B. R. HUBBARD.

Wheel Plow.

No. 107,052. Patented Sept. 6, 1870.

Fig. 1

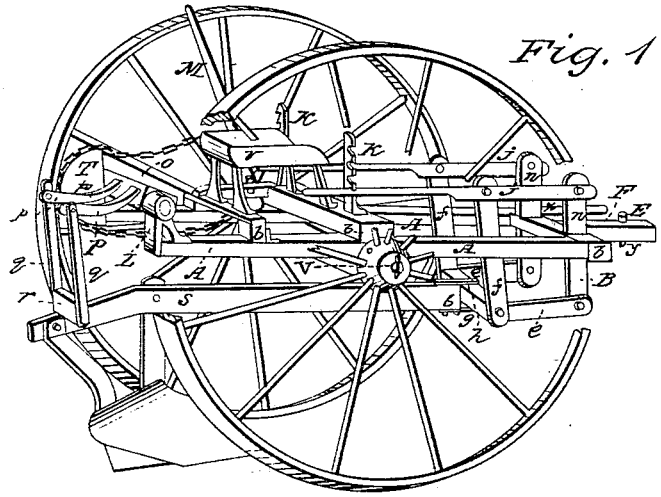
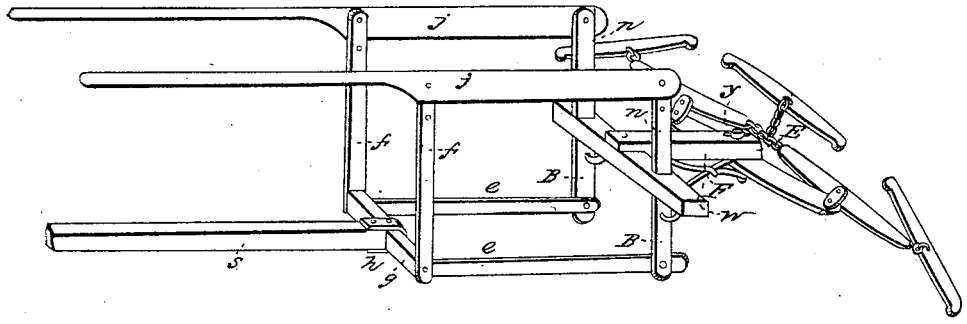


Fig. 2



Witnesses:

S. Hopkins

A. Wiseburn

Inventor:

B. R. Hubbard

By Myers & Co

attys in fact

# UNITED STATES PATENT OFFICE.

BENJAMIN R. HUBBARD, OF HILLSBOROUGH, ILLINOIS.

## IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **107,052**, dated September 6, 1870.

*To all whom it may concern:*

Be it known that I, BENJAMIN R. HUBBARD, of Hillsborough, in the county of Montgomery and State of Illinois, have invented certain Improvements in Sulky-Plows, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side view, embodying my invention, with the wheel broken away to show the parts thereof. Fig. 2 is a plan of that part of the device by which the angle of inclination of the plow is adjusted.

My invention consists in the peculiar construction and arrangment of the parts of a sulky-plow, whereby the plow may be adjusted to suit the varying character of the soil, or lifted out of the same, and whereby side draft is prevented; and in the peculiar construction of the tongue, and arrangement of the wire or chain, in connection with the single-tree, which causes the draft to be centered upon the point of greatest resistance—namely, the plow—thereby preventing side draft or oscillation, and economizing the power or labor by which it is operated, and in all respects causing it to more efficiently perform the intended work.

A is the carriage-frame, which is composed of two longitudinal pieces and the transverse pieces *b b b*.

B is a metallic support or frame, which is rigidly attached to the carriage-frame on the under side of the latter. It has attached thereto the links *e e*, which, in connection with the vertical pieces *f f*, form the bearings of the hinge *g*, which latter is secured to the plow-beam by the metallic straps *h h*. Said support or frame B is provided with lateral apertures, located in that part thereof which projects below the frame, into which is inserted and secured the heavy wire or chain W, which is first twisted, and then securely fastened by its one end to the upper part of the king-bolt Y, above the single-tree, and, by its other end, similarly attached to the king-bolt at that part thereof which projects beneath the tongue. The head of the king-bolt Y projects over the longitudinal slot E, formed in the tongue F, and a nut on the lower part of said king-bolt retains in its place the wire or chain fastened at that end thereof.

*f f* are vertical pieces, to which the levers *j j* are pivoted, and the racks K K are designed for the reception of the said levers, which levers are connected with the plow-beam, as shown, in order that the plow may thereby be readily elevated or lowered, or adjusted to plow to any required depth, at the option of the plowman.

*j j* are levers, the same being pivoted to the swivels N N, which latter, projecting through the metallic support B, are riveted on the under side thereof. Said swivels N N are rounded at the lower part thereof, which passes through the carriage-frame and the metallic support B, and flattened at that part thereof which projects above said carriage-frame, in order the better to pivot thereto the levers *j j*.

L L are metallic bearings or sockets, which are attached to the carriage-frame for the reception of the hinge O, to which the joint P is rigidly attached. The knee-joint P is composed of the two pieces *p*, which are hinged, respectively, to the two vertical links *q*, which latter are also hinged to the transverse piece *r*, which is rigidly attached to the plow-beam S.

T is a sheave, which is rigidly fastened to the pivotal piece or hinge O, and is attached by chains or cords to the lever M; and said lever M is designed, in connection with the sheave T and the hinge O, for elevating or lowering the plow; and its fulcrum is provided in connection with the longitudinal piece *z*, to which it is pivoted.

The plow is attached to the beam S by three metallic supports, the one being vertical, and the remaining two angular projections therefrom.

The driver's seat *v* is supported by standards, which latter are rigidly fastened to three cross-pieces, as shown.

The axles V are metallic, and attached to the carriage-frame, at the under side thereof, where they are flattened and screwed thereto, a slight angle in the said axles elevating the carriage-frame above the center of the hubs of the wheels.

I claim—

The construction and arrangement of the metallic support B, the tongue F, and the wire or chain attachment W, substantially in the manner and for the purpose described.

B. R. HUBBARD.

Witnesses:

J. ENLOW,

JOHN O. BURNETT.