(No Model.)

D. M. GARRETT

PULLEY BLOCK.

No. 297,128. Patented Apr. 22, 1884.

Fig. 1.

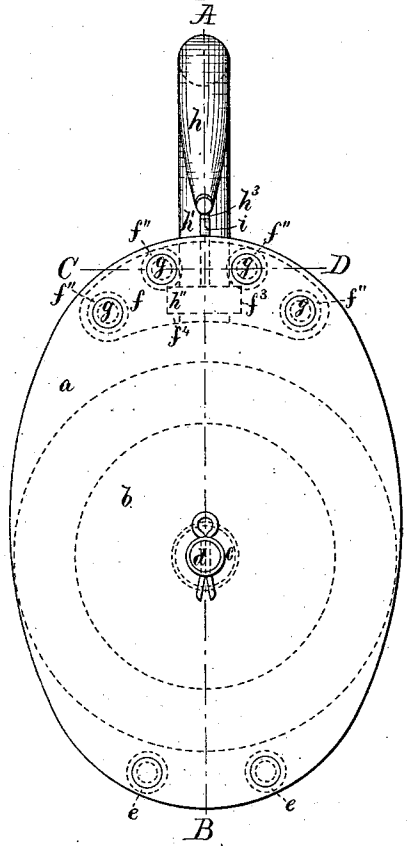


Fig. 3.

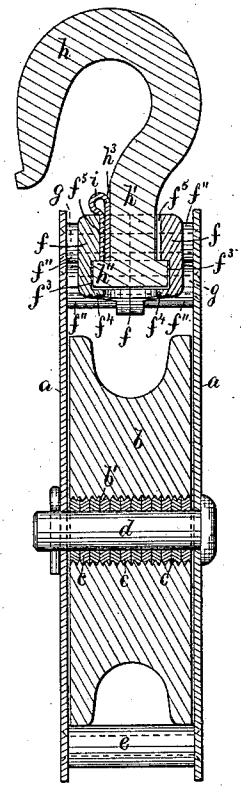


Fig. 5.

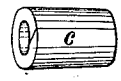


Fig. 2.

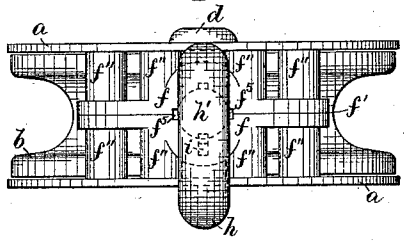
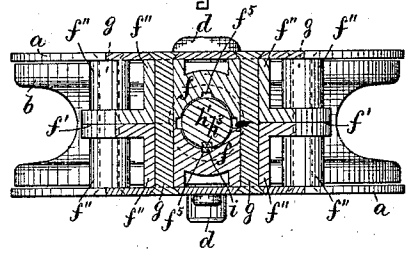


Fig. 4.



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UNITED STATES PATENT OFFICE.

DANIEL M. GARRETT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE WHITMAN & BARNES MANUFACTURING COMPANY, OF AKRON, OHIO.

PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 297,128, dated April 22, 1884.

Application filed January 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. GARRETT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pulley-Blocks; and I do hereby declare that the same are fully described in the following specification, and illustrated in the accompanying drawings.

This invention relates to improvements in pulley-blocks; and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a side elevation of the improved block. Fig. 2 represents a plan view of it. Fig. 3 represents a longitudinal section on the line A B shown in Fig. 1. Fig. 4 represents a horizontal section on the line C D shown in Fig. 1, and Fig. 5 represents a modified form of the rawhide bushing for the pulley.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a a represent the sides of the block, such sides being made of metal—cast, rolled, or forged—or of wood, as may be desired.

b represents the pulley, made of wood or metal, and provided centrally with a female screw-thread, *b'*, as shown in Fig. 3, into which is driven the rawhide washers *c c c*, the latter being cemented together and compressed into the central screw-threaded or corrugated recess in the pulley *b*, and adapted to serve as an anti-frictional bearing for the spindle *d*, that passes through the side pieces, *a a*, and central perforation in the rawhide bearing *c c*, as shown in said Fig. 3. I prefer to bore out or otherwise make the central perforation in the pulley *b* with a helical screw-thread, as above described, in the grooves of which the rawhide washers *c c* are forced; but it is not essential that a female screw-thread should be cut or made in said pulley *b*, as I may to equal advantage make the hole in the center of said pulley with a number of parallel annular grooves and projections, or provide the circumference of such perforation with a number of projections or equivalent device for retaining in place the cemented rawhide washers driven into such central perforation. The rawhide washers *c c* may be bored out or otherwise perforated before or after being driven into the central perforation of pulley *b*, for the reception of spindle *d*, as shown in Fig. 3.

