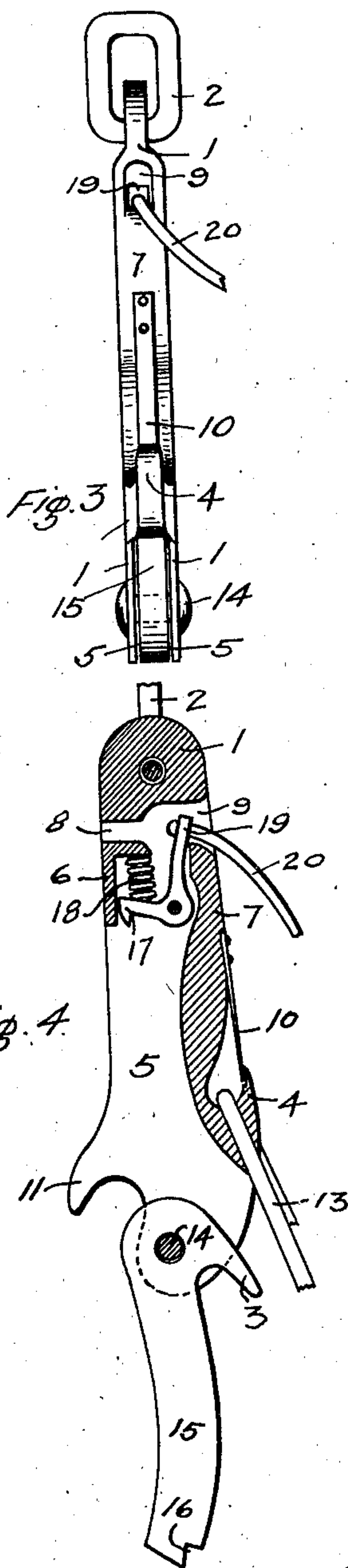
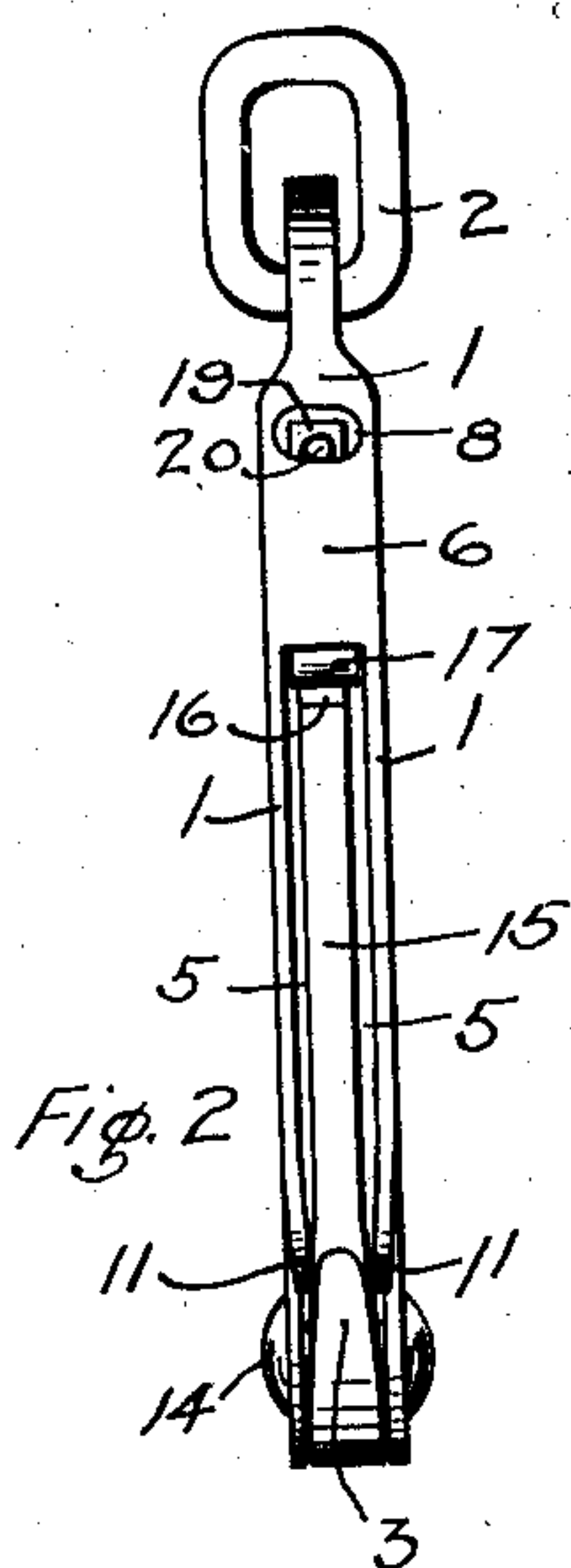
