

(No Model.)

2 Sheets—Sheet 1.

D. A. SHANK.
DOUBLE HARPOON CLOVER HAY FORK.

No. 499,258.

Patented June 13, 1893.

Fig. 2.

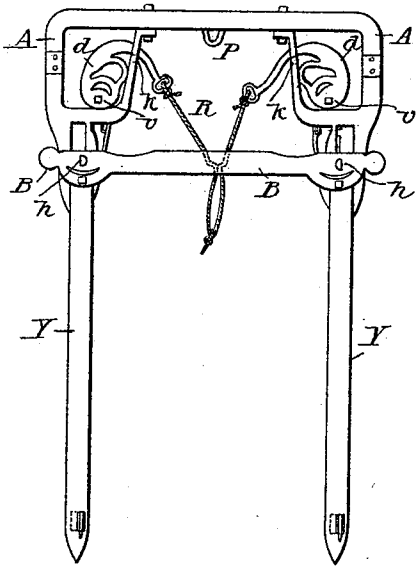


Fig. 3.

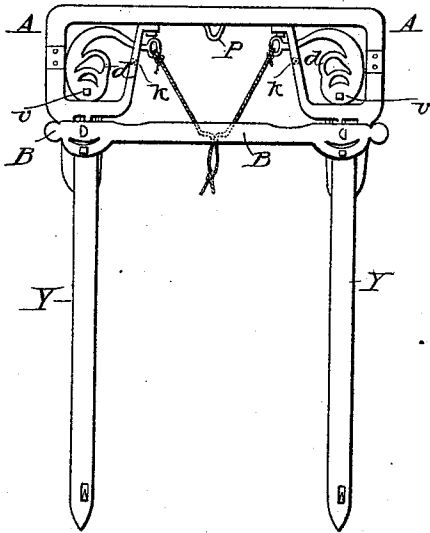


Fig. 4.

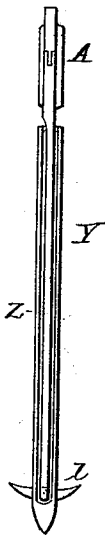


Fig. 1.

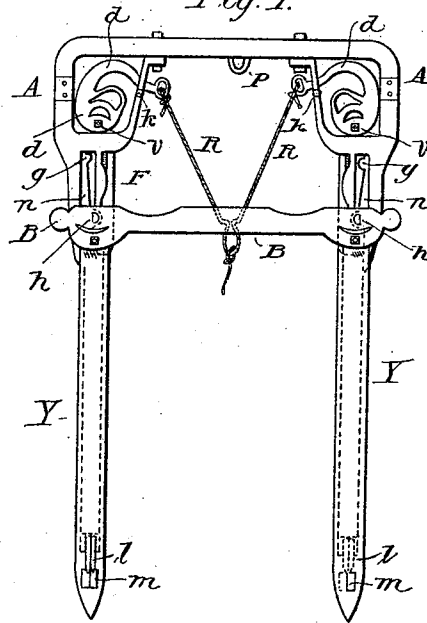
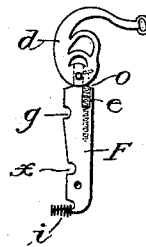


Fig. 5.



Witnesses:

R. M. Ross.
John R. Gumm

Inventor:

David A. Brown Shank

(No Model.)

2 Sheets—Sheet 2.

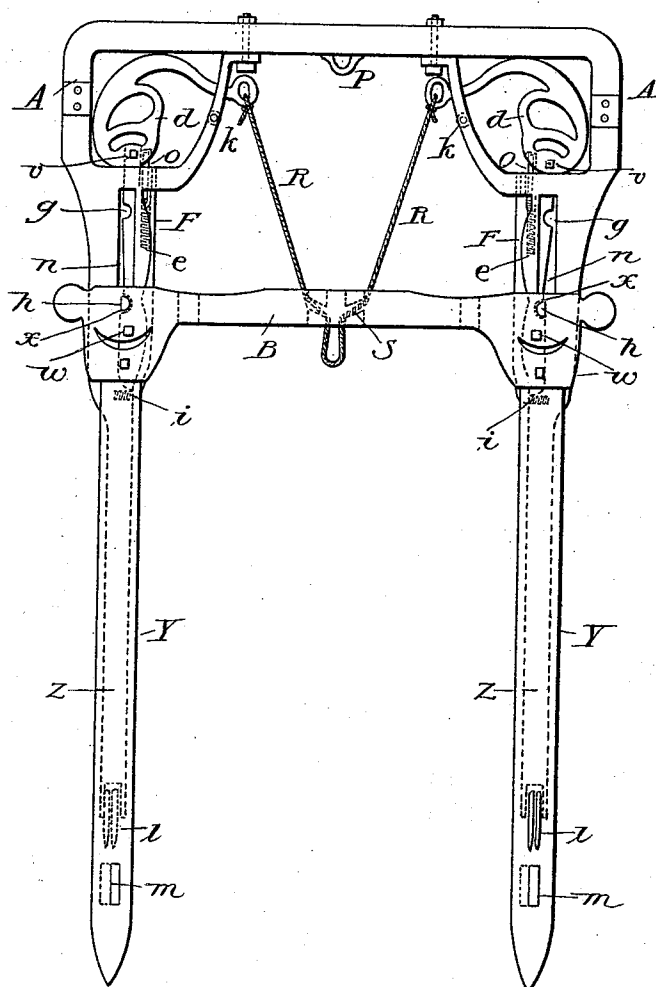
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Fig. 6.



