Waterman & Russell,

Tackle Block.

No. 3,421. Patented Jan. 31, 1844.

Fig. 1.

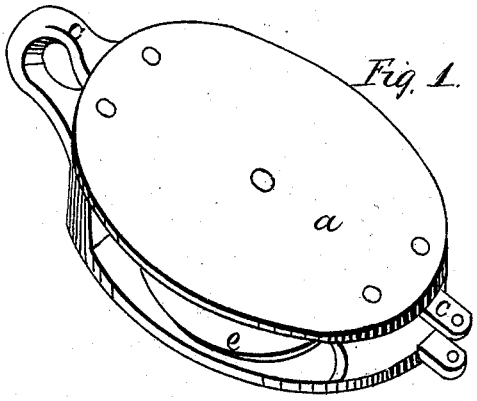


Fig. 3.

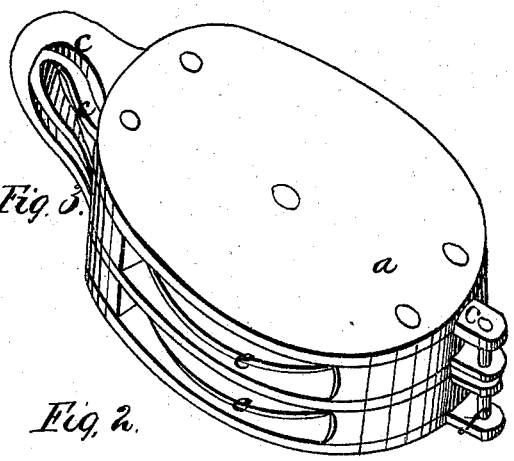
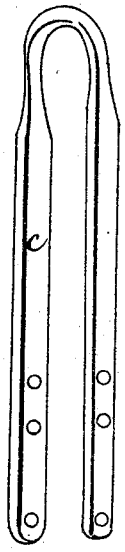
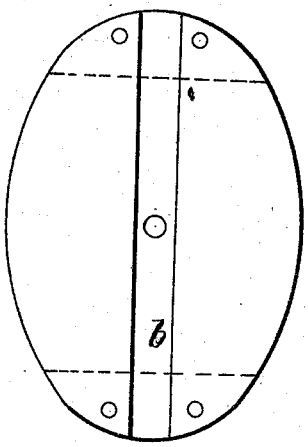
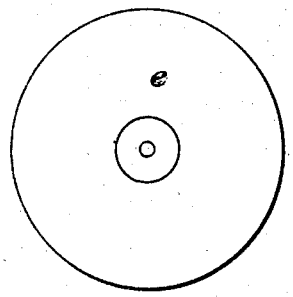


Fig. 2.







UNITED STATES PATENT OFFICE.

S. WATERMAN, OF GREENWICH, CONNECTICUT, AND I. D. RUSSELL, OF NEW YORK, N. Y.

SHIP'S BLOCK.

Specification of Letters Patent No. 3,421, dated January 31, 1844.

To all whom it may concern:

Be it known that we, STEPHEN WATERMAN, of Greenwich, in the county of Fairfield and State of Connecticut, and ISAAC D. RUSSELL, of the city, county, and State of New York, have invented a new and useful Improvement in Ships' Blocks; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a block complete; Fig. 2, parts detached; Fig. 3, a double block.

The letters are to designate the same parts in all the figures.

The nature of our invention consists in putting the iron strap through on the inside of the block on each side of the sheave and brings the bearing of the sheave close to the strap by means of which a smaller pin can be used and much friction avoided.

The construction is as follows: The shells (*a*) of the block are of any suitable form now in common use, the inner faces of them having a groove (*b*) cut in them running their whole length through the center, deep enough to receive the straps their whole thickness. The strap (*c*) is formed of a flat bar of iron bent into a loop at the center in form like a letter **U**, the two ends running straight and parallel. The curved part is rounded in its cross section to serve as a loop to the block. Through the center of the length of each of the straight sides of the strap a hole is made, and when the shells are put together and bolted at each end a sufficient distance apart to admit the sheave the strap is passed down the grooves above described; a hole is made through the shell at the center which corresponds with those through the strap; the sheave (*e*) made in the most approved way is then inserted and a pin put in and fastened on which said sheave turns; the pin having its bearing in the strap only and close to the sheave, is made smaller than usual and the straps draw straighter.

The ends of the straps can project through the end of the block opposite the loop and a pin (*f*) passes through it for a becket, but in small blocks this is not done, and the strap will only reach far as the center for the pin to pass through.

In double blocks we employ two sets of straps, one inside the other; the loop of the inner one, coming up under the outside one. This is shown in Fig. 3. In treble or quadruple blocks, three or four straps are combined in a similar way. Blocks made in this way are strong and produce less friction than any others now in use, and by presenting a smooth shell outside, prevent the usual chafing of the rigging occasioned by straps or ropes projecting from them outside; the block is also freed from the danger of splitting since the pin through the sheave does not bear upon the wood at all, and no strain comes upon the sheave.

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

Constructing the blocks in the manner described with the straps passing down through the shell on the inside close to the sheaves in the manner and for the purpose herein described.

STEPHEN WATERMAN.
ISAAC D. RUSSELL.

Witnesses to signature of S. Waterman:
H. A. PECK,
TIMOTHY P. BURGES.

Witnesses to signature of I. D. Russell:
GEO. B. SHERWOOD,
LEWIS BENTEN.