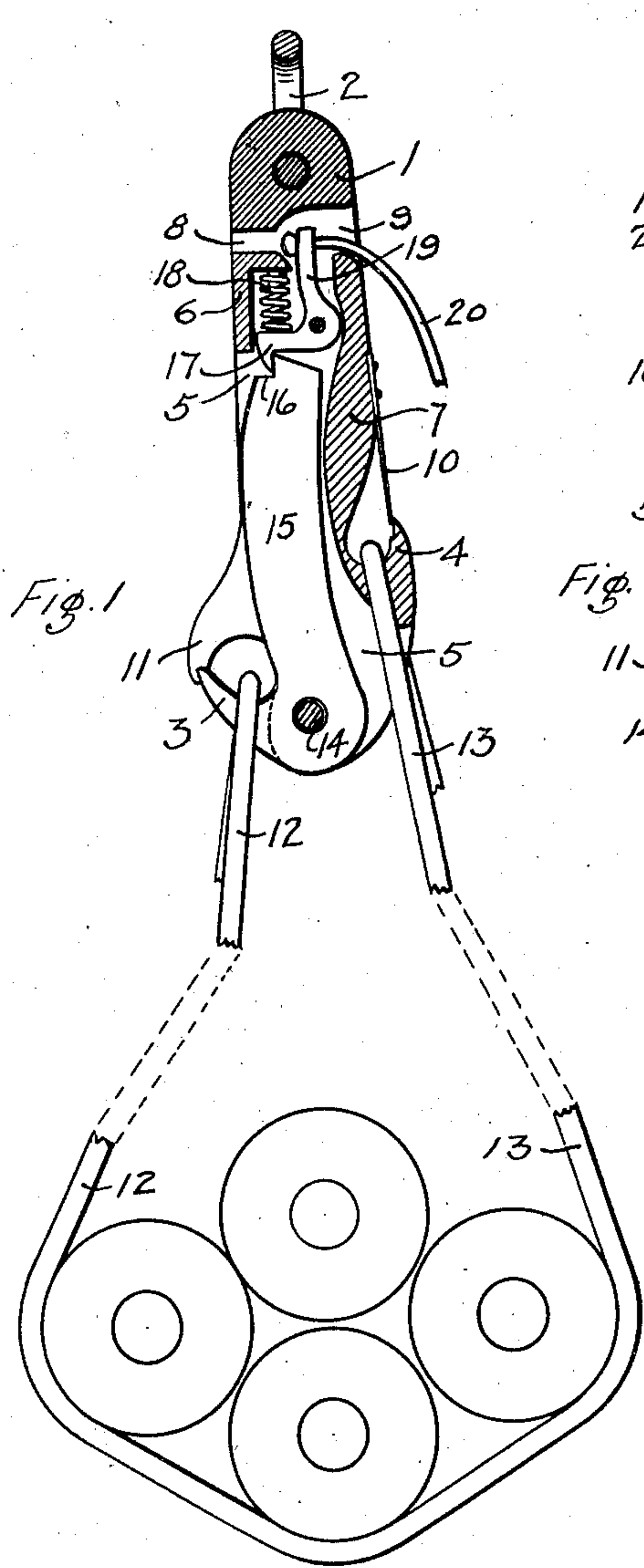


