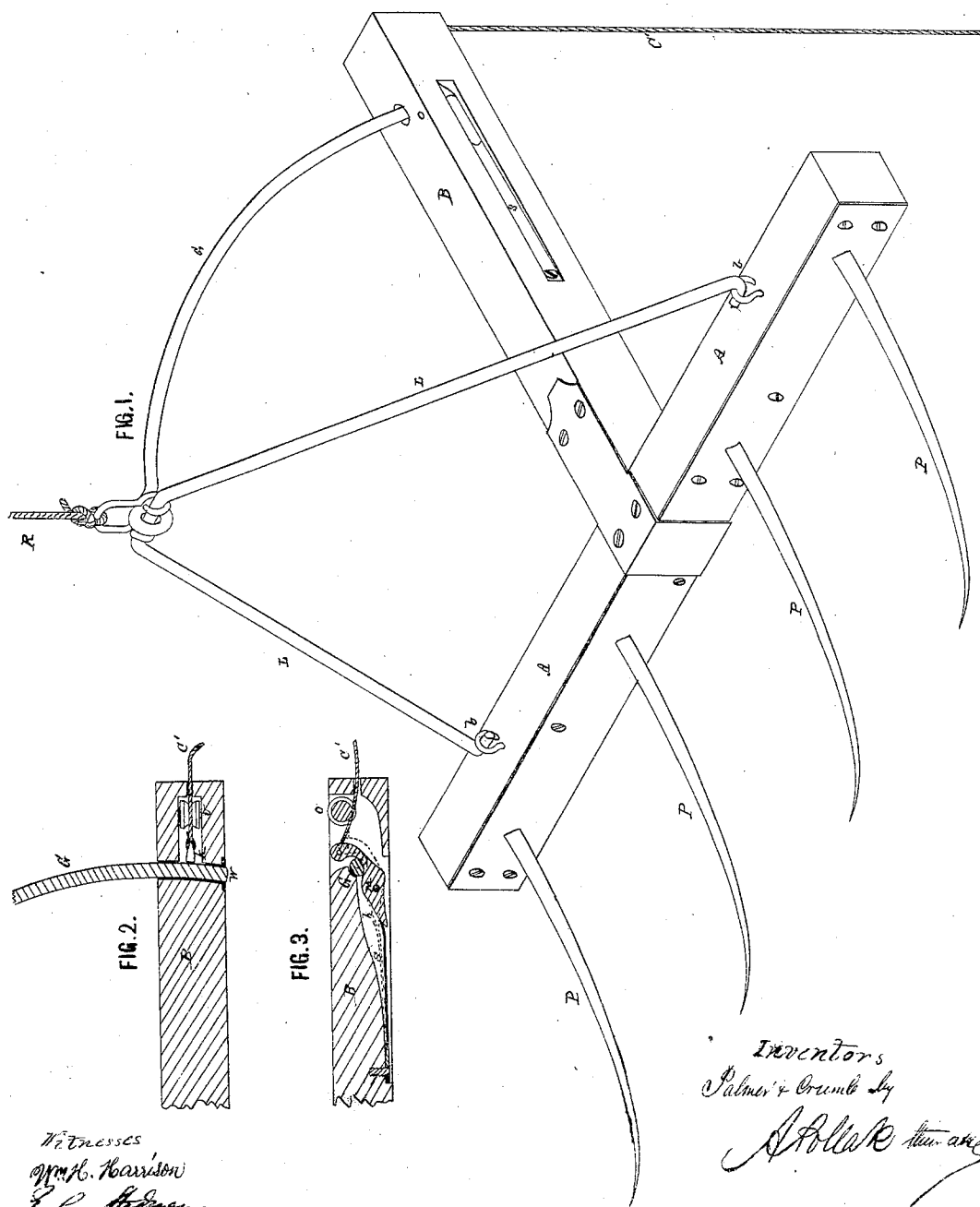


Palmer & Crumb.

Horse Hay Fork.

N^o 34317

Patented Feb. 4, 1862.



*Inventors
Palmer & Crumb by
Attest*

*Witnesses
Wm. H. Harrison
E. C. Hedman*

UNITED STATES PATENT OFFICE.

WM. H. PALMER AND W. CRUMB, OF ORLEANS, NEW YORK.

IMPROVEMENT IN HORSE-PITCHFORKS.

Specification forming part of Letters Patent No. 34,317, dated February 4, 1862.

