of a rivet R or bolt, if desired, and when thus constructed it can readily be put together, and this forms the most conveniently-made pulley-block, which fully provides against friction and which, by virtue of its peculiar structure, prevents the rim from binding against the case, as it will be seen that the balls, bearing as they do against the central rib, prevent later friction or wear.

What I claim as new is—

1. A pulley-block composed of a rim with a peripheral groove, an annular flange or rib centrally on the inner edge and having an annular groove on each side, and a case having corresponding annular grooves and interposed balls, substantially as set forth.

2. A pulley-block composed of a ring or rim with a peripheral groove, the inner edge having two annular grooves and a central annular flange or rib, in combination with a case having a central depression, and annular grooves and anti-friction balls between the rim and casing, substantially as set forth.

3. In a pulley-block, the combination of the separable case, each part having an eye at its upper end with oppositely-inclined grooves, in combination with an eye having crossed ends therein, the case centrally depressed and

having within around the central depression
annular grooves, a ring or rim within the
case having a peripheral groove, the inner
edge of the ring having a central annular rib
5 or flange and on each side an annular chan-
nel, and the interposed balls for preventing
friction, substantially as set forth.

Signed at Long Island City, in the county
of Queens and State of New York, this 28th
day of July, A. D. 1891.

PHILIPP FREUND.

Witnesses:

CONRAD HAERKANN,
FRED C. HELLMUTH.