

T. J. BRAY.  
Snatch-Block.

No. 205,237.

Patented June 25, 1878.

Fig. 1.

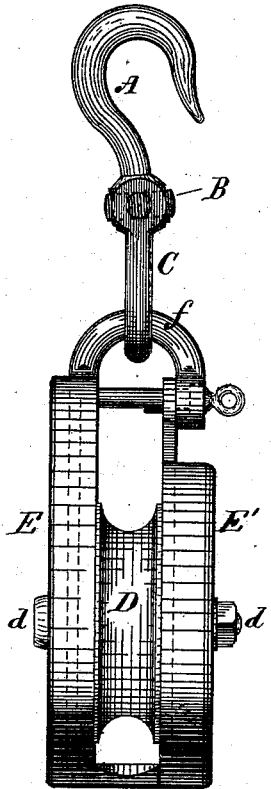


Fig. 2.

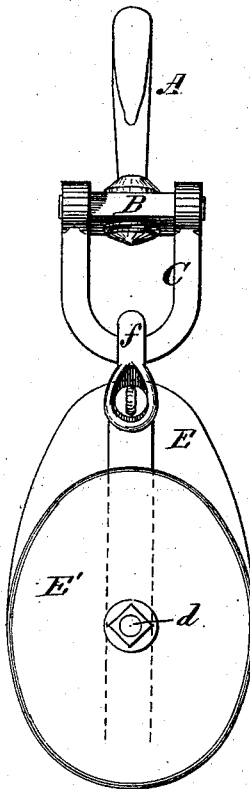


Fig. 3.

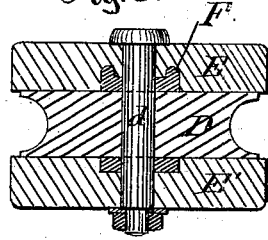


Fig. 4.

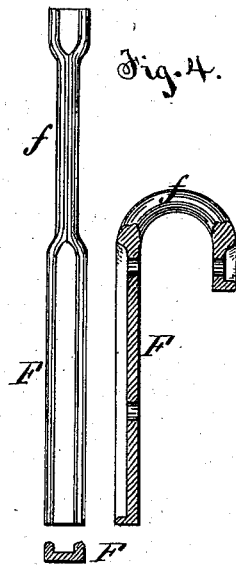


Fig. 5.

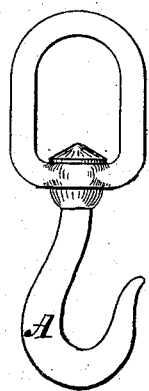
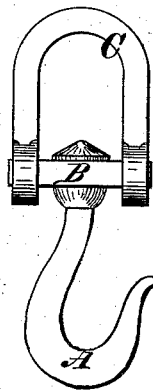


Fig. 6.



Witnesses.

J. A. Pollock,  
Almick

Thomas J. Bray, Inventor.

by Cornally Bros & McFigue  
Attorneys.

# UNITED STATES PATENT OFFICE.

THOMAS J. BRAY, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN SNATCH-BLOCKS.

Specification forming part of Letters Patent No. **205,237**, dated June 25, 1878; application filed December 12, 1877.

*To all whom it may concern:*

Be it known that I, THOMAS J. BRAY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Snatch-Blocks; 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 which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of snatch-block complete. Fig. 2 is a face view of same. Fig. 3 is a horizontal section. Figs. 4, 5, and 6 are detail views.

My invention relates to the manufacture of snatch-blocks; and consists in making a strap of channel-iron, swaging it at the bend into circular section, and forming the bend in a semicircle, whereby an ordinary quality of iron may be used, its strength not materially impaired at the sheave and latch-pin holes, and a better union of the wood and strap effected.

Snatch-blocks, as usually made, consist of a sheave embraced between two wooden sides, connected by two iron straps, one extending up straight, the other crossing over and projecting down, so as to overlap the first, where they are connected by a pin or latch, so that when the pin is withdrawn one side may revolve on the sheave-pin to allow a rope or cable to be slipped over the sheave.

