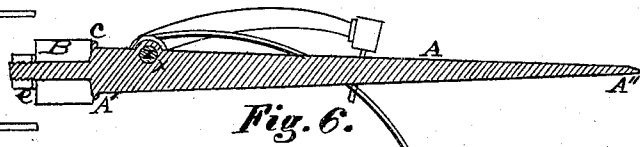
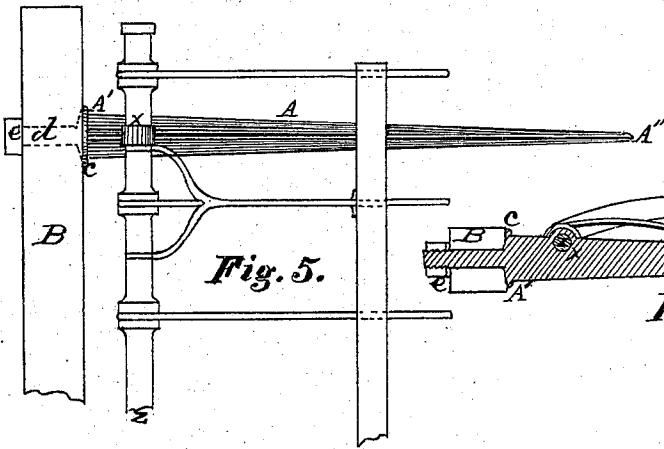
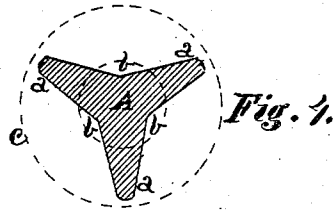
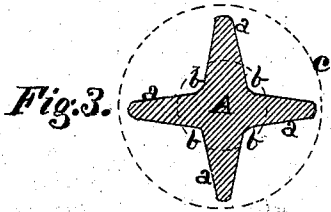
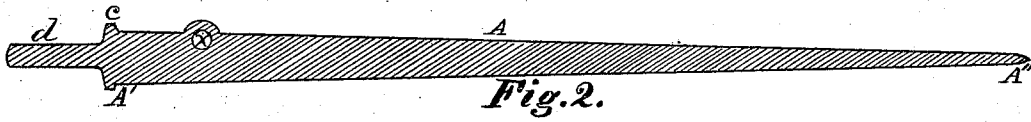


D. E. BRISTOL.

Clearer-Bar for Horse-Rakes.

No. 133,745.

Patented Dec. 10, 1872.



Witnesses. { Charles H. Coy,
Notary

David E. Bristol
by his Attorney
Alex. Delkirk

UNITED STATES PATENT OFFICE.

DAVID E. BRISTOL, OF ALBANY, NEW YORK, ASSIGNOR TO HIMSELF AND JOHN A. BURNAP, OF SAME PLACE.

IMPROVEMENT IN CLEARER-BARS FOR HORSE-RAKES.

Specification forming part of Letters Patent No. 133,745, dated December 10, 1872.

To all whom it may concern:

Be it known that I, DAVID E. BRISTOL, of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Clearing-Bars for Horse Hay-Rakes; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a perspective view of a clearing-bar embodying my invention; Fig. 2 is a longitudinal sectional view of the same; Fig. 3 is a cross-sectional view; Fig. 4 is a cross-sectional view of a modification of its cross-structure; Fig. 5 is a vertical view of the clearing-bar, illustrating the application of the invention; and Fig. 6 is a sectional view of the same.

The same letters of reference indicate the same parts.

My invention relates to certain improvements in clearing-bars of horse hay-rakes by which the said bar is made more stiff to resist any vertical or lateral strain that may be exerted on the same, and will be made more firm at its juncture with the axle or frame of the rake, and will be capable of receiving the thimble-bar, which heretofore was supported by special pieces; and it consists in forming the said bar in its longitudinal direction with a taper, and in its cross-sectional structure ribbed or fluted, and providing it at its head, at its attaching device, with a broad bearing-flange, whereby the said bar will be rendered greatly stiffened without having its weight materially increased, and will be better supported at its point of attachment with the frame of the rake, and therefore be better able to withstand the great pressure exerted on the bar by the hay, either in a vertical or lateral direction, than the clearing-bars, as they have heretofore been made.

In the drawing, A represents the clearing-bar, made, preferably, of cast malleable iron. The said bar is about three feet long, more or

less, and is made tapering from its head A' to its tip A'', as shown; and instead of being made round, square, or of other solid form, I form it with ribs *a a* or flutings *b b*, as shown in Fig. 3, which is preferred, though the ribbings or flutings in Fig. 4 would operate substantially in the same manner. The said flutings or ribs are made to commence at the head A' and are continued to the tip A'', as shown in Figs. 1 and 5. At the head A' is formed a flange, *c*, extending outward beyond the ribs, and forming a shoulder, *c'*, from which the said ribs *a a* start in one direction, while the attaching-bolt *d* connects with it, as shown. When the bar is attached to the frame of the rake the bolt *d* will be made to pass through the frame-piece B, and the said shoulder *c'* will have its support against the timber, and be tightly drawn into its surface by the screw-threaded nut *e* working on the bolt *d*, as shown in Figs. 5 and 6.

Being thus constructed with the taper form and the ribbing or fluting elements, and provided with a broad base support, as is given by the extensive flange-shoulder, the bar is not only rendered stiff in its lightness between its head and tip, but it is also made firm at its junction with the timber, and all tendency to being bent, deflected, or sprung in either its length or at its base will be measurably overcome.

An eye, *x*, located on the upper side of the bar A, about five inches (more or less) from the shoulder *c'*, is made to receive the thimble-bar *z*, carrying the fingers of the rake.

Having described my invention, what I claim is—

The tapering clearing-bar A, having ribs *a*, flange *c*, and attaching-bolt *d*, substantially as and for the purpose set forth.

DAVID E. BRISTOL.

Witnesses:

ALEX. SELKIRK,
CHAS. SELKIRK.