

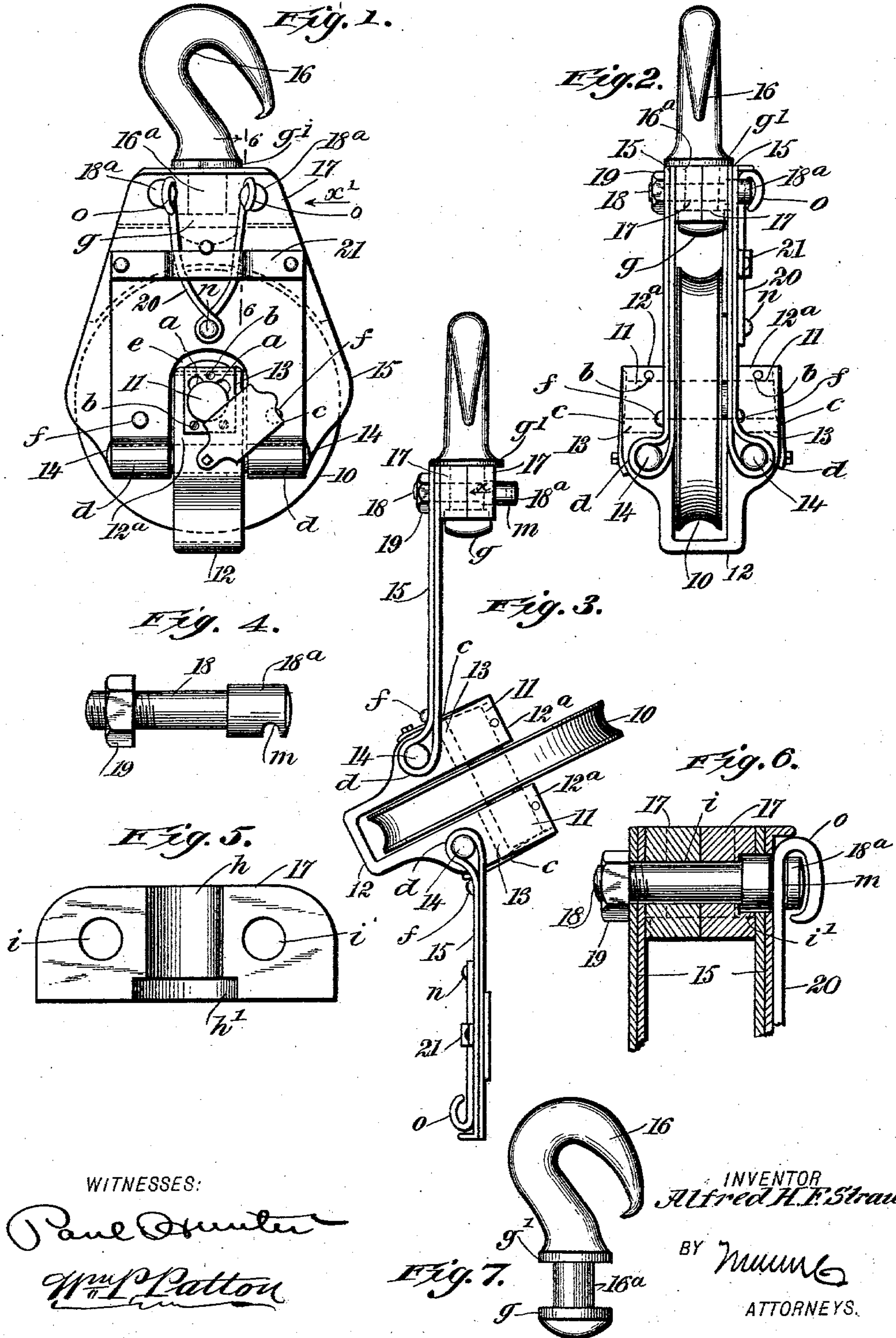
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TACKLE BLOCK.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## TACKLE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 720,984, dated February 17, 1903.

Application filed October 9, 1902. Serial No. 126,479. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED H. F. STRAUB, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Tackle-Block, of which the following is a full, clear, and exact description.

This invention relates to tackle-blocks for hoisting or pulling rigging, and more particularly to a class of tackle-blocks having a single sheave.

The object of my invention is to provide novel simple details of construction for a device of the character indicated which afford a light, strong, and durable sheave-block that is adapted for general service and allow of convenient lubrication of the working parts, as well as their disconnection from each other when repairs are necessary.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the improved tackle-block. Fig. 2 is an edge view of the same seen in the direction of arrow  $x'$  in Fig. 1. Fig. 3 is an edge view of the improvement, showing some parts of the tackle-block disconnected. Fig. 4 is an enlarged side view of a novel keeper-bolt employed. Fig. 5 is an enlarged side view of one half-section of a two-part swivel-box employed, seen in direction of arrow  $x$  in Fig. 3. Fig. 6 is an enlarged transverse sectional view substantially on the line 6 6 in Fig. 1, and Fig. 7 is a side view of the swivel-hook employed.