In Fig. 5 is shown a modified form of the anti-frictional rawhide journal for spindle *d*, such modification consisting in molding or pressing a piece of rawhide into a cylindrical shape, which cylinder is afterward driven into the central perforation of pulley *b* as an equivalent for the cemented rawhide washers *c c c* shown in Fig. 3.

In their lower ends the side pieces, *a a*, are united at a proper distance apart by means of metal or wooden stays, or end pieces, *e e*, riveted or otherwise secured to the respective sides *a a* in any of the ordinary ways, as may be desirable.

The manner of securing the hook to the upper end of the block forms an important feature of my invention, and it is carried out as follows: The upper end piece that connects the sides *a a* is made in two halves, *f f*, united at the meeting-edge *f'*, as shown in Figs. 2 and 4, by means of rivets *g g g g*, passing through tubular projections *f'' f''* and the sides *a a*, and riveted on the outside of the latter, as shown. I prefer to make the ends *f f* with tubular projections *f''' f'''*, so as to make the said ends *f f* as light as possible, combined with proper strength.

h is the hook, and *h'* is its shank, terminating in its lower end as a head or annular projection, *h''*, that is forged in one solid piece with the shank *h'* of said hook, as shown in Fig. 3, and not provided with a loose head or collar riveted to it, as is common on ordinary kinds of blocks. That portion of the hook directly above the shank *h'* is of even size with it, and not provided with an enlargement or collar common on riveted hooks, and by this construction of the hook with its solid head *h''*, I am able to make it very strong and durable, and in this manner prevent any accident caused by the breaking of the ordinary riveted head or collar. The hook, as constructed, being without any collar or enlargement immediately above its shank, can be manufactured much cheaper than ordinary pulley-hooks. The hub

or central portion of each of the halves *f f* has an internal semi-annular groove or recess, f^3, adapted to receive the head *h''* of the hook, as shown in Fig. 3, such semi-annular grooves terminating below the head *h''* as semi-annular flanges f^4 f^4, that serve to prevent the hook-shank from moving vertically within its bearing.

It is often desirable to lock the hook to its block in such a manner as to prevent the shank of the hook from turning around in its bearing, and for this purpose I provide the hub of the halves *f f* with one or more internal vertical grooves, f^5, and I make one or more similar grooves, h^3, on the shank *h'* of the hook, as shown in Figs. 3 and 4, by means of which and a suitable locking-pin, *i*, inserted in one of the corresponding grooves, f^5 and h^3, the hook will be locked to the block and prevented from turning around in its bearing. As an equivalent locking device for the purpose above named, may be used a set-screw, passing through one of the sides of the block and having its inner end adapted to rest in a recess on the side of the shank of the hook, or in other equivalent manner, without departing from the essence of my invention.

What I wish to secure by Letters Patent and claim is—

1. The pulley *b*, having a central screw-threaded or equivalent perforation, *b'*, in combination with the perforated rawhide washers *c c*, cemented together and secured within the said perforation *b'*, in a manner substantially as herein set forth and described.

2. In a pulley-block, the upper end piece made in two halves, *f f*, secured to sides *a a*, and having semi-annular internal grooves, f^3 f^3, and flanges f^4 f^4, adapted to retain in position the shank *h'* and head *h''* of the hook *h*, as set forth.

3. In a pulley-block, the hook *h*, its shank *h'*, and lower annular head, *h''*, all made in one continuous solid piece, combined with an end piece for securing such hook, said end piece being made in two halves, *f f*, riveted to sides *a a*, as set forth.

4. The end piece for holding the hook in a pulley-block, as described, made in two halves, *f f*, provided with tubular projections *f'' f''*, and secured to sides *a a* by means of rivets *g g*, as and for the purpose set forth.

5. In a pulley-block, one or more grooves, f^5 h^3, in the respective bearing and shank for the hook, combined with detachable locking-pin *i*, or equivalent locking device for locking the hook to its block, as and for the purpose set forth.

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

DANIEL M. GARRETT.

Witnesses:

ALBAN ANDRÉN,

MICHAEL B. GILBRIDE.