Oct. 3, 1961 R. G. EGGEMAN 3,002,780

TWO-HOLED HOOK AND SLING

Filed Feb. 5, 1958

Fig. 1

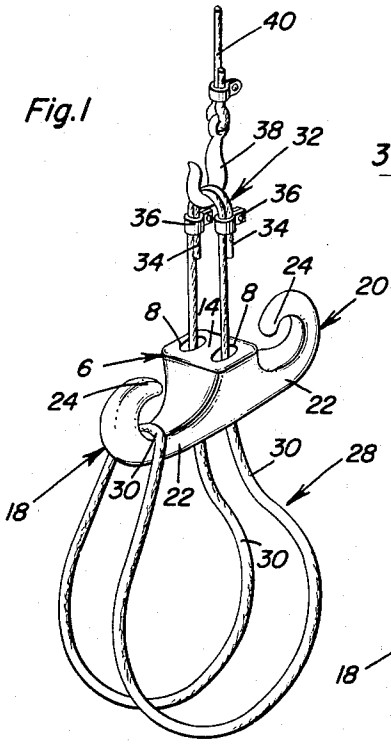


Fig. 2

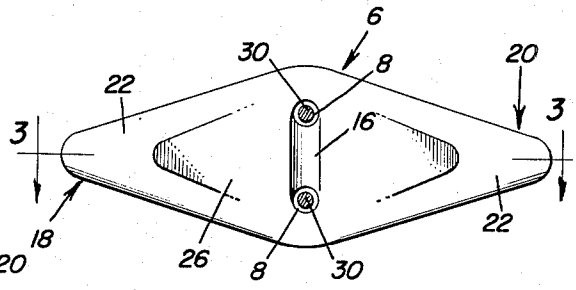


Fig. 3

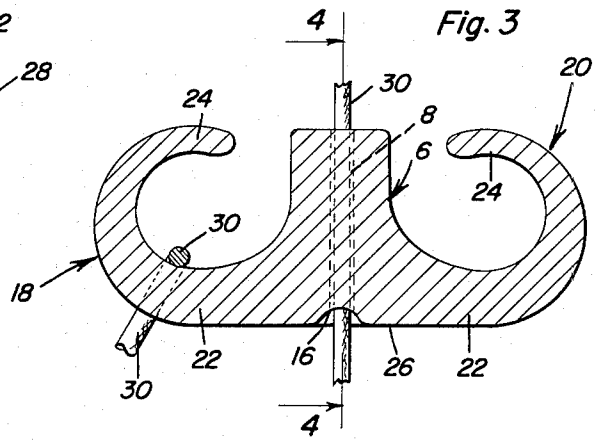


Fig. 5

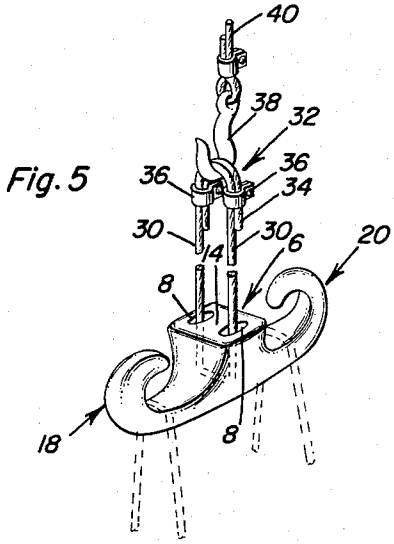
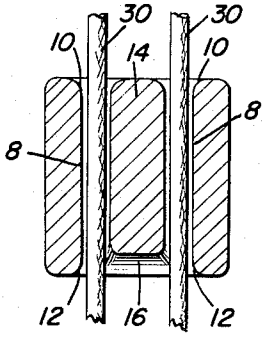


Fig. 4



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TWO-HOLED HOOK AND SLING

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The present invention relates to that field of endeavor which has to do with lifting, lowering and otherwise handling heavy and unwieldy loads and has reference, more particularly, to an improved hook and sling of a type which is preferably used in conjunction with a hook and which, in most instances, takes the form of an endless loop formed from either wire rope or a bendably flexible cable.