The sheave-wheel 10 is grooved peripherally, and at its center the similar trunnions 11 project oppositely in axial alignment, providing journals for the wheel. An essentially U-shaped yoke 12 receives the sheave-wheel 10 loosely between its spaced members 12<sup>a</sup>. In each member 12<sup>a</sup>, near its free end, a rectangular opening is formed transversely, wherein are respectively held the similar bearing-boxes 13.

Each box 13 is bored transversely to loosely receive the trunnions 11, and the boxes 13

are preferably recessed in their upper sides to produce receptacles therein for any suitable lubricant, that may be readily introduced, as the ends of these recesses  $a$  are freely exposed at the outer ends of the boxes in which they are formed.

Each box is held in place within the yoke members 12<sup>a</sup> by pins or screws, as indicated at  $b$  in Figs. 1 and 2, and to prevent escape of lubricating material from the recesses  $a$  a cover-plate  $c$  is pivoted or otherwise held on a respective yoke member 12<sup>a</sup>, so that these covers may be adjusted to bear upon the outer ends of the boxes 13, and thus close the recesses therein.

In the side members 12<sup>a</sup> of the yoke 12 below each box 13 and equally removed therefrom two similar hanger-shafts 14 are secured, so as to project an equal distance from the yoke members 12<sup>a</sup>, the bodies of the shafts being thus arranged parallel with each other and with the sides of the sheave-wheel 10, the projecting portions of the shafts 14 serving as trunnions. Two like hanger-plates 15 are disposed at opposite sides of the sheave-wheel 10, and preferably each hanger-plate is formed of a properly-shaped blank of sheet metal folded at its longitudinal center, and at the folded end a tubular loop is produced, as shown at  $d$ .

A slot or opening  $e$  is formed at the transverse center of each hanger-plate 15, extending upwardly from the tubular loop  $d$ , that is thus bisected, and the tubular formations  $d$  on each hanger-plate receive the trunnions on the respective shafts 14, which engagement of parts serves to dispose the hanger-plates 15 at opposite sides of the sheave-wheel 10, as shown in Fig. 2, the yoke 12 occupying the opposite slots  $e$ , as represented in Fig. 1.

The lapped portions of each hanger-plate 15 have their close contact insured by the insertion of rivets  $f$  near the tubular formations  $d$ .

A swivel-hook 16 is provided for the tackle-block and, as shown in Fig. 7, consists of a hook member of the usual form that extends from a cylindrical shank 16<sup>a</sup>, formed as a journal, the length of which is defined by the collars  $g g'$ , respectively produced at the lower and upper ends of said journal.

Two half-sections 17 when held together



flatwise provide a box for the hook 16, each box-section having a concave recess *h* (shown in Fig. 5) formed in one side thereof, and when these recesses are directly opposed to each other by an enforced contact of the half-sections a true cylindrical bore is afforded, having proper diameter to loosely receive the journal 16<sup>a</sup> on the hook 16, a counterbore *h'* being formed at the lower end of this bore for the accommodation of the collar *g* at the lower end of the journal 16<sup>a</sup>.

At each side of the longitudinally-central bore *h* in the two-part box a perforation is formed in the body of each box-section 17, these transverse perforations *i* being respectively alined with perforations formed in the upper portions of the hanger-plates 15 when the two-part box is introduced between said portions of the hanger-plates.

The box-sections 17 are secured in place between the hanger-plates 15 by two bolts 18, these bolts each having a cylindrical body that fits neatly in one of the alined transverse perforations *i*, that extend through the hanger-plates and the intervening box-sections 17.

A cylindrical enlargement 18<sup>a</sup> is formed on one end of each bolt 18, and a counterbore *i'* is produced in each bolt-hole *i*, which extends through one hanger-plate 15 and partly through the adjacent box-sections 17, said perforations *i* and counterbores *i'* each receiving a respective bolt 18 and cylindrical head 18<sup>a</sup> when the parts of the device are assembled.

A screw-thread is formed on the end of each bolt 18 opposite the head thereon, and when the bolts are in place these threaded ends extend beyond the exterior of the hanger-plate through which said bolt passes, and a nut 19 is screwed thereon.

As the head 18<sup>a</sup> of each bolt seats in the bottom of a respective counterbore *i'*, it will be seen that a screwed adjustment of the nuts 19 on the threaded ends of the bolts 18 will clamp the box-sections 17 upon the hanger-plate 15, whereon the nuts bear.

The heads 18<sup>a</sup> of the bolts 18 project a sufficient length outside of the hanger-plate 15, through which they pass, to permit the formation of a transverse groove *m* in each head near its outer end, as shown in Figs. 4 and 6.

