

A. F. FROMM.
Plow Attachment.

No. 226,657.

Patented April 20, 1880.

Fig. 1.

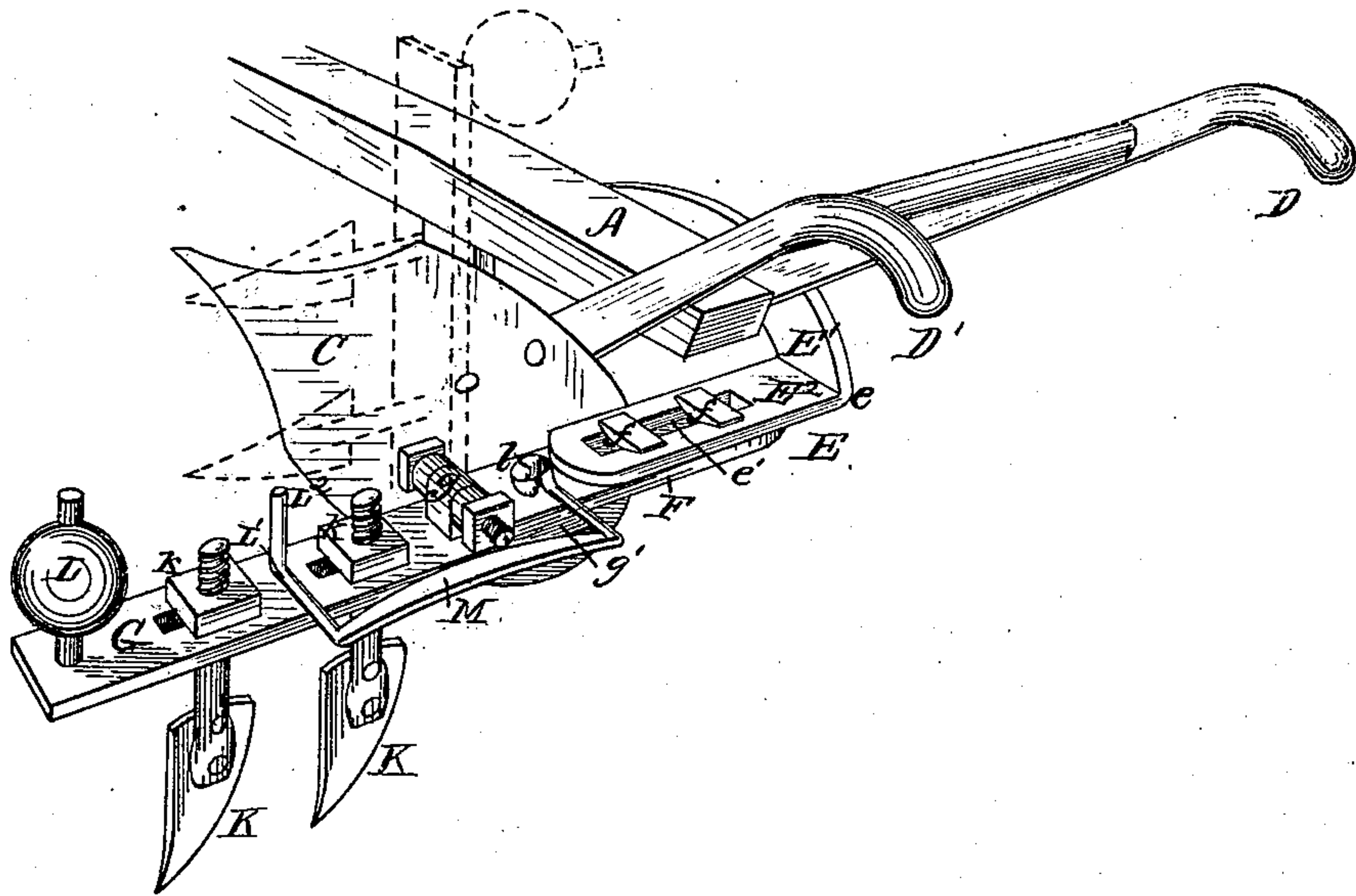
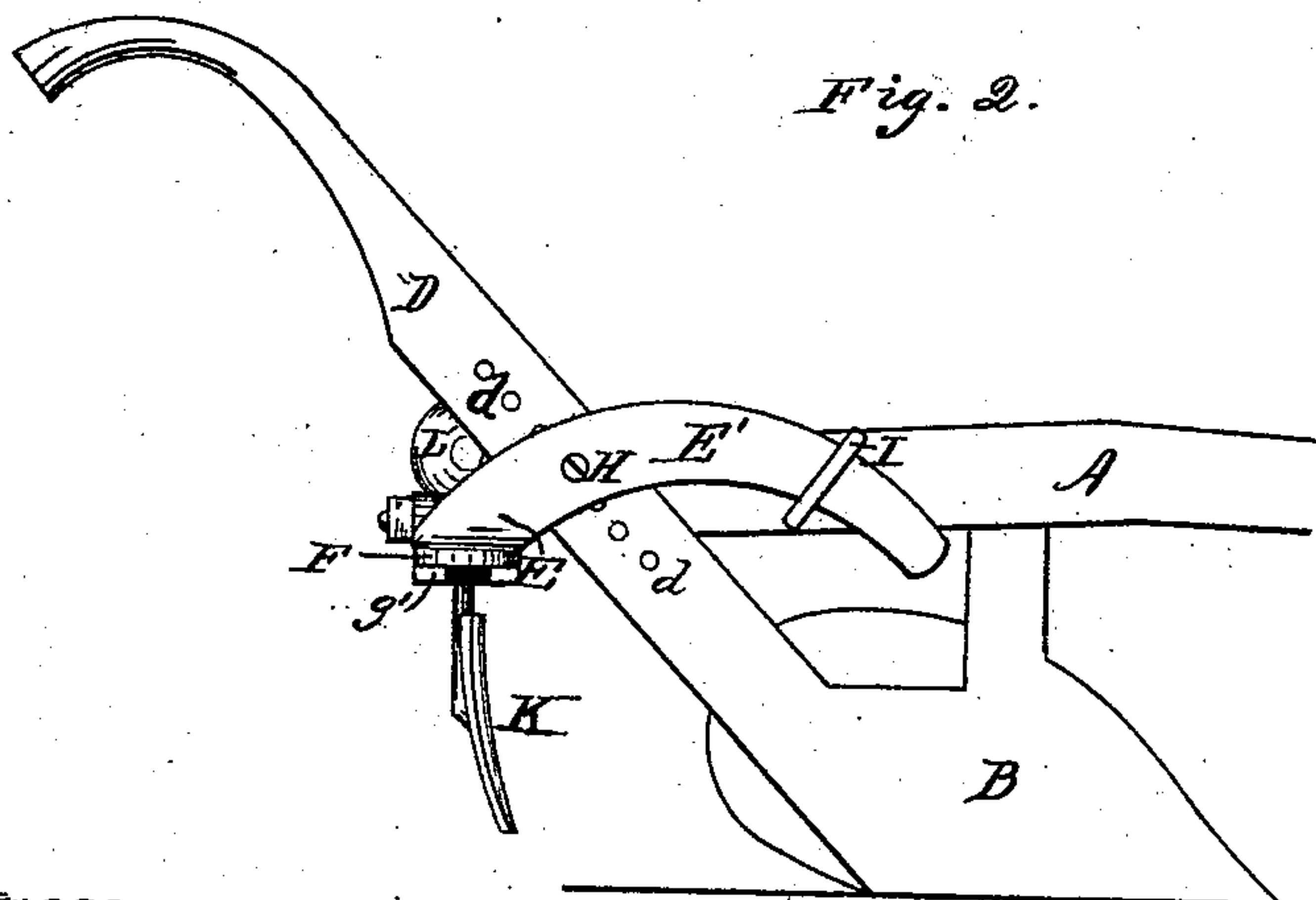