As will be evident from an almost casual glance at the illustrative views of the accompanying drawing, the concept pertains to the sling and hook either singly or collectively. More particularly there is involved an endless loop-form sling having upper and lower bight portions connected by paralleling reach portions, and a complemental sling hook having a body with at least two companion but independent passages opening through top and bottom sides of said body, and at least one hook, said reach portions passing slidingly and freely through their respective passages, the upper bight portion adapted to be connected with a hoist hook or the like, the lower bight portion adapted to be removably hitched over the bill of said hook or, alternatively drawn tightly against the bottom of that portion of the bottom bridging the lower ends of said passages.

The invention also features, as the title implies, a so-called two-holed hook wherein the aforementioned passages or holes are generally straight and parallel with each other and in fact are separated by a divider or partition of solid metal, the holes being of a cross-section which is intended to promote freedom of sliding movement of the lengthwise or reach portions of the loop-type sling, thus equalizing stresses and strains imposed on the reach portions, whereby the sling and sling hook function conjointly particularly when the assemblage is used as a straight hoist hook. Novelty is predicated on the construction so far disclosed and wherein the bottom of the body portion of the hook is approximately flat, the one hook mentioned having a flat-bottomed shank which is coplanar with the plane of the flat bottom. This shank terminates at the end remote from the body in a turned-in bill or beak portion which is spaced a requisite distance from the adjacent side of the body portion. In the preferred embodiment two such hooks are employed and these project from diametrically opposite sides of the body portion and are capable of use either singly or collectively as work conditions may require.

Novelty in addition has to do with the construction stated and wherein the central or median portion of the bottom, particularly the lower end of a divider or partition between the holes has a groove communicating with the lower flared ends of the bores or holes, this to provide a seat for a cooperating bight portion of the endless loop sling as will be hereinafter made more aptly evident.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying illustrative drawing.

In the drawing:

FIG. 1 is a perspective view of the two-holed duplex hook construction showing how it is used in connection with the loop sling and the hook on the lower end of a lifting or hoisting line or cable;

FIG. 2 is an enlarged bottom plan view illustrating primarily the bottom formation and bottom plan configuration of the hook.

FIG. 3 is a section on the central line 3—3 of FIG. 2 looking in the direction of the arrows;

FIG. 4 is a section on the vertical line 4—4 of FIG.3; and

FIG. 5 is a smaller perspective view similar to FIG. 1 but showing the invention used as a straight-away lifting or conventional hoist hook.

With reference now to the drawings with the aid of reference numerals and lead lines the duplex or twin hook is either cast of steel or of drop-forged steel. The size and weight depends on, as is obvious, the varying job needs. The aforementioned body portion is denoted generally by the numeral 6 and is of general rectangular block-like form. The two holes or passages are identical and are denoted by the numeral 8 and they extend in requisite parallelism (see FIG. 4) through the top and bottom sides of the body portion. The upper and lower ends are slightly increased in diameter or flared and of desirable bell-like form as denoted at 10 and 12 in FIG. 4. The holes are sufficiently far apart that a considerable mass of metal exists therebetween and this constitutes a separator or divider which is denoted in FIG. 4 by the numeral 14. It will be noticed in this same figure that the lower end of the divider has a transverse channel or groove 16 which communicates with the lower flared ends 12 of the holes 8. Although not absolutely essential the construction is preferably that wherein two duplicate hooks are provided the one at the left being denoted by the numeral 18 and the one at the right by the numeral 20. Each hook is characterized by a gradually narrowing shank portion 22 and a tapering rather blunt ended turned-in bill or beak portion 24 spaced from the adjacent side of the body. The shanks are coplanar with each other and are also in a plane or coplanar with a substantially flat bottom 26 of the over-all casting.

