(No Model.)

J. W. HARPER.

STACK ROOF.

No. 305,075. Patented Sept. 16, 1884.

FIG 1

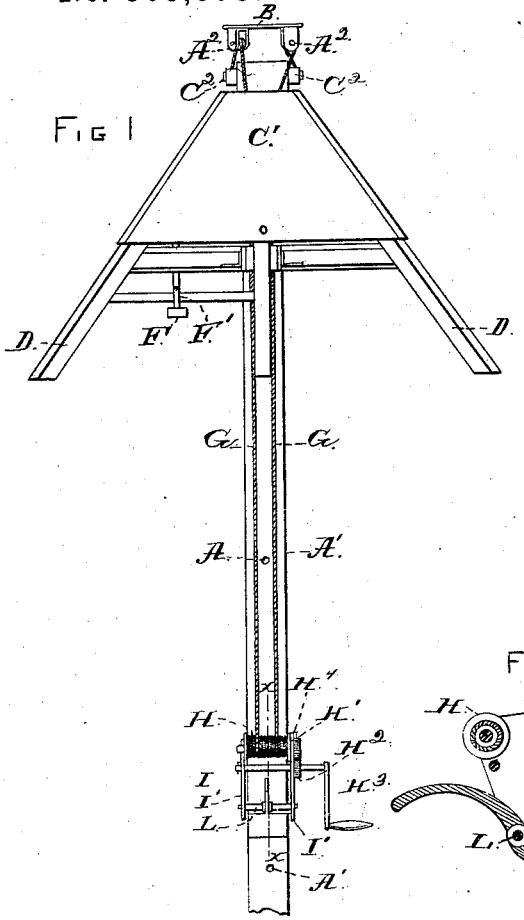


FIG. 2.

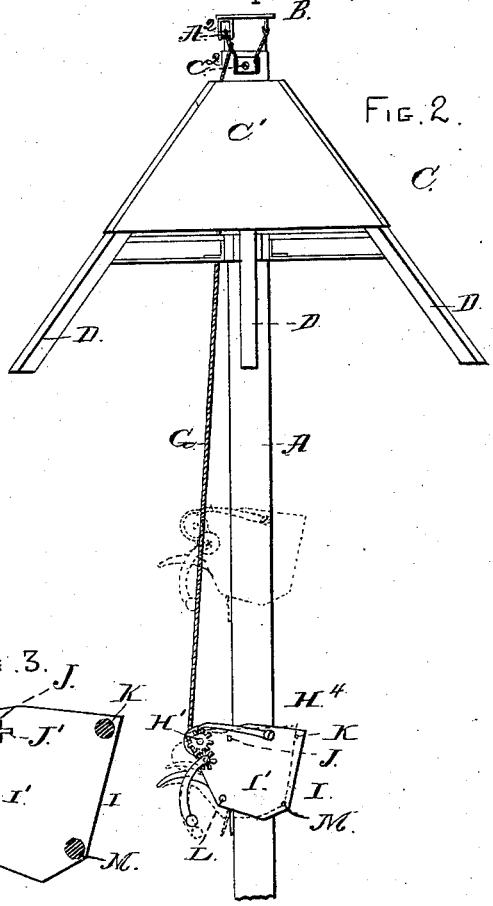


FIG. 3.

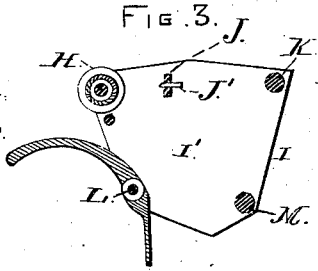


FIG. 4.

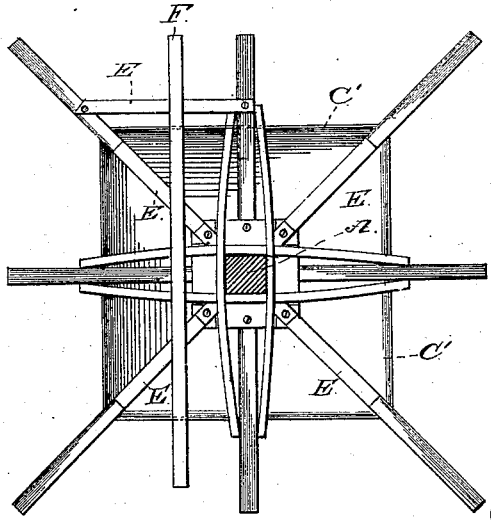
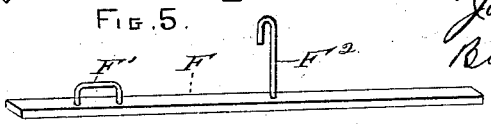


FIG. 5.



WITNESSES

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STACK-ROOF.

SPECIFICATION forming part of Letters Patent No. 305,075, dated September 16, 1884.

Application filed December 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HARPER, a citizen of the United States, residing at Assumption, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Stack-Roofs; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in stack-roofs; and it consists in the novel construction, combination, and arrangement of the several parts, as will be hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a front elevation of my improved stack-roof standard, &c. Fig. 2 is a side view thereof. Fig. 3 is a detached sectional view of the windlass-frame on about line *x x*, Fig. 1. Fig. 4 is an inverted plan view of the roof. Fig. 5 is a detail of the carrier-rail detached, all of which will be described.

