R. BROWN.

PULLEY BLOCK.

APPLICATION FILED MAR. 25, 1914.

1,142,485.

Patented June 8, 1915.

2 SHEETS—SHEET 1.

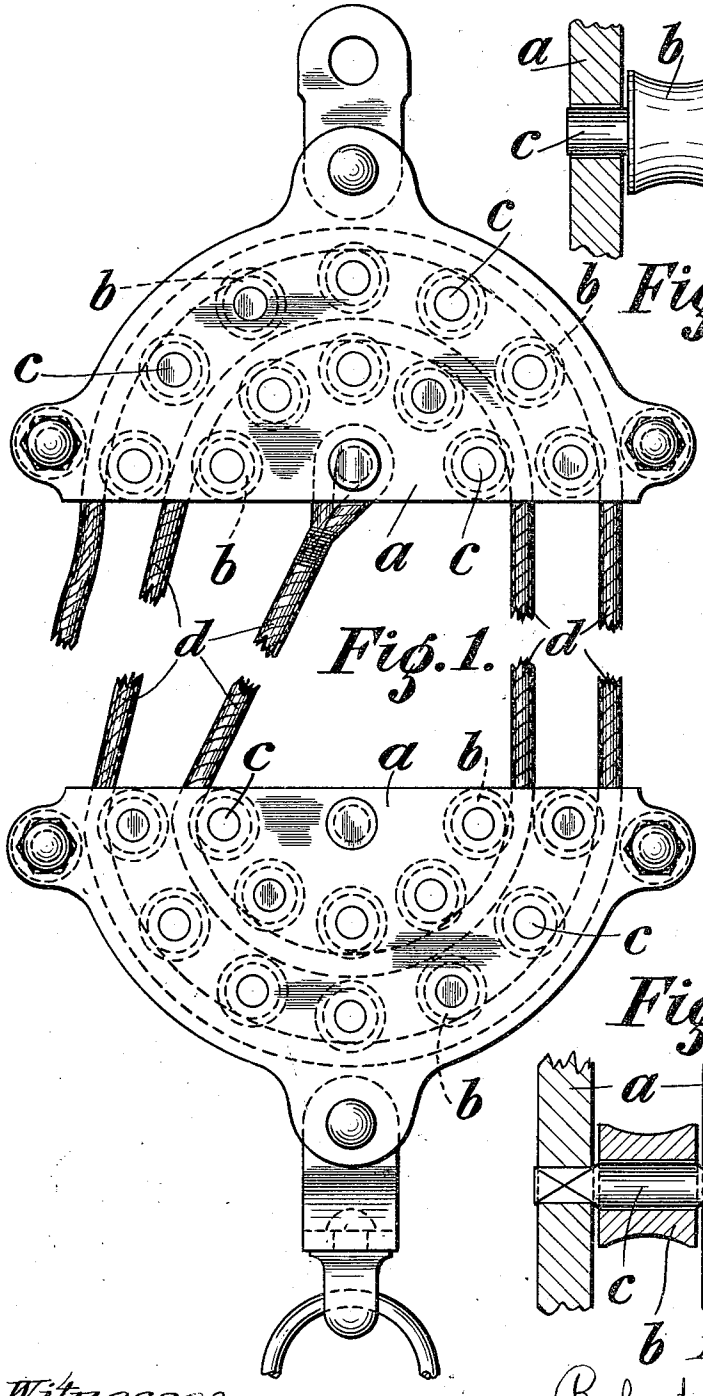


Fig. 1.

Fig. 3.

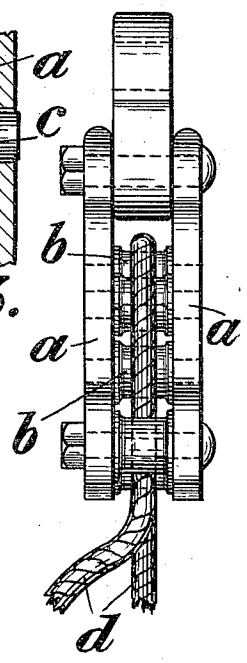


Fig. 2.

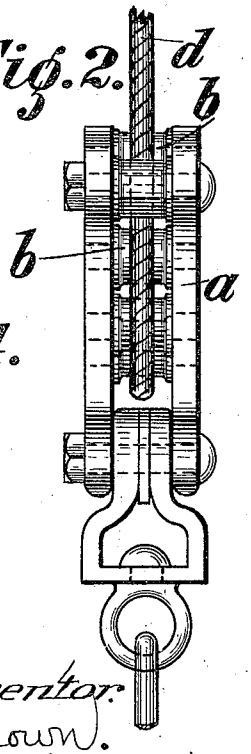


Fig. 4.