The wire rope or cable is denoted by the numeral 28 and as before stated this is preferably of endless loop form. In the arrangement shown in FIGS. 5 and 1 respectively the lengthwise or side reaches 30 pass slidingly through their respective holes and the lower bight portion (lower in the views of the drawing) is denoted at 30 and is releasably engaged over the left hook 18 as shown. The upper bight portion 30 is actually made up of the free end portions 34 of the cable which are overlapped and are spliced together or joined by clamps or equivalent means 36. This upper bight portion 32 is adapted to be hung over the hook 38 on the lower end of the hoisting line 40.

In the arrangement seen in FIG. 5 the construction is the same except that the lower bight portion 30 is directly engaged or seated in the seating groove 16, this being a showing of the aforementioned conventional hoist-type of hook.

With the construction shown it is evident that no specific cable or wire rope construction, as is commonly used, is necessary. Besides it is a matter of difficulty as is well known for one to make a satisfactory eye splice. With this construction the hook enables any unskilled person to make a sling inasmuch as the cable ends are merely secured by cable clamps, no expensive or time-consuming splices being essential.

It should be noted that when the load is disengaged the hook will not slip off the cable or rope (whichever is used) and further noted that the hook can be used as a conventional hook when not being used with the rope or cable. Also, the holes will handle cables of different sizes, depending on the size of the holes.

This hook can be used to advantage as a conventional

hoist hook, as well as a choker or sling hook; because the cable employs both cable holes and the hook can not come off. The divider between the holes is solid metal cast with the body of the hook and prevents displacement.

The use of the two-holed hook facilitates a better holding or "choker" action than a regular single sling with or without a conventional choker hook. There are two cables around a load instead of one cable.

A two-holed sling hook facilitates the use of smaller diameter cable, which is more flexible and easier to handle than a large single cable used to lift the same load. Example: A loop made of ⅜" diameter cable using the two-holed hook is stronger than a ½" diameter single sling with spliced loops.

The two-holed hook and endless sling facilitates the easiness of pulling a cable out from under a load since there are no splices, bulges or sharp edges to catch or mar material being handled. There is only the normal cable portions to be pulled out. The two-holed hook has no wedges or other objects to hinder the operation of the hook. Regardless of the condition of the cable, the two-holed hook will function properly.

In prior art hooks requiring wedges, the wedge is difficult or impossible to force into place after the cable has been used and "kinked." The word "kinked" means that a cable pulled tight around a load with sharp or irregular shape, the cable tends to take a permanent shape of the load. The cable is nearly impossible to straighten to its original shape, so a wedge could be placed and forced to contact the cable performing the act it was originally intended to do. A hook with a wedge has to have the correct size wedge to fit a specific sized cable, and at no time can a hook with a wedge be used as a straight or hoist hook. There is nothing sufficient to keep the cable from pulling through the hook. In the hook with the wedge, the cable is constantly under an abrasive action by the wedge, and if the wedge is removed from the hook there is a possibility of the hook coming off the cable.

Regardless of the size of the holes in the two-holed hook, a sling can be made even. If the holes are too large in the hook for the cable available, the cable will do the job; a sling can still be made, or an assembly to use as a straight hoist hook. There is no danger of the hook breaking or pulling out.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A combined hoist-choker, sling-hook for a wire-rope endless sling having a lower bight portion and parallel reach portions extending upwardly therefrom and comprising, in combination therewith, a body formed as a unitary member having a base, side and top and a pair of spaced, substantially-parallel passageways extending therethrough from the base to the top with each reach portion of the sling slideably extending through one of the passageways for free slideable movement of the reach portion through the passageway, a wire rope abutment at the base of the body between the passageways adapted to hold the body against the lower bight of the sling when the body is slid thereagainst and a hook outstanding from the side to serve as a hoist hook when the body is at the lower end of the sling and against the lower bight and to serve as a bight connector when the reach portions are slid through the passageway to form a choker loop below the body wherein the ends of said passageways are flared whereby to prevent wear and abrasion of the body at the ends of the passageways.

2. In the sling-hook defined in claim 1, said wire-rope abutment comprising a recessed groove in the base of the body between said passageways whereby to protect said bight when the unit is serving as a hoist hook and rounded corners at the base of the groove adjacent to the passageways whereby to prevent wear and abrasion of the sling at the ends of the groove.

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