No. 845,693.

PATENTED FEB. 26, 1907.

A. W. COATS & R. M. THOMPSON.  
HOISTING HOOK.

APPLICATION FILED JAN. 4, 1906.



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# UNITED STATES PATENT OFFICE.

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## HOISTING-HOOK.

No. 845,693.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed January 4, 1906. Serial No. 294,625.

*To all whom it may concern:*

Be it known that we, ARTHUR W. COATS and ROBERT M. THOMPSON, citizens of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Hoisting-Hooks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to hoisting-hooks, and has for its objects to produce a hook which will readily release the load when desired, which will at the same time retain hold of one end of the hoisting-rope, and which is so constructed as to prevent any part thereof catching on any projection with which it may come in contact either while being raised or lowered. We attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a vertical section of my hook, showing it supporting a load. Fig. 2 is a front view thereof. Fig. 3 is a rear view thereof. Fig. 4 is a vertical section showing the hook in the position assumed after the load has been released.

Similar numerals of reference refer to similar parts throughout the several views.

Our invention consists of a main casting 1, secured by a link 2 or any other suitable means to the hoisting chains or cables, and having pivoted therein a swinging hook 3 and also having a fixed hook 4 formed therein. The casting 1 is provided with a cavity 5, extending from its lower extremity to a point near the upper end thereof, said cavity being bridged on the front side near its upper end by the part 6 and on its rear side by the part 7. The part 7 extends from a point a short distance above the lower extremity of the casting to a point near the upper end of said cavity. These parts 6 and 7 do not extend clear up to the end of the cavity, but form in the front the threading-hole 8 and in the rear the operating-slot 9, between their upper ends and the head of the casting 1. The rear portion 7, above mentioned, is shaped so as to form a fixed hook 4, as shown in Figs. 1 and 4. A flat spring 10 is secured to the upper part 7 and extends down therefrom, so as to enter behind the point of the hook 4, the said point being curved so as not

to allow it to catch in any projection or article with which it might come in contact while being raised and the said spring 10 acting as a guard for the hook. The sides of the casting 1 are provided in their front edges with the noses 11, which extend outward therefrom on each side of the swinging hook 3, above mentioned, the shape of these noses being also formed so as not to catch in any article while the device is being raised, and so as to ward such article away from the upwardly-extending hook 3, in which it would otherwise catch. The lower edges of these noses 11 are concaved upward, so as to form in conjunction with the hook 3 a space through which one end 12 of the rope holding the load may pass, the other end 13 thereof fastening on the fixed hook 4 behind the spring 10.

The hook 3 is pivoted by means of the pin 14 to the lower extremity of the casting 1, said pin 14 being located to one side of the hook 3. An arm 15, formed in the same piece with the hook 3, extends upward from the pin 14 in the cavity 5 almost to the lower edge of the part 6, and has a notch 16 formed in its upper end, into which the latch 17 engages. The latch 17 is pivoted to the casting 1 within the cavity 5 between the parts 6 and 7, above described, and is pressed downwardly, so as to engage the notch 16 of the arm 15 by the spring 18, which acts between the latch and the part 6. The latch has an upwardly-extending arm 19, through which an operating-rope 20 passes, and to which it is in any suitable manner secured, the said rope 20 passing from the latch-arm 19 through the slot 9 and hanging therefrom so as to be grasped and pulled by the person in charge thereof.

Referring to Fig. 1, it will then be seen that the load is supported from the fixed hook 4 and the pivot-hook 3, one being on each side of the casting, and that by pulling the operating-rope 20 the latch 17 will be disengaged from the notch 16 of the arm 15 and that the action of the weight of the load on the end 12 of the hoisting-rope, which engages the hook 3 to one side of the pivot 14, will swing the entire piece, which forms the arm 15 and the hook 3, on the pivot the moment the latch is withdrawn from the upper end of the arm, and the end 12 is therefore immediately



dropped and the load allowed to fall from the rope. The casting 1 is then raised and pulls with it the hoisting-rope, since the end 13 is still engaged by the hook 4. The parts 5 then occupy the positions shown in Fig. 4.

The latch 17 when it is engaging the notch 16 of the arm 15 is practically touching the rear of the part 6, so that the strain occasioned by eccentrically supporting the load to one side of the pivot will bring the latch against the part 6, and thus prevent the pivot of the latch becoming bent, since the part 6 will take up the strains as soon as the latch presses against it.

The spring 10 above mentioned forms, together with the hook 4, a closed eye, from which the rope 13 cannot be removed without pressing the spring inward against the part 7.

Having described our invention, what we claim is—

1. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, a fixed hook formed in said frame, and a spring closing said fixed hook and forming an eye therewith and adapted to retain connection with the sling-rope.

2. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, and

a fixed hook formed in said frame and adapted to retain connection with the sling-rope.

3. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, a fixed hook formed in said frame, and a spring closing said fixed hook and forming an eye therewith and adapted to retain connection with the sling-rope.

4. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, an arm extending from said hook, a spring-latch pivoted on the frame and engaging said arm, a fixed hook formed in said frame, and a guard extending from said frame to the point of said fixed hook.

5. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, a fixed hook formed in said frame, and a guard extending from said frame to the point of said fixed hook.

In testimony whereof we affix our signatures in presence of two witnesses.

ARTHUR W. COATS.

ROBERT M. THOMPSON.

Witnesses:

M. H. COREY,

M. A. VAN HOUSE.