The bent strap is a plain flat bar, bent twice at right angles, and on this account must be of the best quality of iron.

The hook is attached in either of two ways, called "single swivel" and "double swivel." The single swivel is made by constructing an eye in the hook-shank, and linking into this another eye, whose shank is swiveled vertically in the bend of the strap, its lower end being riveted up, making the hook, swivel, and strap permanently fixed and inseparable. The double swivel is also an inseparable device, having an eye swiveled to the strap, and linked into a ring or link, whose end is formed into a ferrule to embrace the hook-shank, and is then riveted up.

In both forms much careful hand-welding and forging are necessary, requiring a high degree of skilled workmanship to make a good piece of work.

I propose to surmount all these difficulties of forging and welding, to dispense with the necessity of using only the best grades of iron, and produce an article which will readily accommodate itself to any position and have the greatest strength for the smallest amount of iron used, and be capable of being readily dismounted and its swivel-hook turned to use as a tubing-hook, on the one hand greatly facilitating construction, and on the other providing two devices in one.

I construct as follows: The hook A is swiveled in a cross-bar, D, which, in turn, is jointed at right angles in the ends of a U-shaped link, C. The bar B and the link C thus take the place of the old-fashioned swivel-link, and render the riveting of the hook-shank a matter of no difficulty, since the link C can be swung out of the way of the workman's hammer.

I construct the sheave D, its pin *d*, and wooden blocks E E' in the usual manner. Instead of the angularly-bent strap of fine-grade bar-iron necessary under the old plan, I take a piece of channel-bar, F, swage a portion, *f*, into circular section, and bend it into a semicircle, as in Fig. 4. By cutting the ends concave and welding in, the edge ridges may be curved around at the ends to make a finish. In this way the semicircular part *f* takes the place of an extra link or swivel-eye, and renders the strap F capable of construction without difficulty, and, having no sharp or angular ends, the commoner grades of iron may be used without danger of subsequent fracture.

The bar F, being channeled—that is, thick at the edges and thin between—may be made lighter for an equal strength than when solid; and the block being recessed to fit the ridges and channel, a more stable union of the two can be effected.

The combination of the swiveled hook A, link C, and the semicircle *f* gives a perfect universal joint, rendering the hook capable of ready attachment and use at any angle to the plane of revolution of the sheave, and, at the

same time the length over all is reduced, giving the device the valuable quality of compactness.

Should a tubing-hook be required at any time when the block is not in use, as is frequently the case in the oil regions and elsewhere, by simply drawing the latch-pin, swinging around the block E', we can detach the upper part, consisting of hook A, bar B, and link C, which at once forms in itself a more perfect tubing-hook than the regular manufactured one, as will be seen by Figs. 5 and 6, the former being an ordinary special tubing-hook, and the latter my combined hook and block-swivel. As large quantities of these tubing-hooks are annually used by oil-producers, who universally use snatch-blocks, it will at once be seen how convenient my invention becomes.

In the old and usual form of snatch-blocks, and particularly those having double swivels, nearly all the work must be hand-forged, and a great deal of skill and superior workmanship are required to make a salable job. The

square angles in the strap also require the greatest care and an extra quality of iron, and still many of them crack and are, therefore, weak and inefficient; whereas in my strap there are no sharp angles, and no delicate forging is required, but all can be done by machinery; hence my construction is very much stronger and cheaper than the old form.

I do not broadly claim a combined swivel and tubing-hook, the same being already known and in use.

I claim as my invention—

In snatch-blocks, the combination, with the blocks E E' and sheave D, of the strap F, formed of channel-iron, swaged into round section at *f*, and bent into a semicircle, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOS. J. BRAY.

Witnesses:

F. J. McTIGHE,  
A. S. MORELAND.