J. W. Norcross,

Casting Tackle Blocks.

No. 47,656. Patented May 9, 1865.

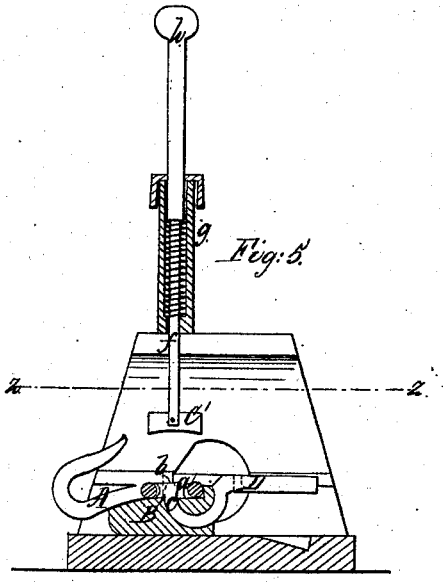


Fig. 1.

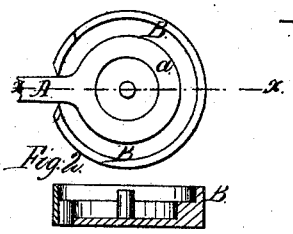


Fig. 2.

Fig. 3.

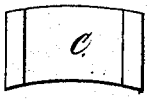


Fig. 4.

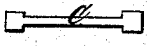


Fig. 6.

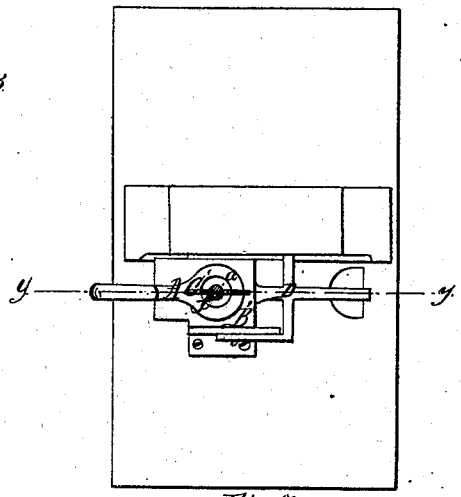


Fig. 8.

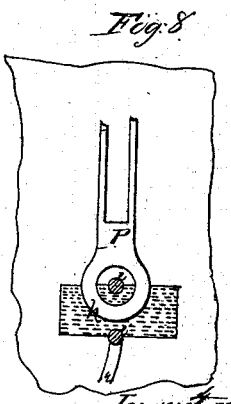
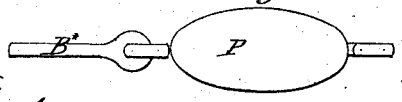


Fig. 7.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH W. NORCROSS, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN CASTING TACKLE-BLOCKS.

Specification forming part of Letters Patent No. **47,656**, dated May 9, 1865.

To all whom it may concern:

Be it known that I, JOSEPH W. NORCROSS, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Casting Tackle-Blocks, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of one part of the core-box. Fig. 2 is a vertical central section of the same, the plane of section being indicated by the line *x x*, Fig. 1. Fig. 3 is a face view of a scraper used in conjunction with the core-box. Fig. 4 is an end view of the same. Fig. 5 is a transverse vertical section of the second part of the core-box, the line *y y*, Fig. 6, indicating the plane of section. Fig. 6 is a horizontal section of the same, the plane of section being indicated by the line *z z*, Fig. 5. Fig. 7 is a side elevation of the pattern which I use in casting tackle-blocks, with the core-print for the hook, if the hook is cast separate. Fig. 8 is an edge view of the same, showing the core and patterns in position, when the hook and tackle-blocks are to be cast simultaneously.

Similar letters of reference indicate like parts.

The principal object of this invention is to cast the eye of a tackle-block into the eye of a hook in such a manner that the two cannot possibly be separated, neither by design nor by accident, except by cutting or splitting open either of the eyes. The invention, however, may be applied for the purpose of casting two rings together, or for other similar purposes.

In casting a tackle-block so that its eye will pass through the eye of a hook the *modus operandi* is as follows: The eye *a* of the hook A, which in this case is ready cast and finished, is first placed into the core-box B, Fig. 1, with the hook pointing downward, and the core-box is filled with sand, or any other suitable material, the surplus being scraped off by the concave edge of the scraper C, Figs. 3 and 4. In raising the eye carefully from this core-box a small quantity of sand adheres to it, filling up the space which exists under the inner edge of the eye, if the same is placed down on a flat surface. The hook is now turned up, and its eye placed in the core-box B′, Figs. 5 and 6, the space *b* under the inner edge of said eye, Fig. 5, being filled up by the sand adhering to it from the previous operation. Said core-box is provided with a movable semicircular center-pin, *c*, which is secured to a hinged lever, D, so that it can be raised above or depressed below the inner surface of the core-box. After the eye of the hook has been adjusted in this core box, the center-pin is raised to its full height, and the annular space existing between the inner surface of the eye is filled with sand, or other suitable material, the surplus being scraped off by the concave edge of a scraper, C′, which is secured to a spring-bar, *f*, as clearly shown in Fig. 5. This spring-bar is guided in a suitable standard, *g*, above the core-box, and a handle, *h*, on its top end serves to depress the same until the edge of the scraper strikes the body of the eye, and to turn it round so that the surplus sand is removed. The center-pin is now carefully withdrawn, leaving in the sand contained in the eye *a* a circular hole corresponding to a section of the eye of the tackle-block to be cast. Thus prepared the hook is carefully removed from the core-box B′ and placed in the space left in the mold by the core-print B*, Fig. 7, which of course corresponds precisely to the form of the hook A. This core-print is firmly connected to the pattern P of the tackle-block, which is molded one-half in the lower and one-half in the upper flask. The metal run into the mold or cavity left in the sand after the pattern P has been removed passes through the hole made by the center-pin *c* of the core-box B′, and forms an eye which interlocks with the eye of the hook, as indicated in Fig. 8. If both parts, the tackle-block and the hook, are to be cast simultaneously, a core must be prepared, such as shown in Fig. 8. This core may be made in two halves, each half being provided with an internal semicircular groove, *h*, to correspond to the eye of the tackle-block, and with an external groove, *i*, to represent the

eye of the hook. In this case the pattern P must be provided with a core-print corresponding in form to the core shown in Fig. 8, and after the pattern has been drawn out of the sand the core is adjusted in the cavity left by the core-print and both parts, the block and the hook, are cast simultaneously.

It is obvious that this improvement is applicable to casting two rings or eyes of any shape one within the other; but I intend to use my invention principally for the purpose hereinbefore stated, and it is of peculiar value for tackle-blocks, so as to dispense with the welding in of the hooks.

I claim as new and desire to secure by Letters Patent—

The within-described apparatus for forming the mold for casting the eyes of a tackle-block and the eye of a hook or any other two eyes or rings together, or any equivalent means, constructed and operating substantially as herein set forth.

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