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2 SHEETS—SHEET 2.

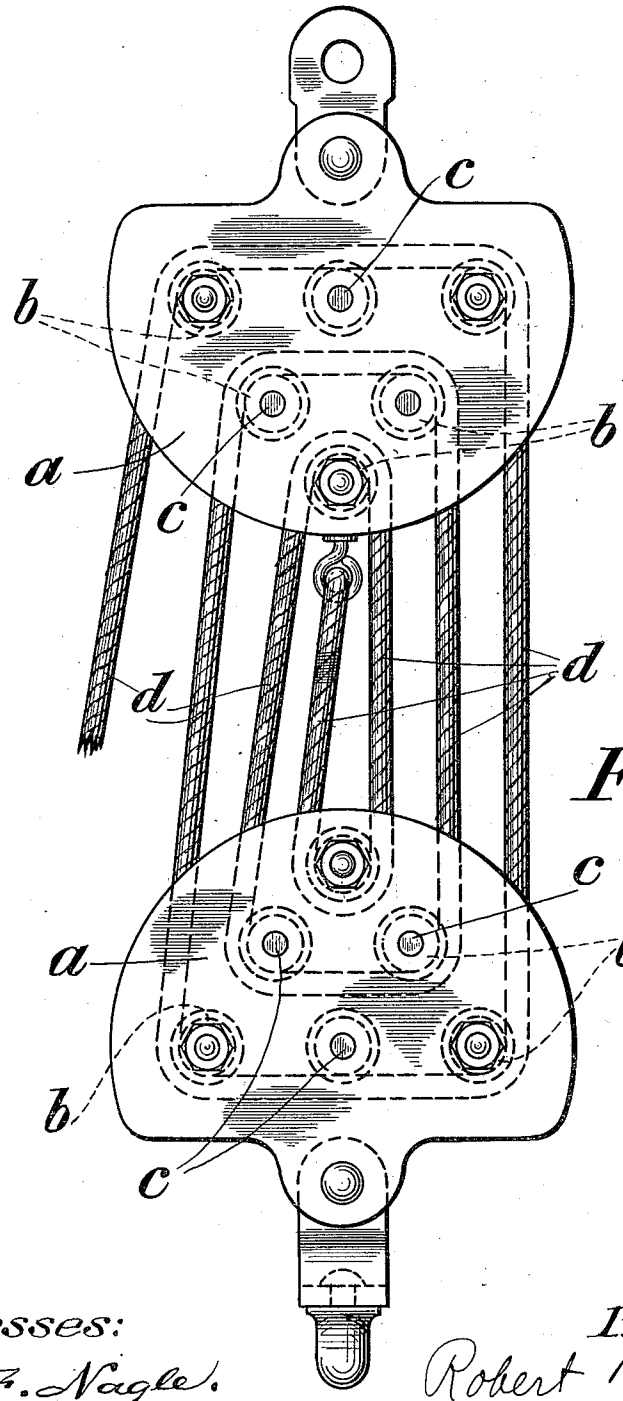


Fig. 5.

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UNITED STATES PATENT OFFICE.

ROBERT BROWN, OF CRAIGTON, GLASGOW, SCOTLAND.

PULLEY-BLOCK.

1,142,485. Specification of Letters Patent. Patented June 8, 1915.

Application filed March 25, 1914. Serial No. 827,029.

To all whom it may concern:

Be it known that I, ROBERT BROWN, a subject of the King of Great Britain, residing at Craigton, Glasgow, Scotland, have invented certain new and useful Improvements in Pulley-Blocks, of which the following is a specification.

This invention relates to pulley blocks such as are used in connection with raising and lowering tackle for boats and other purposes and it has for its object to improve the construction of such blocks.

Under my invention in place of making the pulley block with a sheave or sheaves as hitherto, I substitute for the sheave or sheaves an arrangement or arrangements of rollers or their equivalent fitted in the cheeks of the block.

In order that my said invention may be properly understood I have hereunto appended an explanatory sheet of drawings whereon is shown, by way of illustration or example, a pulley block as made under the invention.

