W. & S. G. Coleman,

Tackle Block,

No. 8,709, Patented Feb. 3, 1852.

Fig. 1.

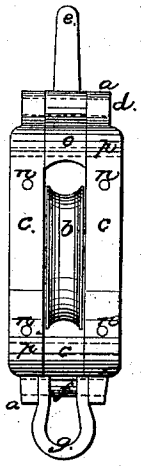


Fig. 2.

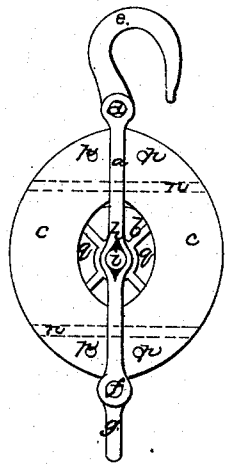


Fig. 3.

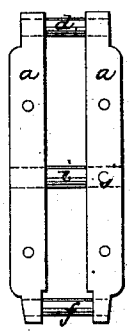
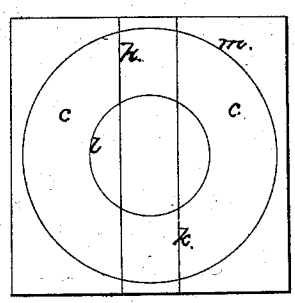


Fig. 4.



UNITED STATES PATENT OFFICE.

WM. COLEMAN AND STEP. G. COLEMAN, OF PROVIDENCE, RHODE ISLAND.

SHIP'S BLOCK.

Specification of Letters Patent No. 8,709, dated February 3, 1852.

To all whom it may concern:

Be it known that we, WILLIAM COLEMAN and STEPHEN G. COLEMAN, of Providence, Rhode Island, have invented certain new and useful Improvements in Ships' Blocks, and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a side elevation of a ship's block on our improved plan; Fig. 2, a front elevation; Fig. 3, a separate elevation of the metal strapping; and, Fig. 4, separate views of the wooden checks.

The same letters indicate like parts in all the figures.

In making ships' blocks heretofore it has been the almost invariable practice to strengthen the block, and provide it with the means of attachment by means of a metal strap, surrounding the checks of the block from top to bottom, and properly adapted to receive the hook at top, the loop or hook at bottom and the sheave pin in the center. These metal straps are usually fitted to and partly let into grooves made in the checks of the block. This mode has long since been recognized as objectionable for the reason that it is deficient in strength for the sheave pin is only supported by the metal strap at considerable distances from the sides of the sheave and hence must be made of great thickness which adds greatly to the weight of the block and to the friction of the sheave on its pin. And under all circumstances no matter how thick the strap may be made, as it surrounds the block, and the line of draft is in a plane passing through the center of the sheave and hook, the force applied tends constantly to draw in the sides of the strap and to force the checks of the block inward against, and hence to bind the sheave and prevent it from turning or greatly increase the friction. And besides all this, as the straps project outside of the block the angles thereof present sharp edges against which the rigging of ships will constantly rub and will be thereby much worn. On account of these manifest defects, blocks have been made with the straps inside of the checks so as to bring the strap on each side of and directly in contact with the sides of the sheave. This avoids many of the objections above pointed out, but at the same time it is also very objectionable. The straps being inside of the checks must be made very thin and be entirely let into grooves made on the inside of the checks. The fitting of these straps to the inside of the checks is attended with much labor and expense, and the required thickness of metal strap to give the required strength cannot be employed without destroying the strength of the block and giving too much weight. And besides all the above enumerated objections, neither of the modes heretofore employed present the advantages of giving access to the sheave for cleaning and oiling without removing the sheave and pin. Nor do they admit of inserting a check pin to stop the sheave from turning, which is often desirable.

The object of our invention is to avoid all the objections to the modes of construction heretofore practised and at the same time to present the advantages of giving access to the sheave for oiling and cleaning, and for the insertion of a check or stop pin.

The nature of our invention consists in making the metal straps for ships' blocks with the metal thereof placed edgewise, that is with its greatest thickness in the plane of the axis of the sheave pin, and swelled on each side of the hole for the insertion of the sheave pin and extending entirely through the length and thickness of the cheeks of the block or nearly so, and attaching the cheeks thereto in segments, the ends of the said straps being properly connected together or with hooks or staples as may be desired, whereby the straps can be made of the requisite strength with less weight of metal than by any other plan heretofore known, the sheave pin is supported by the metal straps at or near the sides of the sheave, and the sheave pin receives a longer support to prevent bending, while the pull or draft is in straight lines through the length of the straps. And our invention also consists in making the cheeks of the block to be attached to the broad faces of the metal straps in segments of circles of greater diameter than the block and with openings around that part of the straps through which the sheave pin passes, whereby we are enabled to make ships' block of greater strength and durability, with less cost of material and labor, than heretofore, as blocks of less size can be used, and the elongated or elliptical form is given by turning in the ordinary lathe—while at the same time access is given to the

inside for cleaning the sheave and oiling the pin.

In the accompanying drawings *a a* represent the two metal straps which are made with their two inner edges parallel, and so far apart as to admit between the sheave *b*. The width of these straps, in the direction of the plane of the axis of the pin is equal to the thickness of the cheeks *c*, *c*, and their thickness considerably less than their width but the extent of the thickness is at the discretion of the constructor. At the ends and in the middle the straps are swelled or made thicker and pierced with holes to receive appropriate pins—at the upper end for the pin *d*, which passes through to secure them together, and to the hook *e*, at the lower end for the pin *f*, to secure them together and to the staple *g*, and at *h*, to receive the sheave pin *i*, which is secured in place by a pin *j*, that passes through the strap and sheave pin *i*.

The cheeks *c*, *c*, are formed each of two segments of circles greater than the diameter of the block and made in the following manner: Two blocks are taken and planed each on one edge *k k*. They are then chucked in a lathe with a piece of wood of the required thickness interposed, and a ring of the required diameter is then turned in manner well known to turners. In this way, two segments *c*, *c*, of a circle are produced with an inner and an outer circumference *l*, and *m*. The two faces *k*, *k*, of these two segments are then placed against the two wide faces of one of the metal straps and there secured by two rivets *n*, *n*, passing entirely through the two segments and the metal strap. Two other segments made in like manner are also secured in the same way to the other straps. Two blocks *o*, *o*, slightly thicker than the sheave, are then inserted at each end between the two cheeks and the two straps and the whole secured together by four rivets *p*, *p*, *p*, *p*, that pass each through two segments and one block *o*.

In this way the whole is secured together, the parts are made at comparatively little expense, and when united present a block of greater strength and durability, and less weight than blocks made in any other known manner.

The apertures *q*, *q*, left between the inner periphery of the segments and the strap, give free access to the sheave for cleaning and oiling and at the same time admit of inserting a check pin between the arms of the sheave whenever it is desired to check or stop the sheave.

What we claim as our invention and desire to secure by Letters Patent is—

1. The method of making ships' blocks by placing the metal straps edgewise, that is with its greatest breadth in the direction of the plane of the axis of the sheaves, and extending from the sides of the sheave to the outside of the cheeks substantially as specified, when this is combined with the attachment of the cheeks in segments to the wide faces of the straps, substantially as specified.

2. And we also claim making the cheeks of ships' blocks in segments of a ring, substantially as specified, whereby the elongated form is obtained by simply turning in a common lathe while apertures are left each side of the straps to give admission for cleaning and oiling, and for checking or stopping the sheave, as fully set forth above.

WILLIAM COLEMAN.
STEPHEN G. COLEMAN.

Witnesses:
WILLIAM KNOWLES,
SAML. W. PECKHAM.