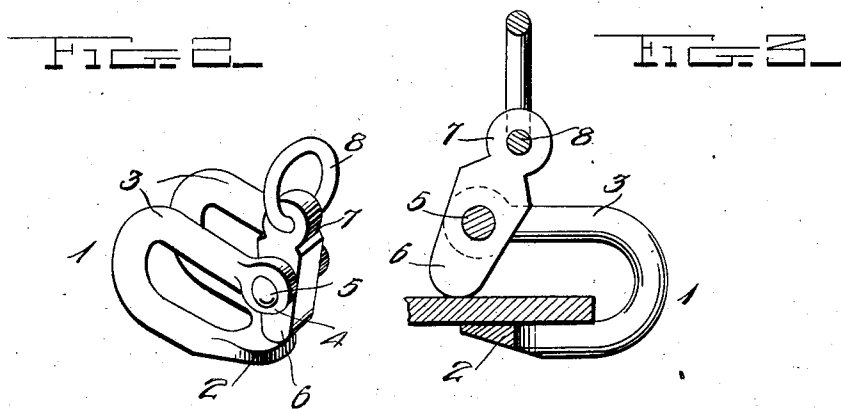
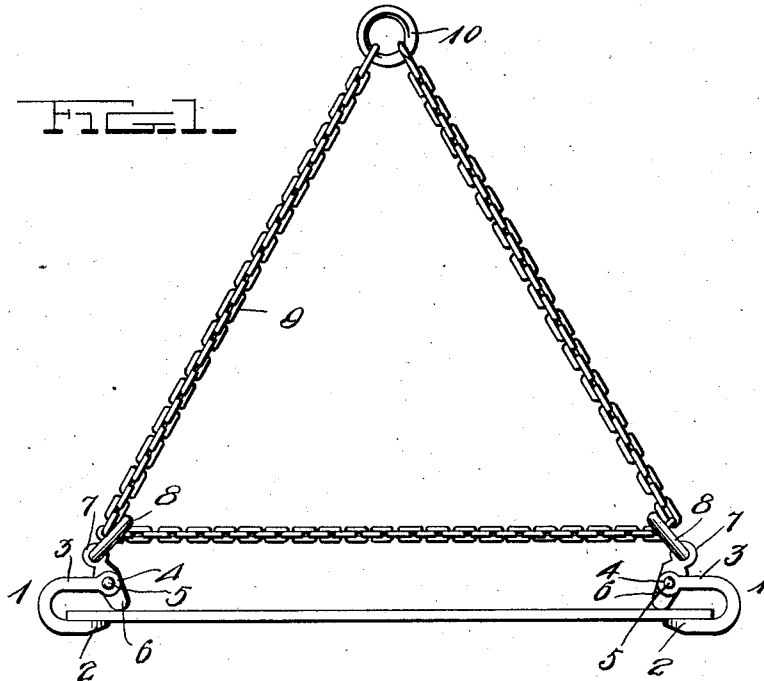


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HOISTING APPARATUS.
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Patented Mar. 26, 1912.



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UNITED STATES PATENT OFFICE.

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HOISTING APPARATUS.

1,021,564.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed June 22, 1911. Serial No. 634,743.

To all whom it may concern:

Be it known that I, HENRY C. WARNITZ, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Hoisting Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in hoisting apparatus.

One object of the invention is to provide a hoisting apparatus which is particularly adapted for use in connection in hoisting metal plates or sheets and having an improved construction and arrangement of hoisting hooks and means for securely fastening said hooks in engagement with the plates or other material to be hoisted whereby the hooks will not be readily disengaged from the material while being hoisted.

With this and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a side view of my improved hoisting apparatus showing the same in operation; Fig. 2 is an enlarged perspective view of one of the material engaging hooks of the apparatus; Fig. 3 is an enlarged vertical sectional view through one of the hooks and a portion of the material to be hoisted showing the manner in which the hook is engaged with the material.

In the embodiment of the invention, I provide a pair of hooks 1 each of which is preferably formed from a single bar of metal bent upon itself midway between its ends to form the bill 2 of the hook, said bill being preferably flattened and extended to form a broad surface for engagement with the material to be hoisted. The ends of the bar after forming the bill of the hook extend rearwardly in parallel relation and are bent upwardly and forwardly to form the shanks 3 of the hook, said shanks having in their ends eyes 4. The eyes 4 are preferably formed in the ends of the bar before the same is bent to form the bill and shanks of the hook.

Arranged between the ends of the shanks

3 and pivotally connected with the eyes 4 by a pivot bolt 5 is a gripping member 6, said member being preferably in the form of a block having a tapered material engaging inner end and having on its outer end an eye 7 in which is arranged a hook attaching ring 8. The material engaging ends of the gripping members 6 are preferably hardened in any suitable manner to prevent the wearing of said ends from repeated engagement with the material being hoisted. Adapted to be inserted through the rings 8 of the material gripping members 6 is a combined hoisting and hook operating chain 9 the ends of which are detachably secured to a connecting ring 10 to which the main hoisting chain or cable is connected.

When thus constructed and arranged the flat bills of the hooks are engaged with the under side of the opposite edges of the plates or other material to be hoisted, while the inner ends of the gripping members 6 are engaged with the upper side of the plates or other material at a point approximately above the point where the bills of the hooks engage the lower surfaces of the plates or other material whereby when the latter are lifted the weight of the same on the chain 9 will cause the chain by means of the rings 8 to force the inner ends of the gripping members into tight engagement with the material thus firmly clamping the latter between said members and the bills of the hooks whereby said hooks will be prevented from being casually disengaged from the material should the latter or the hooks come into engagement with an obstruction while the material is being hoisted. By arranging the gripping members so that the ends of the same will engage the upper side of the material above the point of engagement of the bills of the hooks with the lower side thereof the gripping members or the bills of the hooks will be prevented from indenting or bending the material when engaged therewith. By connecting the hooks with the chain 9 in the manner described the hooks will be kept in operative engagement with the material if the latter should bend and the space between the hooks thus be shortened as the loose engagement of the chain with the rings 8 will permit the chain to slip through the rings and thus take up any slack which might occur therein by the bending of the plates or material engaged by the hooks. It

will also be noted that by constructing and arranging the gripping members as herein described that the heavier the load to be lifted, the tighter said members will be gripped or engaged with the same. By detachably connecting the ends of the chain 9 with the ring 10 the chain may be readily removed and a shorter or longer chain engaged with the hooks and with said connecting ring whereby the apparatus may be adjusted for hoisting material or objects of different sizes.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim is:

In a hoisting apparatus a pair of work engaging hooks, said hooks being formed

from bars bent midway between their ends to form the bill of the hooks, said bills being flattened to form material engaging surfaces, said ends of the bars after forming the bill being bent upon themselves to form the shanks of the hooks, eyes formed on the ends of said shanks work gripping members pivotally mounted in the eyes of said shanks whereby the inner ends of said members are adapted to engage the material above the points where the same is engaged on its lower side by the bills of the hooks, eyes formed in the outer ends of said material gripping members, rings arranged in said eyes of the gripping members, a combined hook operating and hoisting chain having a loose engagement with said rings, and a connecting ring adapted to detachably connect the ends of the chain together.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY CHARLY WARNITZ.

Witnesses:

WILLIAM J. WARNITZ,
JOHN L. C. DIEMES.