Witnesses:

A. M. Ross.

John R. Gunn.

Inventor:

David Abram Shank.

UNITED STATES PATENT OFFICE.

DAVID ABRAM SHANK, OF VERSAILLES, MISSOURI.

DOUBLE-HARPOON CLOVER-HAY FORK.

SPECIFICATION forming part of Letters Patent No. 499,258, dated June 13, 1893.

Application filed October 10, 1892. Serial No. 448,481. (No model.)

To all whom it may concern:

Be it known that I, DAVID ABRAM SHANK, a citizen of the United States, residing at Versailles, Morgan county, Missouri, have invented a new and useful Double-Harpoon Clover-Hay Fork, of which the following is a specification.

Figure 1 is a side view of the entire fork ready for use. Fig. 2 is a side view of the entire fork with the trip half thrown. Fig. 3 is a side view of the entire fork with the trip entirely thrown and fork in loaded position. Fig. 4 is an end view of Fig. 3. Fig. 5 is a view of trip spring, shuttle, and trip arm. Fig. 6 is a detailed view of the entire fork.

Similar letters refer to similar parts throughout the several views.

The fork consists essentially of two principal parts, viz: the upper frame A A; and the outer frame, which consists of the cross-bar, B, and the posts, Y Y. The upper frame, A A, works above and extends downward within the outer frame. The harpoons, Z Z, are an extension of the upper frame, A A, working within the posts Y Y, and to the ends of the harpoons Z Z, are bolted the prongs or tines, l l, which are thrown outward through the openings marked m m, in the posts Y Y.

F F designate the shuttles which are attached to the trip arms d d, by the bolts v v. In each shuttle on the inner side is placed a spiral spring, e, (shown in Figs. 5 and 6.) To these springs are attached pins, o o, (Figs. 5 and 6) which communicate their force to the trip arms, d d. The pins, o o, work in sockets in the trip arms. At the base of each shuttle is placed a spiral spring, i, which works laterally.

n, denotes the open space in which the shuttle plays.

The shuttles are attached to the upper frame A by the bolts w w, (shown in Fig. 6,) and while the shuttles are thus securely held in place, they are given a slight movement on the bolts so as to allow easy action of the shuttles in the open space n.

The shuttles F F, on both sides are pressed inward by means of the trip arms d d. These trip arms are always thrown back in place by the spiral springs e e, (Figs. 5 and 6,) whenever the pressure or tension is removed.

Whenever the shuttles are drawn in at the top by means of the trip arms, the spiral springs i i, attached to the lower ends of the shuttles, are compressed, and these springs always throw the shuttles back in place as soon as the pressure or tension is removed from the trip arms.

R R indicate the trip rope attached to the trip arms d d.

S denotes the opening (shown in dotted lines) in the cross-bar B, through which the trip rope passes.

h h denote the half round bolts passing through the cross-bar B, and fitting into the notch x in each shuttle. (For x see Figs. 5 and 6.)

g g denote notches in the shuttles which fit securely over the bolts h h when the upper frame A A and the harpoons Z Z are thrown down and the fork is in loaded position.

m m denote the openings in the posts Y Y through which the prongs or tines l l are thrown. These prongs or tines are indicated by l l.

The aperture at P is for the purpose of attaching a pulley rope by which the loaded fork may be elevated into the hay mow or onto the stack.

k k denote small rollers to secure easy movement of the trip arms.

Fig. 4 is an end view of the fork and shows particularly how the frame A A and the harpoons Z Z work within the outer frame, consisting of the cross-bar B and the posts Y Y, and also the position of the prongs or tines l l when the fork is in loaded position.

The operation of the fork is as follows:—

The operator places the fork as shown in Fig. 1 or Fig. 6, in a vertical position, with his hands partially on the upper frame A, and partially inserted in the openings in the trip arms, d d. The fork is first pressed into the load of hay; the trip arms are immediately thrown inward with the hands as shown in Fig. 2; the trip arms, thus moved, throw the shuttles inward removing the notch, x, from the half round bolt h, and the upper frame A A and the harpoons Z Z are immediately pressed downward. The prongs or tines l l are thrown out through the openings m m as shown in Fig. 4; the shuttles F F are thrown back by

the spiral springs *i i*, setting the notches *g g* over the half round bolts *h h*, and the fork is securely loaded. Thus loaded the fork may be carried by means of a pulley rope attached
5 at P to any desired position in the hay mow or on the stack. To unload the fork, the operator, standing on the load of hay, pulls the trip rope R, as shown in Fig. 2, which draws the trip arms *d d*, and likewise the shuttles
10 F F, inward; thus removing the notches *g g* from the bolts *h h*; and the upper frame, A A, and the harpoons Z Z are drawn up through the outer frame; the tines *l l* are drawn in;

the springs *i i* throw the shuttle notch *x* over the bolt *h*, (see Fig. 6,) and the fork is unloaded. 15

What I claim as my invention, and desire to secure by Letters Patent, is—

A double harpoon clover or hay-fork comprising the opposite posts, the harpoons working therein, the shuttles, the springs connected with said shuttles, and the trip-arms, substantially as described. 20

DAVID ABRAM SHANK.

Witnesses:

ROBERT M. ROSS.

D. W. EATON.