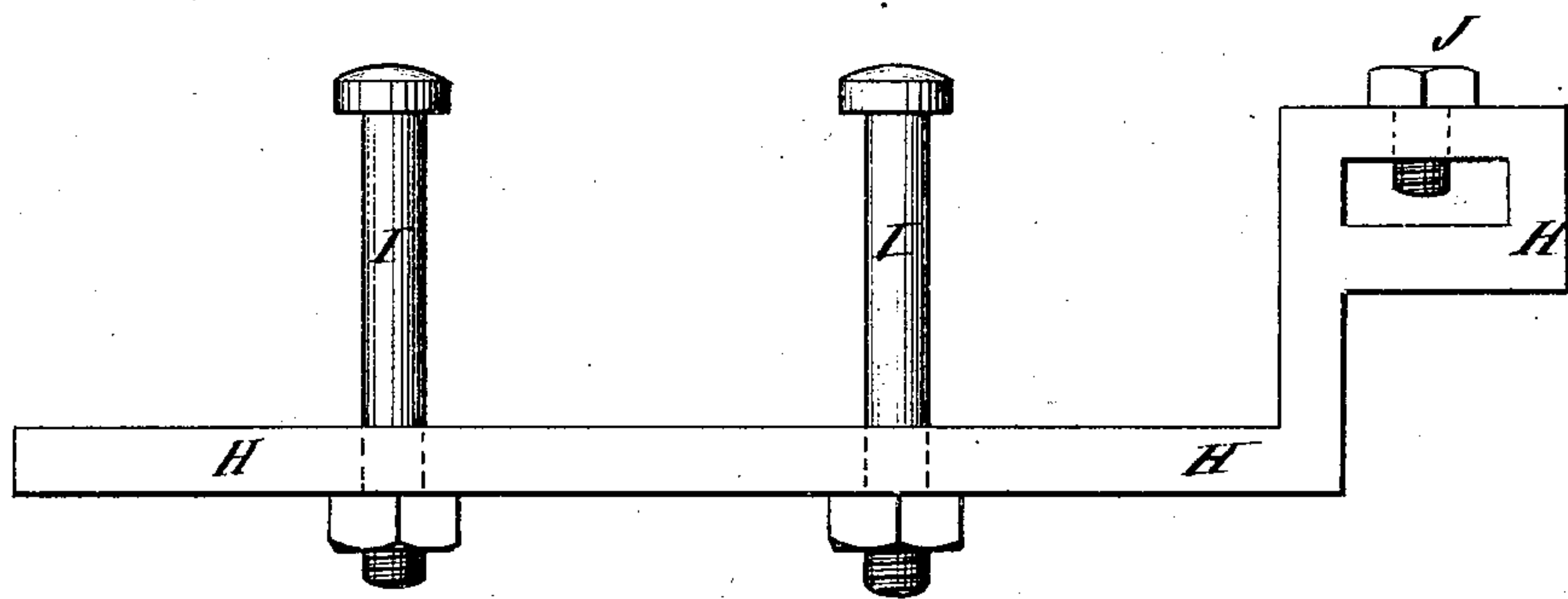
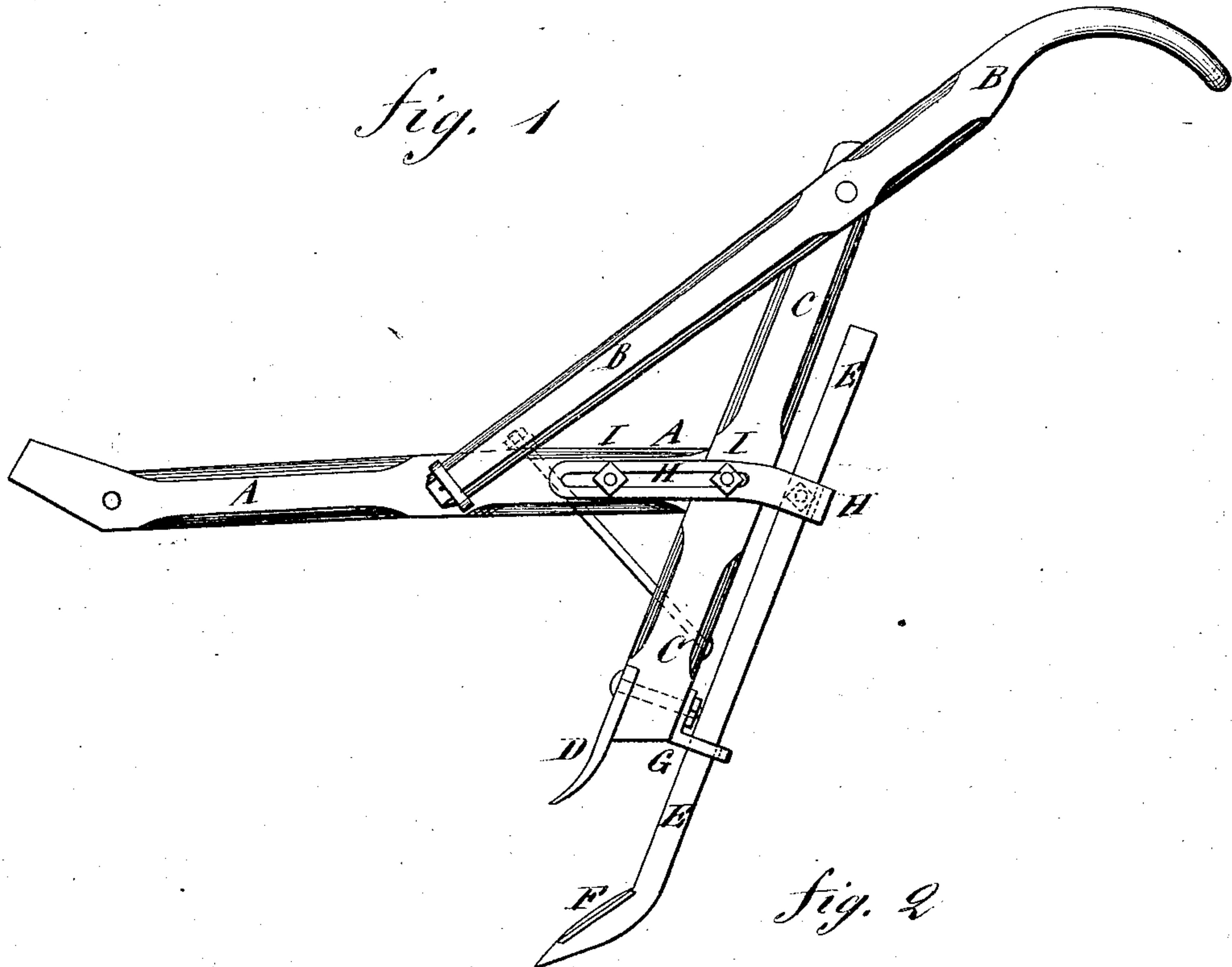


