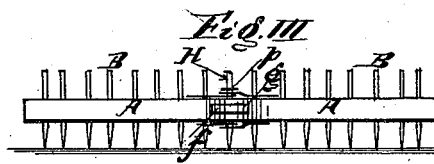
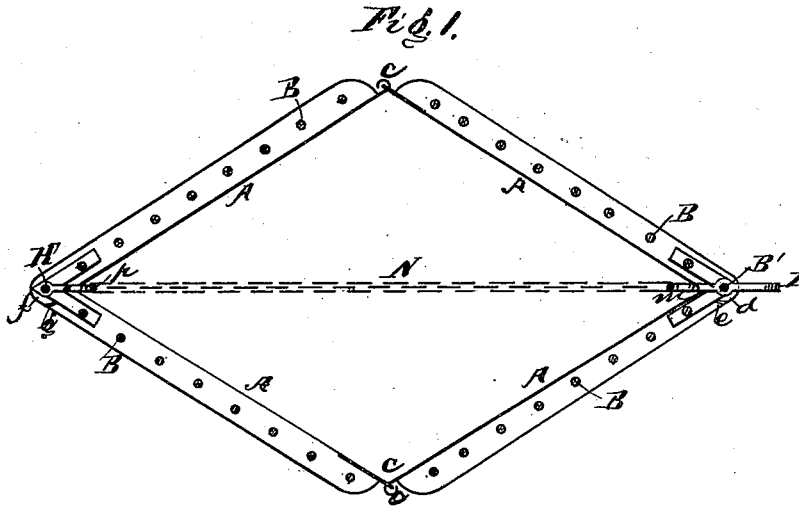


D. COUCH.
HARROW.

No. 186,805.

Patented Jan. 30, 1877.



Witnesses:
F. Baird,
Richard Gerners

Inventor:
David Couch,
Per: Henry Gerners,
his Attorney.

UNITED STATES PATENT OFFICE.

DAVID COUCH, OF NOBLESTOWN, PENNSYLVANIA.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 186,805, dated January 30, 1877; application filed July 14, 1876.

To all whom it may concern:

Be it known that I, DAVID COUCH, of Noblestown, Allegheny county, State of Pennsylvania, have invented certain Improvements in Harrows, of which the following is a specification:

The object of my invention is to provide for a device for the adjusting of a harrow so as to make it longer or wider, as may be required.

My invention consists in hinging together the ends of the four parts of a harrow, as hereinafter described. To one of these hinges or connections I adjust, by aid of one of the teeth of the harrow, a swivel or clamp, for the purpose of hitching the draft-animals to the harrow. The upper rear end of this swivel terminates in an eye, in which is fastened a chain. By aid of a hook attached to the top of a bolt, which acts as a pivot for the opposite hinge of the harrow-frame, I am enabled to stretch the chain over the top of the harrow, and make the harrow longer or wider instantaneously, as may be required, by shifting the links of the chain in the hook.

In order to describe my invention more fully, I refer to the accompanying drawing, forming a part of this specification.

Figure I is a top view of my adjustable harrow. Fig. II is a front view, and Fig. III is a back view, of the same.

A A are the four parts of the frame. B B are the teeth. C C are hinges bolted to the sides of A A. *d* and *e* represent the slotted and tenoned ends of the frame, forming a hinge by aid of the harrow-teeth B', acting as a pivot or axle. *f* and *g* represent the opposite dovetailed ends of the frame, also forming a hinge by aid of the bolt H, acting as a pivot. I is the swivel or clamp by which the harrow is hitched to the harness of the draft-animals, terminating in the eye *m*, to which the chain N is fastened. *p* is the hook, fastened to the bolt H, by aid of which the chain is shortened and lengthened, adjusting the harrow as may be desired.

Having thus described my invention, I claim—

The forward bars of the harrow, hinged together on a vertical pin, and the hinder bars hinged in like manner, said pairs of bars having lateral expansion and contraction, in combination with the adjusting-chain N and link-joints C C, as and for the purpose specified.

DAVID COUCH.

Witnesses:

GEO. K. ROBB,
W. McCLEAN.