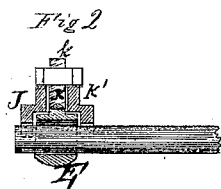
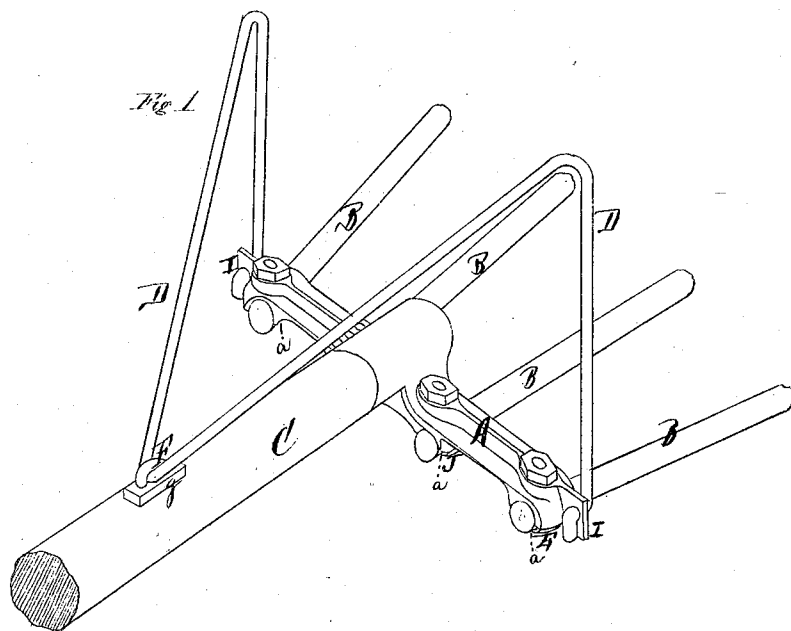


W. W. Bryan,
Ginn Port.
No. 106,656, Patented Aug 23. 1870.



Witnesses
Harry King
W. J. Lamin

Inventor.
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per
Alexander Thaddeus
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United States Patent Office.

WILLIAM W. BRYAN, OF SCHAGHTICOKE, NEW YORK.

Letters Patent No. 106,656, dated August 23, 1870.

IMPROVEMENT IN GRAIN-FORK

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, WILLIAM W. BRYAN, of Schaghticoke, county of Rensselaer and State of New York, have invented a new and useful Improvement in Grain-Fork; and I hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a perspective view, and

Figure 2 is a section showing the connection of the finger to the head.

Similar letters of reference indicate like parts in all the figures.

Heretofore, in the construction of grain-forks with metallic heads and wooden tines, the tines have been secured to the head by being driven, with great force, from the rear side, into conical sockets in the head.

There are several objections to this method of construction, which are entirely overcome in this invention.

In the use of metallic heads with conical sockets, the wooden tines must be driven in with great force to make them secure, frequently rupturing the head, and thereby occasioning loss in the manufacture of the fork. The tine must be driven with great accuracy, which is difficult; otherwise they must be bent, or the head itself twisted, occasioning considerable breakage.

After the fork has been in use for a time, owing to the inequality of the fiber of the wood and to the moisture, the tines lose their shape, and become irregular, rendering further adjustment necessary, and yet very difficult, if not impossible.

The tines are liable to break, when it is difficult for a farmer to replace them, owing to the nicety with which they must fit to be perfectly secure and not rupture the head.

The tines frequently become loose in the socket after use, when it is impossible to fasten them securely. The fork must be put together at the manufactory, and is, consequently, bulky and expensive to transport.

This invention consists in the employment of a metallic head, in connection with long wooden tines of this class of fork, the head having depressions, to receive the tine, corresponding, in shape and size, to the tine used either on the upper or under side of the head, as may be preferred. I prefer to employ them on the under side, but sometimes make them above.

Also, in the use of a gripe or clamp, with bolt or stem. The gripe receives the large end of the tine, and the bolt or stem passes through the head, the gripe sinking into a chamber in the head made for the purpose, when, by means of a nut on the opposite side of the head, the gripe is drawn up into its place, thereby firmly holding the tine.

Also, in the employment of a wire brace or guard,

of triangular form, so constructed and attached that it can be readily detached from the fork when desired.

In the accompanying drawing—

A is a metallic head.

B B are the wooden tines.

C is the handle.

D is the triangular brace and guard.

In the construction of this fork the tines, of suitable form and size, are clamped to the metallic head, by having the large end of the tine passed through the gripe or clamp E, when the bolt or stem *k* is passed through the hole *k'* in the head. By means of a nut this gripe is drawn up into a chamber in the head, shown in the drawing. The tine is drawn up into the depression in the head, and is held securely by being jammed against the head by the gripe.

The triangular guard and brace D are secured to the head by being so bent at the ends that they can be passed through suitable holes in the end of the head at J, when the brace is secured to the handle by means of a hook or staple, F, the long end of which passes through a button of thick leather or other pliable material, and is driven into the handle.

After the brace is caught under the hook, the button is brought round to its place, filling the space between the handle and the short end of the staple or hook, when it is secured to its place by a tack or brad.

When it is desired to remove this brace, for shipping, or for any other purpose, it can readily be done by turning the button in the opposite direction, as shown by the dotted lines H, when it can at once be unhooked from the handle and from the head.

The ends of this brace or guard turn down after passing through the end of the head, and rest against a shoulder, thus making it much stronger to resist lateral pressure.

This fork can be shipped in parts, and so be less bulky and less liable to break. It can be put together by a farmer in a few minutes, and the tines can be perfectly adjusted without twisting or bending the head, and they can always be kept perfectly tight and solid in their place.

A new tine can be put in in a moment, and, when necessary, the brace or guard can be readily removed.

Having thus described my invention,

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

The combination and arrangement of the metallic head A, with depressions on its under side and perforations, clamps E, for securing the tines B, end pieces I, and angular brace D, all secured to the handle C, and constructed substantially as set forth.

WILLIAM W. BRYAN.

Witnesses:

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J. BOXLEY.