A. L. MANNING.  
Subsoil Plows.

No. 153,587.

Patented July 28, 1874.



WITNESSES:

*B. Nevens*  
*Osudgwick*

INVENTOR:

*A. L. Manning*  
BY *Manning & Co*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ANDREW L. MANNING, OF BOONEVILLE, MISSISSIPPI.

## IMPROVEMENT IN SUBSOIL-PLOWS.

Specification forming part of Letters Patent No. **153,587**, dated July 28, 1874; application filed June 13, 1874.

*To all whom it may concern:*

Be it known that I, ANDREW L. MANNING, of Booneville, Prentiss county, Mississippi, have invented a new and useful Improvement in Subsoil-Plows, of which the following is a specification:

Figure 1 is a side view of my improved subsoiler, shown as applied to an ordinary plow. Fig. 2 is a detail top view of the adjustable support of the subsoiler-standard.

Similar letters of reference indicate corresponding parts.

The invention relates to a subsoil attachment for furrowing and other plows having a rear standard; and consists in the construction and arrangement of parts, as hereinafter described, and specifically indicated in the claim.

A represents the beam. B represents the handles, and C the standard, of an ordinary plow. D is the plow-plate, which is designed to be made small, so as to throw only enough soil to dirt the plants, the soil being loosened by the subsoiler. E is the subsoiler-standard, the lower end of which is inclined forward, to form the foot F. Upon the sides of the foot F are formed wings about four inches long, about one inch and a half wide at the rear end, and tapering to a point at the forward end. The standard E passes up through a guide-bracket, G, attached to the rear side of the

lower end of the plow-standard C. The upper part of the standard E passes through a slot in the rear end of the bar H. The slotted rear end of the bar H rests against the rear side of the standard C, opposite the rear end of the beam A. The bar H is then bent forward at right angles, and extends along the side of the beam A, and is slotted to receive the bolts I, by which the said bar is secured to the side of the said beam A adjustably, so that it may be conveniently moved forward and back, to adjust the pitch of the subsoiler as may be required. The subsoiler E F is supported at any desired elevation by a set-screw, J, which passes in through the bar H, and rests against the side of the standard E, so that the subsoiler can be readily raised and lowered to adjust it to work at any desired depth in the ground.

Having thus described my invention, I claim as new and desire to secure by Letters Patent

The bar H, of right-angled form, having horizontal and vertical slots, the clamp J, adjustable bolts I, and bracket G, in combination with the subsoil-standard E and plow-frame A C, as shown and described.

ANDREW L. MANNING.

Witnesses:

JNO. R. MOORE,  
RICHD. B. SMITH.