

(No Model.)

H. C. JOHNSON.
TACKLE BLOCK.

No. 492,496.

Patented Feb. 28, 1893.

FIG. 1.

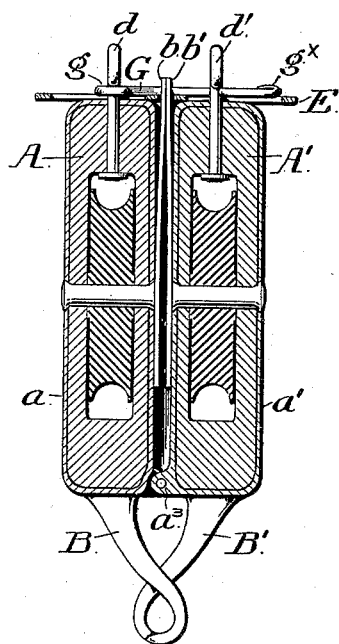


FIG. 2.

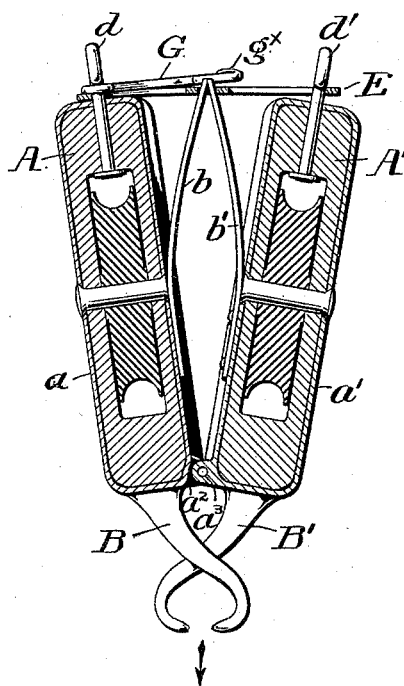
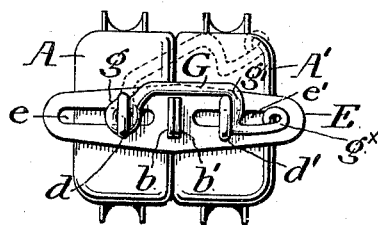


FIG. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HILARY C. JOHNSON, OF MEDIA, PENNSYLVANIA.

TACKLE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 492,496, dated February 28, 1893.

Application filed April 5, 1892. Serial No. 427,808. (No model.)

To all whom it may concern:

Be it known that I, HILARY C. JOHNSON, a citizen of the United States, residing at Media, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Tackle-Blocks, of which the following is a specification.

In the use of ropes and chains provided with ordinary forms of hooks in the support and lifting and lowering of heavy objects, the weight of the object keeps the rope or chain taut and renders it a matter of difficulty to detach the hook from the object with which it is engaged, and usually slack must be made in the rope or chain to allow of the necessary inclination of the hook to disengage it from said object. This difficulty has been especially pronounced in cases where it is desired to disengage the hook from an object while the latter is suspended clear of the ground and when therefore there is no opportunity for creating the necessary slack, as is the case, for instance, in dropping anchors from their supports and lowering life boats from their davits.

It is the object of my invention to provide a device adapted for use instead of the ordinary form of hook and which, while adapted to be readily and securely engaged with an object to be supported, may yet be expeditiously and certainly disengaged therefrom.

A further object of the invention is to combine in a single compact structure a grip of the novel character invented by me, with the pulley blocks employed in lifting and lowering the load engaged by the grip.

A preferred form of a convenient embodiment of my invention is represented in the accompanying drawings and hereinafter described, the particular subject matter claimed as novel being hereinafter definitely specified.

In the accompanying drawings, Figure 1 is a vertical edge elevation of my improved combined automatic grip and pulley block in their closed position, the blocks being shown in vertical section,—and Fig. 2 is a similar view, the parts being shown in open position. Fig. 3 is a top plan view of the blocks when in their closed position.

In the drawings, A A' are two single pulley blocks of any ordinary construction, and

made of any preferred material, those represented being assumed to be of wood and vertically circumscribed by ordinary metal straps designated *a a'* respectively. From the lower ends of the respective blocks depend the rigid prongs, horns or counterpart members B B' of a pair of tongs, each preferably of a somewhat sinuous form and having its free end shaped to constitute a semicircular return bend. The blocks in the construction herein represented and described constitute the respective shanks, while the prongs constitute the respective jaws, of the two members of a pair of grip tongs. It is of course apparent that the blocks might be dispensed with and the device still be useful as a gripping device. The two members, however formed, are to be hingedly connected in any desired manner. In the construction illustrated a simple and inexpensive expedient is to provide the straps of the respective blocks with matched apertured lugs *a² a³* through the apertures of which a bolt or pin passes to secure the parts together. The jaws of the grip cross each other intermediately of their length so that the opening and closing of the shanks occasions the opening and closing of the jaws respectively. The upper ends of the blocks are respectively equipped with the eye bolts *d d'*.