The standard A is mounted in practice on a suitable base, provided with skids or runners similar to those shown in my Patent No. 286,431. This standard is provided in its front face with a number of holes or sockets, A′, arranged vertically one above the other, for the purposes presently described. One or more pulleys, A^2, are secured at the upper end of the standard. On the upper end of the standard I secure a cap-plate, B, which projects laterally beyond the said standard sufficiently far to serve as a cover for the opening in the roof which is placed on the standard. This roof C has a central opening to fit on the standard, and it is placed on the latter, as shown. I make the roof in the conical form shown, and provide it with suitable sheeting, C′, as shown. This sheeting is made sufficiently large to cover the cap of the stack, and the arms D are projected beyond said sheeting in order to better preserve the form of the stack. I also provide the stack with radial bars E and one or more cross-bars, E′, which serve as braces for the roof, and also to support the hay-carrier track F. This track F is provided on its upper side with a staple, F′, and a hook, F^2, arranged midway the sides of and near the opposite ends of the rail, as most clearly shown in Fig. 5. The staple F′ is secured on the bar E′, and the hook F^2 is adapted to engage the radial bars E. By this means, it will be seen, the end of the rail supported by hook F^2 may be adjusted to any point desired under the roof, and in engagement with one or the other of the brace-bars E. This will enable the hay or straw to be delivered and dropped at any point of the stack desired. I preferably form the staple somewhat elongated, as shown, in order to facilitate the securing of the hook to the desired supporting-bar. These bars, as well as the cross-bars, it will be understood, can be arranged at various angles without departing from my invention, and it will be appreciated that several of the cross-bars may be employed where so desired, and the rail supported by staple F′ on one or the other, at will. In this case it would be necessary to provide some means for adjusting the staple from one to the other of the cross-bars, which could be readily accomplished by making the staple removable or one end of the cross-bar detachable, as will be readily understood. One or more cords, G, are secured to the upper end of the standard, and are extended thence down under the pulleys C^2, and thence up over pulleys A^2, and thence down and secured to the windlass, presently described. This windlass H is journaled in a frame, I, and is provided on one end with a pinion, H′, meshed with a similar pinion, H^2, which latter is provided with a hand-crank, H^3, whereby it may be revolved and turn the windlass. A suitable pawl, H^4, is pivoted on the frame in position to engage the pinion H′, whereby the windlass may be held at any point desired. The windlass-frame I is composed of side plates, I′ I′, which are connected by upper cross-bars, J K, lower cross-bars, L M, and the windlass H, before described. This frame is placed on the standard, as shown, and the cross-bar J is provided with a stud

or pin, J′, arranged to enter the holes A′ of the standard. This pin is arranged in the upper end of the framing and between the standard and the windlass, which latter supports the weight of the roof. Then when upward pressure is exerted on the windlass by the weight of the roof it will force the pin inward toward the standard.

In operation, when the hay or straw has been stacked up to the windlass-frame, the latter is tilted forward at its upper end so as to draw the pin J′ out of the hole A′, in which the roof will draw the windlass-frame up on the standard. When said frame has reached the next hole A′ above it, the pin J will drop thereinto, and the frame will be again secured to the standard, as is indicated in dotted lines, Fig. 2. When the straw or hay has been piled to the position of the windlass-frame, the before-described vertical adjustment of same may again be accomplished. Then the windlass is at all times in convenient reach from the top of the stack, which is changing with the additions of straw. My invention is also useful when straw is being taken from the stack, as required at various intervals, and permits the ready adjustment of the roof down onto the top of the stack.

In order to regulate the upward movement of the windlass-frame, I provide it with a brake-plate, L′, having a handle, L^2, projected from its upper edge, and pivoted on bar L, as shown. This brake, it will be seen, may be pressed against the standard and prevent the too rapid upward movement of the frame. It will be seen that good results will be had without the said brake, though it is preferred, for the reasons above stated.

It is obvious that my windlass-frame and standard may be modified in various ways without departing from the principles of my invention. When so desired, the bars K and M may be dispensed with and a solid back plate used instead; or a framing may be made of metal, in single casting, arranged to embrace the standard. It will also be appreciated that instead of making the framing so it may be tilted on the standard, as indicated in Fig. 2, the framing may be made to fit the standard snugly, and the pin J′ may be made to adjust back and forth through its supporting-bar J. It is also obvious that, instead of the pin J′ operating into the holes A′, various other devices may be used. For instance, the standard might be provided with rack-bars and the frame with pivoted pawls arranged to engage the same, so that the frame might be held at any point on the standard desired. These modifications, it will be understood, would not involve a departure from the spirit of my invention, which aims to make the windlass vertically in the standard and provide it with means whereby it may be held at any desired point thereon.

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

1. The combination, with the roof, the standard, and the elevating-rope, of the windlass-frame placed and vertically adjustable on the standard, substantially as described, and for the purposes set forth.

2. The combination of the standard, the roof, the elevating-rope, the vertically-adjustable windlass-frame, and a brake secured to said frame and arranged to bear against the standard, substantially as and for the purposes set forth.

3. The combination of the standard provided with holes A′, arranged one above the other, the roof, the elevating-rope, and the windlass-frame placed and movable vertically on the standard, and a pin projected from the windlass-frame and arranged to engage the openings A′ of the standard, substantially as described, and for the purposes set forth.

4. In a stack-roof provided with suitable bars or arms, the carrier-rail secured thereto substantially in the manner described, whereby it may be adjusted to deliver the straw to any part of the stack, substantially as and for the purposes set forth.

5. The improved stack-roof, substantially as herein described, composed of the standard, the roof proper, placed and movable on the same, and provided with the adjustable carrier-frame, the elevating-rope, and the windlass-frame placed and adjustable vertically on the standard, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. HARPER.

Witnesses:

WILLIAM H. ADAMS,

JOHN A. DEMY.