On the drawings:—Figure 1 is a side view of a pulley block constituted by a standing block and a running block which serves the same purpose as an ordinary double sheave pulley block. Fig. 2 is an end view of same. Figs. 3 and 4 are detail views of rollers. Fig. 5 is a side view of a slightly modified construction of pulley block.

In carrying out my invention, as illustrated at Figs. 1 and 2, I make the cheeks *a* of the block of a somewhat semicircular shape or formation though they may be of any other convenient shape or formation, for the reception of one or more series of rollers *b* or their equivalent which are mounted on spindles *c* fitted in the cheeks *a*. The spindles *c* for supporting the rollers or their equivalent are arranged semicircularly in the cheeks *a* of the block to take the place of the working portion of the ordinary sheave, *i. e.* the part of same actually in contact with the rope or its equivalent *d*. When the block is used in lieu of the usual double sheave block two series of rollers *b* are used, as illustrated, each series being graduated or varied in diameter to such an extent as to prevent the ropes or their equivalent *d* fouling when in operation. When used in lieu of an ordinary triple sheave block three series of rollers *b* would be used.

With a pulley block as constructed under this invention, for use, for example, in connection with boat lowering gear, each series of rollers *b* fitted in the cheeks *a* of the block are arranged vertically one above the other and varied in size sufficiently to prevent the ropes or their equivalent *d* contacting or fouling when the gear is in operation. A pulley block constructed in this manner has the advantage that it requires less head room than the ordinary block, moreover, the two halves can be constructed, as shown, so that they can be brought directly into contact with each other, thereby saving space, while the lengths of rope or equivalent *d* hang downward in line with each other thereby preventing twisting of the tackle such as generally takes place when the ordinary double or triple pulley block is used.

In Figures 1, 2 and 3, the rollers *b* are secured to or made one with the spindle *c* which revolve in the cheeks *a* of the block while in Fig. 4, the spindle *c* is so made that the roller *b* revolves thereon, the ends of the spindle *c* being preferably squared or otherwise shaped or formed where they enter the cheeks *a* so that a turning movement is prevented therein.

In place of arranging each series of rollers *b* semicircularly, as shown at Figs. 1 and 2, each series may be arranged in a straight line of gradually increasing length, as illustrated at Fig. 5.

Having now fully described my invention, what I claim and desire to secure by Letters Patent is:

1. In a device of the character stated, a pair of blocks, one a standing block, and the other a running block, a plurality of rows of rollers arranged one above the other in each block, each roller being mounted on a separate and independent axis, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

2. In a device of the character stated, a pair of blocks, one a standing block and the other a running block, a plurality of rows of rollers arranged one above the other in each block and forming sheaves of different diameters, each roller being mounted on a separate and independent axis, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

3. In a device of the character stated, a

pair of blocks, one a standing block and the other a running block, a plurality of rows of rollers arranged one above the other in each block, each roller being of the same diameter and mounted on a separate and independent axis the rows of rollers forming sheaves of different diameters, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

4. In a device of the character stated, a pair of blocks, one a standing block and the other a running block, a plurality of rows of independently and separately mounted rollers arranged one above the other in curved rows in each block, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

5. In a device of the character stated, a pair of blocks, one a standing block and the other a running block, a plurality of rows of independently and separately mounted rollers arranged one above the other in curved rows in each block, each roller being of the same diameter and the rows of rollers forming sheaves of different diameters, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

6. In a device of the character stated, a pair of blocks, one a standing block and the other a running block, a plurality of concentric rows of independently and separately mounted rollers arranged one above the other in each block, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

7. In a device of the character stated, a pair of blocks, one a standing block and the other a running block, a plurality of concentric rows of independently and separately mounted rollers, arranged one above the other in each block, each roller being of the same diameter, and a rope attached at its one end to one block, and passing over the rows or rollers of both blocks.

8. In a device of the character stated, a pair of semi-circular blocks, one a standing block and the other a running block, a plurality of rows of rollers arranged one above the other in each block and forming sheaves of different diameters, each roller being mounted on a separate and independent axis, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

9. In a device of the character stated, a pair of semi-circular blocks, a plurality of rows of rollers arranged one above the other in each block, each roller being of the same diameter and mounted on a separate and independent axis, the rows of rollers forming sheaves of different diameters, and a rope attached at its one end to one block and passing over the rows of rollers of both blocks.

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

ROBERT BROWN.

Witnesses:
WILLIAM FLEMING,
WILLIAM CARRUTHERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."