A forked spring 20 is furnished as a keeper to bear upon the outer surface of the hanger-plate 15, through which the heads 18<sup>a</sup> of the bolts 18 pass, and it is to be understood that the counterbored orifices in the hanger-plate occupied by the heads 18<sup>a</sup> are of such a diameter as will allow the hanger-plate to be rocked upwardly into contact with the box-section 17, upon which the heads 18<sup>a</sup> bear, and, along with the nuts 19, hold the two box-sections 17 clamped upon the other hanger-plate.

The keeper-spring 20 is held at its looped end loosely in place on the hanger-plate 15 by a headed stud *n*, that projects from the hanger-plate below a clip-plate 21, transversely secured on the hanger-plate below the heads 18<sup>a</sup> of the bolts 18, said clip-plate being

bent outwardly at and near its central portion to provide a channel or slot between it and the hanger-plate, this channel loosely receiving the keeper-spring, which at the ends of its resilient limbs is seated in the grooves *m*, that are so relatively disposed by turning the heads 18<sup>a</sup> as to locate the grooves respectively opposite said spring-limbs, as shown in the drawings.

On the end of each limb of the keeper-spring 20 a loop *o* is formed, these loops projecting outward, so as to provide finger-holds, that when manually compressed will remove the ends of the keeper-spring from the grooves *m*, and thus release the hanger-plate through which the bolt-heads 18<sup>a</sup> pass when said plate is rocked away from said bolt-heads.

The improvement is particularly well adapted for use as a "snatch-block," the service of which usually requires the hook of the block to be held secured upon a stable object, so that a tackle-rope may be engaged with the sheave-wheel of the block and be drawn at an angle.

Ordinary snatch-blocks require the introduction of one end of the tackle-rope through the eye of the block for engagement with the sheave, and in case the rope is of considerable length such an engagement of the rope with the block consumes time and is very inconvenient.

It will be noticed that when the improved tackle-block is adjusted as represented in Fig. 3 the grooved periphery of the sheave-wheel 10 will be free at the edge portion nearest to the hook 16, which will permit the convenient engagement of the bight of a tackle-rope therewith, and when the rope is placed within the opened block the latter may be quickly closed by rocking the pendent hanger-plate 15 upwardly, so as to pass the bolt-heads 18<sup>a</sup> through the perforations in the hanger-plate and permit a latched engagement of the keeper-spring 20 therewith, as before explained.

It is apparent that the relative position of the boxes 13 at the outside of the tackle-block permits these parts to be made large enough to insure proper strength for hard service, and the details of construction shown and described enables the lubrication of wearing parts to be readily effected as occasion may require.

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

1. A tackle-block, comprising a wheel, journals on the wheel, a yoke-block having bearings engaged by the journals, two hanger-plates, a hook-swivel connected with the upper ends of said hanger-plates, means for detachably joining said upper ends of the hanger-plates, and means for rockably hanging the yoke-block from the lower portions of the hanger-plates.

2. A tackle-block, comprising a sheave-wheel, journals on the sheave-wheel, a sub-



stantially U-shaped yoke-block, box-bearings in the side members of the yoke-block and receiving the journals, a hook having a journaled lower end, a two-part box receiving the journal end of the hook, two hanger-plates, one of said plates being clamped on the two-part box, shafts projected at their ends from the yoke-block, means for loosely engaging the lower portions of the hanger-plates with said ends of the shafts, and means for detachably securing the upper end of the remaining hanger-plate upon the two-part box.

3. A tackle-block, comprising a sheave-wheel, journals on said wheel, a substantially U-shaped yoke-block oppositely apertured in the upper portions of its side members, boxes held in said apertures and affording bearings for the journals, two hanger-plates slotted oppositely in their lower ends, means for hanging the yoke-block on the hanger-plates and in the slots, a two-part box held on the side of one hanger-plate at its upper end, a hook-swivel engaged by its lower portion with the two-part box, and means for detachably securing the upper portion of the other hanger-plate engaged with the two-part box.

4. A tackle-block, comprising a substantially U-shaped yoke, a sheave-wheel journaled in the members of the yoke, two vertically-slotted hanger-plates hung on projections from the yoke and receiving said yoke in their slots, a box between the upper ends

of the hanger-plates, a hook-swivel connected with said box, means for clamping one hanger-plate upon a side of the box, and means for releasably holding the other hanger-plate at its upper end upon the opposite side of said box.

5. In a device of the character described, the combination of two hanger-plates adapted to support a yoke-block, said yoke-block carrying boxes, a grooved sheave-wheel journaled in the boxes, a two-part box, a hook-swivel connected with the two-part box, two bolts having nuts on one end thereof and cylindrical heads on their opposite ends, said bolts and nuts clamping the two-part box on one hanger-plate, the other hanger-plate having perforations through which the bolt-heads pass when said hanger-plate is folded upwardly, each bolt having a vertical groove in its side, and a forked keeper-spring having two spaced limbs that latch into the grooves in the bolt-heads to keep the hanger-plate on the bolt-heads and contacting with the two-part box.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED H. F. STRAUB.

Witnesses:

GEO. WILSON,  
LOUIS SALOMON.