Fig. 2.



Witnesses:

H. H. Low.
J. S. Barker.

Inventor:

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att'y

UNITED STATES PATENT OFFICE.

ALBERT F. FROMM, OF CANTON, OHIO.

PLOW ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 226,657, dated April 20, 1880.

Application filed February 18, 1880.

To all whom it may concern :

Be it known that I, ALBERT F. FROMM, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful
5 Improvements in Plow Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same,
10 reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a perspective view of a plow having my improved attachment.
15 Fig. 2 is an elevation taken from the land side of the plow.

In the drawings, A represents the beam, B the land-side, C the mold-board, and D D' the handles, of a plow, which may be, so far as
20 my invention is concerned, of any ordinary or convenient construction.

The main parts of my improved device consist of the three strong metallic bars or plates E, F, and G. The part E is bent at *e*, so as to
25 provide an upwardly and forwardly curved portion, E', substantially in a vertical plane, and the part E², substantially in a horizontal plane. This plate is secured to the plow-frame by means of a bolt or pivot at H, and a loop or
30 metallic eye, I, secured to the plow-beam. The curved part E' extends forward and somewhat downward through the loop, wherein it may be fitted tightly, or may be arranged to be adjusted to a limited extent by means of a pin
35 and apertures, as shown.

The intermediate plate, F, of the attachment is secured to the horizontal part E² of the plate last described by means of bolts or set-screws *ff*, inserted through apertures in
40 the part F and passing through a slot, *e'*, in the part E².

G represents the tooth beam or plate, which is hinged to the part F, as shown at *g*. By means of this hinge the outwardly-projecting
45 part of the attachment may be turned or folded up against the plow-frame when not in use, as shown in dotted lines in Fig. 1. *g' g'* are tongues or arms projecting from the inner end of the tooth-beam G some distance beyond the
50 hinge *g* and beneath the plate F. They op-

erate to prevent the falling of the part G below the desired plane, causing it to be, so far as downward pressure is concerned, rigidly secured against the part F.

K K represent the teeth or supplemental
55 plows, secured to the beam G by bolts and nuts similar to those shown at *k k*, or in any preferred manner.

As the attachment is made to be used with
60 plows of different sizes it is necessary that the teeth should be adjustable relatively both to the plow and to each other, so that they can be properly set to coincide with the ridges left by the plow. In my construction they are adjusted relatively to the plow by means of the
65 slotted bar E² and the part F, and they can be adjusted relatively to each other by means of the slots *g'* in bar G and nuts *k k*.

L represents a weight attached to the outer end of the tooth-beam G. I prefer to employ
70 a metallic weight fastened to the beam by means of screw-threads or by permanently riveting it, although other means for securing it in place may be adopted, if desired. This weight not only serves to hold the teeth down to their
75 work when in operation, but also serves to counterbalance and lock the hinged tooth-bar G in the upright or inclined position occupied when it is folded back against the plow-frame during transportation and when the teeth are
80 thrown out of work.

M is a spring, the fixed end of which is attached to the bar F by means of a pivot, *l*. The spring is bent in such manner that it shall have an arm, L', adapted to be placed over and
85 to bear downward upon the tooth-beam G and hold it to its work with any desired tension. L² is a handle formed with or attached to the outer end of the spring, whereby the spring can be readily moved to or from the beam.
90

The hinge *g* permits the teeth, when they come in contact with stones or other obstructions, to rise, in order that they may pass over or escape said obstructions, and the spring L insures that after the teeth have escaped they
95 shall be instantly returned and held to their work again.

The handle D, to which the attachment is secured on the land side of the plow, is provided with a series of bolt-apertures, (shown at *d*,) 100

whereby the teeth may be set at any desired height, and by this means, in connection with the adjustability through the parts E' and I, the teeth may be set at any desired angle to the plane of the plow. The slot *e* in the part E and the screws *f f* permit the tooth-beam and the teeth to be adjusted to any desired distance from the plow.

From the foregoing description and an examination of the drawings it will be seen that my improved attachment may be instantly removed by withdrawing a single bolt from the frame of the main plow, thus leaving the plow entirely freed from the parts necessary to support or operate the finishing attachment.

It will be seen, moreover, that, owing to the peculiar shape of the bar or plate E, I am enabled to support the attachment horizontally from the inside of the plow without its being liable to disastrous results from lateral strain upon the harrow-teeth, the vertical bar or plate E' enabling me to dispense with the complicated devices necessary to support the tooth-frame when it is attached to the plow on the mold-board side.

I am aware that harrowing attachments of various kinds have been heretofore combined with plows, and I do not wish to be understood as claiming any of these devices, broadly, as my invention.

What I claim is—

1. The combination, with the bar E, having the vertical part E', arranged to be secured

against the land side of the beam and handle of an ordinary plow, and the horizontal part E², extending across the plow, of the bar F, adjustably secured to the horizontal part E², and the tooth-bar G, hinged to the adjustable part F, substantially as set forth.

2. The combination of the bar E, rigidly attached to the plow, the bar F, adjustably attached to the bar E, and the tooth-bar G, attached to adjustable bar F by a hinge, and provided with the stops or locking-projections *g' g'*, substantially as set forth.

3. The combination, with a plow, of supplemental teeth arranged to be adjusted relatively to the plow by means of an extensible supporting-frame, and adjustable relatively to each other independently of the frame, substantially as set forth.

4. In an attachment for plows, the combination, with the stationary bar F and the tooth-bar G, hinged to the bar F', of the spring M, pivoted at one end to the stationary bar F, and having its free end arranged to bear against the hinged tooth-bar when the teeth are at work and to be removed from said bar by a lateral rotation to allow the teeth to be thrown out of work, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

ALBERT F. FROMM.

Witnesses:

HENRY FISHER,
JACOB P. FAWCETT.