To all whom it may concern:

Be it known that we, WILLIAM H. PALMER and WAITSELL CRUMB, of Orleans, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Forks for Elevating Hay, Grain, Straw, &c.; and we hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the fork as suspended for use. Fig. 2 is a vertical section, showing the operation of the latch; and Fig. 3, a horizontal section of the same.

Our improvements relate to that kind of forks that are used for elevating hay and straw into barns and other places.

To enable others skilled in the art to make and use our invention, we shall now proceed to describe it.

The frame of the fork is formed in shape like the letter T, and is composed of two parts, A and B, which we call respectively the "cross-bar" and the "shank." In the former we insert four or more prongs or tines, P, that are held permanently in place by means of rivets or otherwise. Near the ends of the cross-bar A are fastened two eyes, b, which engage the hooks or ends of the brace L, forked or so shaped as to form an isosceles triangle with the cross-bar, the apex or top of said triangle being provided with a hook or its equivalent for the attachment of the cord or rope by which the fork is suspended. Within the suspension-hook there is fastened to the brace L a bow, G, curved into an arc of a circle of which the middle of the cross-bar forms the center. This bow passes through an orifice at or near the end of the shank, so that the latter may freely play along the bow when tipped or oscillated upon the hinges that connect the brace with the cross-bar. At the lower end the bow is provided with a head or stop, W, which, being larger than the orifice through which the bow passes, will prevent it from disengaging from the shank. Within the shank and about the part through which the bow plays we provide a mechanism for firmly holding the end of the bow in the shank, or for releasing the same so as to permit the fork to assume such position as will be imparted to it by its own gravity or the gravity given to it in consequence of a superincumbent load. This mechanism con-

sists of a latch, K, that by means of a spring is actuated to bear against the side of the bow, so that when a recessed part of the bow shall come in apposition with the latch, it is caused to fall in and prevent further motion of the bow within the shank. The latch is here shown of the form of an angular lever having its fulcrum at M. Against its short end bears from the inside the spring S, while a cord, C', is attached to the long end and passes out of the shank through a central orifice in the rear thereof. To prevent chafing attending the operation of the latch we insert in a cavity provided for the purpose a little friction-pulley, O, against which the cord C' is caused to bear when the latch is intended to be operated. The bow being notched or recessed at or near its lower end, and on the side facing the latch, it will be obvious that the spring will have a tendency to force the latch against it and actuate its locking in with the bow upon the notch coming in apposition with the latch, and keep the end of the bow so engaged or locked in the end of the shank until released by the action of the cord.

Having thus described the construction and arrangement of the parts constituting our improved horse-pitchfork, we shall now proceed to describe its operation.

The fork, as shown in Fig. 1, is in position ready for operation. The rope R, that is attached to the hook in the angle of the suspension-brace, is passed over a pulley hung onto a rafter or other convenient part of the barn or building in which the hay or straw or grain is intended to be deposited. The rope is then brought down and adjusted into one or more pulleys, according to the number of angles the rope has to describe in order to reach an open space where it is convenient to attach to its end the single-tree of a horse or span of horses. The operator stands upon the load of hay and loads the fork by pressing the tines into the hay. The horse is then started, and the fork with its load of hay is drawn toward the pulley, which is over the mow where it is designed to store the hay, the operator meanwhile keeping the cord C' in his hand or in such a position as to be easily taken hold of at any moment. When the fork has reached the pulley or the elevation desired the cord C' is pulled with a sudden jerk, which disengages the latch to which it is attached from the

notch or recess in the bow, allowing the shank to slide up upon the bow, thereby assuming an inclined position, whereby the load will be discharged or slid off from the tines upon the mow or into the barn. The fork thus discharged is pulled back in its horizontal position by a slight pull upon the shank-cord, whereby the latch is caused to lock the bow, and thus keep the fork in position for operation. The horse is then backed and the fork is let down upon the hay, &c., to be charged again, as above described.

Having thus fully described invention, we shall now state our claim as follows:

In a horse-pitchfork, when composed of cross-bar, shank, and prongs that are rigidly

connected and suspended for operation by means of a brace, as herein described, the bow springing from the suspension-brace and connecting it with the shank, as set forth, in combination with a mechanism located within the shank, whereby the bow may be locked or allowed to slide, substantially as herein described.

In testimony whereof we have signed our names to this specification before two subscribing witnesses.

W. H. PALMER.

W. CRUMB.

Witnesses:

W. R. COLLINS,

JOHN B. COLLINS.