The preferred embodiment of my invention further comprehends, first, means to limit the range of separation of the blocks or shanks; second, means in the nature of springs which tend to force apart said shanks and consequently the jaws of the grip; and, third, devices by which said shanks may be secured in closed position against the stress of said spring.

The device which I prefer to employ to limit the range of separation of the blocks or shanks is a plate E of metal, of suitable dimensions, embodying longitudinal slots *ee'*, one in each of its respective ends, and a transverse slot at its center. This plate lies across the upper ends of the blocks and the eye bolts of the latter take into the slots *ee'* respectively. In the separation of the blocks the eye bolts travel along the slots, and when they encounter the outer extremities of the said slots they and the blocks to which they are connected are of course prevented from further

separation. The means which I prefer to employ to force apart said shanks or blocks consist of a band or plate spring mounted between said blocks. In the drawings I show
 5 two spring bands or plates *b b'* one secured to the inner face of each of the respective blocks and respectively opposite to each other. Each band is secured as to its lower portion to the block, and it is, as to its body and upper
 10 end, angled or curved away from the block to which it is secured, the upper extremities of both bands being conveniently entered in the central slot in the plate E.

The means which I prefer to employ to temporarily secure the blocks or shanks together in closed position consist of a lock hook G, one end, *g*, of which is hingedly engaged with the eye bolt *d*, and the body of which, at a distance from the end *g* equal to the distance
 20 from one eye bolt to the other in the closed position of the blocks,—embodies a shoulder *g'* adapted, when the blocks are closed, to be engaged behind or with the eye bolt *d'*, whereby the eye bolts and consequently the
 25 blocks and jaws are held in fixed relationship.

g^x is an outwardly extending handle or trip by which the manual disengagement of the hook G from the eye bolt *d'* may be readily
 30 and conveniently effected.

The operation of the device will be readily understood. The rope or chain by which the lifted device is supported or elevated or lowered is rove through the blocks described and
 35 of course connected with any overhead pulley or tackle employed. One of the jaws B B' is engaged with the object and the blocks or shanks are forced together against the stress of the spring (at the same time of course closing the jaws) and are locked by the hook
 40 G. The points or free ends of the jaws preferably slightly overlap when in closed position. The device when in the closed position so far as the blocks are concerned operates in the manner usual with, and has all the advantages incident to, double blocks of the ordinary construction, their additional function
 45 of acting as shanks for a grip in no wise interfering with their operation as blocks. When it is desired to drop the load sustained
 50 by the jaws the hook G is manually withdrawn from engagement with the eye bolt *d'* whereupon the band springs instantly force the shanks or blocks, and consequently the jaws
 55 of the grip, apart, with the result that the said jaws and the object are instantly disen-

gaged from each other and the latter is free to drop clear of the grip.

My improved device although useful in connection with all classes of lifting mechanism, 60 and to all classes of objects to be lifted, is of especial utility in connection with the launching of boats from the davits of a vessel and to the dropping of anchors, its especial utility in connection with dropping of boats being due 65 to the fact that inasmuch as the disengagement occupies but a moment, said disengagement may be made at such time that advantage may be taken of a favorable sea whereby the danger of lowering a boat upon a wave, or 70 upon a sea about to break against the vessel and which would carry the boat with it against the vessel may be avoided. A further advantage in this connection is, that in the case of lifeboats the lowering of which in order to be 75 of avail must be as speedy as possible, no time is lost in detaching the boat.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In combination, two pulley blocks connected side by side by a hinge situated at their lower ends, two prongs or jaws depending one from each of said blocks, a spring bearing against and tending to separate said blocks, eye bolts mounted one in each of said 85 blocks, a slotted plate in the slots of which said eye bolts are entered, and a hook mounted upon one of the blocks and adapted to engage with an eye or other device mounted upon the other block, substantially as set forth. 90

2. In combination, two pulley blocks each respectively circumscribed vertically by a metal band or strap, and hingedly connected side by side by a pivot passing through suitably apertured lugs formed in said bands at 95 the lower ends of the blocks, a spring bearing against both blocks and tending to separate them, eye bolts mounted one in each of the said blocks, a plate embodying recesses or slots in which said eye bolts are entered, and 100 a hook mounted upon one of the blocks and adapted to engage with an eye bolt or other device mounted upon the other block, substantially as set forth.

In testimony that I claim the foregoing as 105 my invention I have hereunto signed my name this 10th day of March, A. D. 1892.

HILARY C. JOHNSON.

In presence of—

F. NORMAN DIXON,
 R. M. RUSSELL.