№ 51,742.

Jos. W. Norcross' Impt in Hoisting Tackle.

Patented Dec. 26, 1865.

Fig. 1.

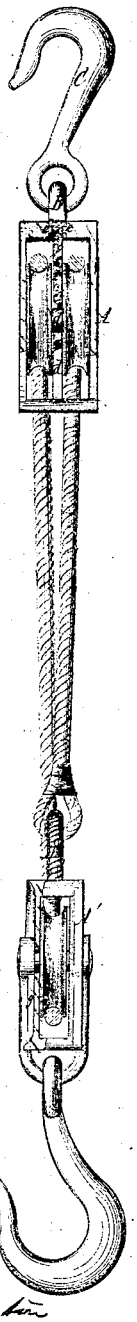


Fig. 2.

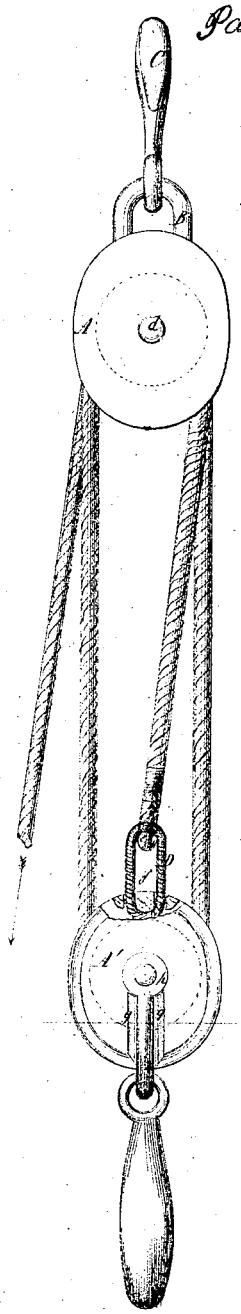


Fig. 3.

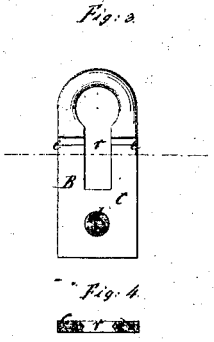
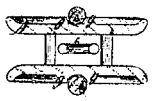


Fig. 4.

Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

J. W. NORCROSS, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN HOISTING-TACKLE.

Specification forming part of Letters Patent No. 51,742, dated December 26, 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 Hoisting-Tackle; 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 sectional side elevation of this invention. Fig. 2 is a sectional front elevation of the same. Fig. 3 is a detached side elevation of the clevis, which is cast into the double block. Fig. 4 is a horizontal section of the same, the line *x x*, Fig. 3, indicating the plane of section. Fig. 5 is a horizontal section of the single block, taken in the plane indicated by the line *y y*, Fig 2.

Similar letters of reference indicate like parts.

This invention consists, first, in the construction of a cast-metal block with a suitable wrought-iron or steel hook and clevis connection in such a manner that a cheap and durable block is obtained, the hook or clevis of which is not liable to give way before any of the other parts; also, in forming in the lower end of the single block a concave seat for the becket in such a manner that the hoisting-rope can be secured quite close to the sheave, and the largest possible amount of hoisting-room is obtained; finally, in the arrangement of ribs against the ends of which the bosses on the ends of the clevis rests, and thus relieve the center pin partially or wholly of the strain to which the pin is exposed.

Heretofore cast or malleable iron has been employed in the manufacture of small blocks only because the hooks and eyes or other parts thicker than a quarter of an inch cannot very well be annealed, and the blocks could not be increased beyond a certain size, not because the different parts of the shell of the block could not be made strong enough, (that might have been accomplished without increasing the thickness of the block beyond proper limits,) but because the hook and clevis, on account of their greater thickness, could not be annealed, and they would consequently be too weak to resist the required pressure. This difficulty is obviated by my present invention, which relates to a block, A, to which the clevis B is secured by casting the same as shown in Figs. 1, 3, and 4, said clevis extending down flush with the central partition, *d*, of the double block, and made to straddle or to catch over the center pin, *d*, and, if desired, said clevis may be provided with recesses *e*, into which the liquid metal runs during the process of casting, and by these means is firmly retained; or, instead of the recesses, the clevis may be provided with a head or heads, which will produce the same effect. In order to prevent the clevis from working loose sidewise, it is provided with V-shaped edges, as shown in Fig. 4. The hook C and the clevis B can thus be made of wrought-iron or steel and of any desired strength, while the body of the block is cast of malleable iron or any other suitable material. This method of securing the clevis refers to double blocks only.

With single blocks, such as shown at A′, the clevis has to be secured to the center pin, and in order to relieve said pin from a portion of the strain the cheeks of the block are provided with ribs *g* on their outer surfaces, which lie parallel with the shanks of the clevis and prevent it from swaying to and fro, and which come close up to the bosses *h* on the ends of the shanks, as shown particularly in Fig. 2 of the drawings. This block has a seat, for the becket D in its end, formed in castings, as shown at *f*, so that the becket comes as close to the center of the sheave as possible, and the largest possible hoisting-room is obtained.

By this arrangement cast-iron blocks can be made of any desired capacity and much lighter than wooden blocks of equal strength, and a hoisting-tackle is obtained which is cheap, easily handled, and very durable.

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

1. The clevis B, constructed substantially as described, and combined with the cast-metal block A and axis-pin *d*, as explained.

2. Forming the becket-seat into the end of the block, as and for the purpose specified.

3. The ribs *g* on the cheeks of the block A′, in combination with the bosses *h* on the ends of the shanks of the eye, constructed and operating substantially as and for the purpose set forth.

The above specification of my invention signed by me this 22d day of August, 1865.

J. W. NORCROSS.

Witnesses:

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C. L. TOPLIFF.