

E. WHISSON.
Harrows.

No. 155,688.

Patented Oct. 6, 1874.

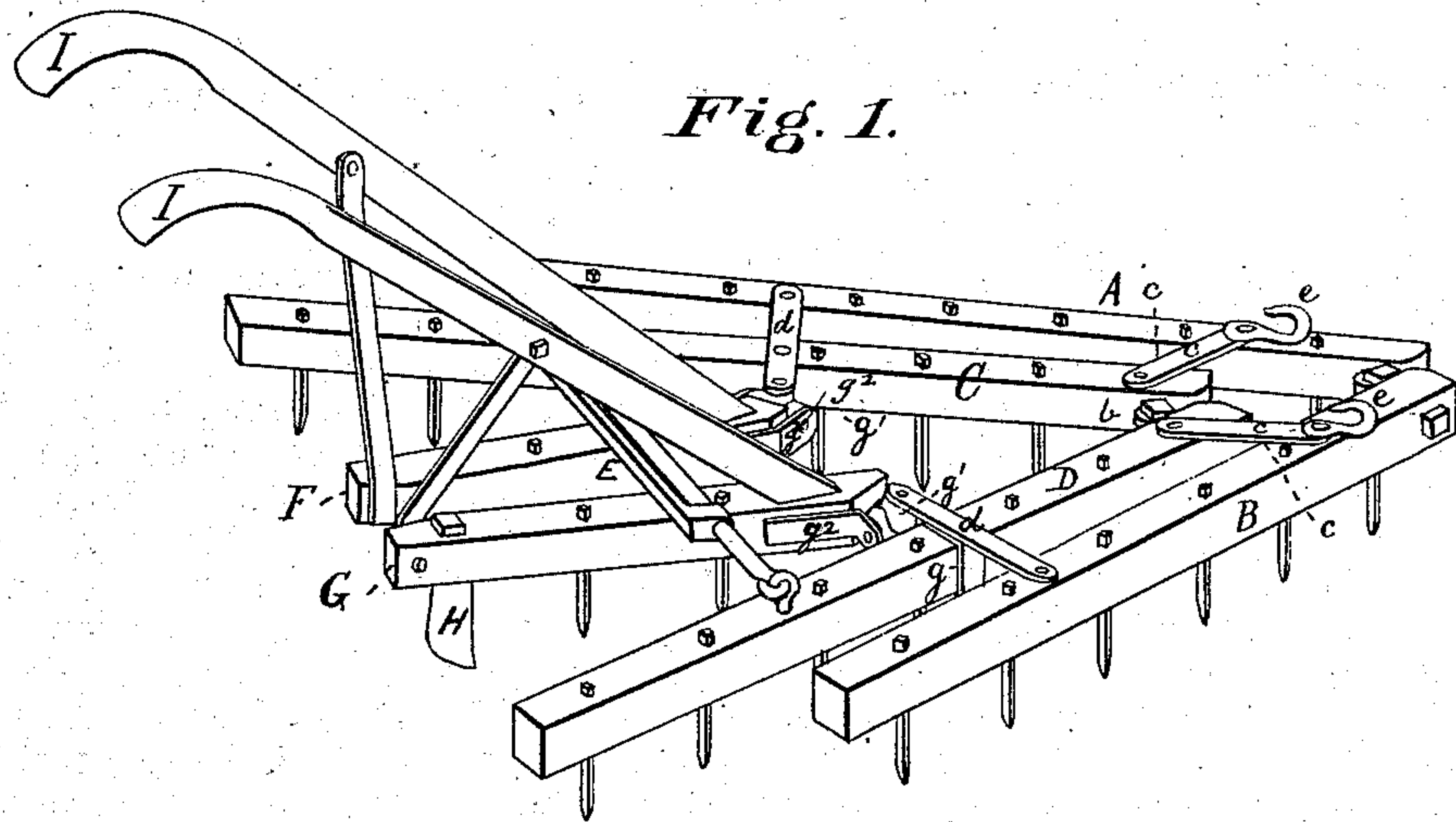


Fig. 1.

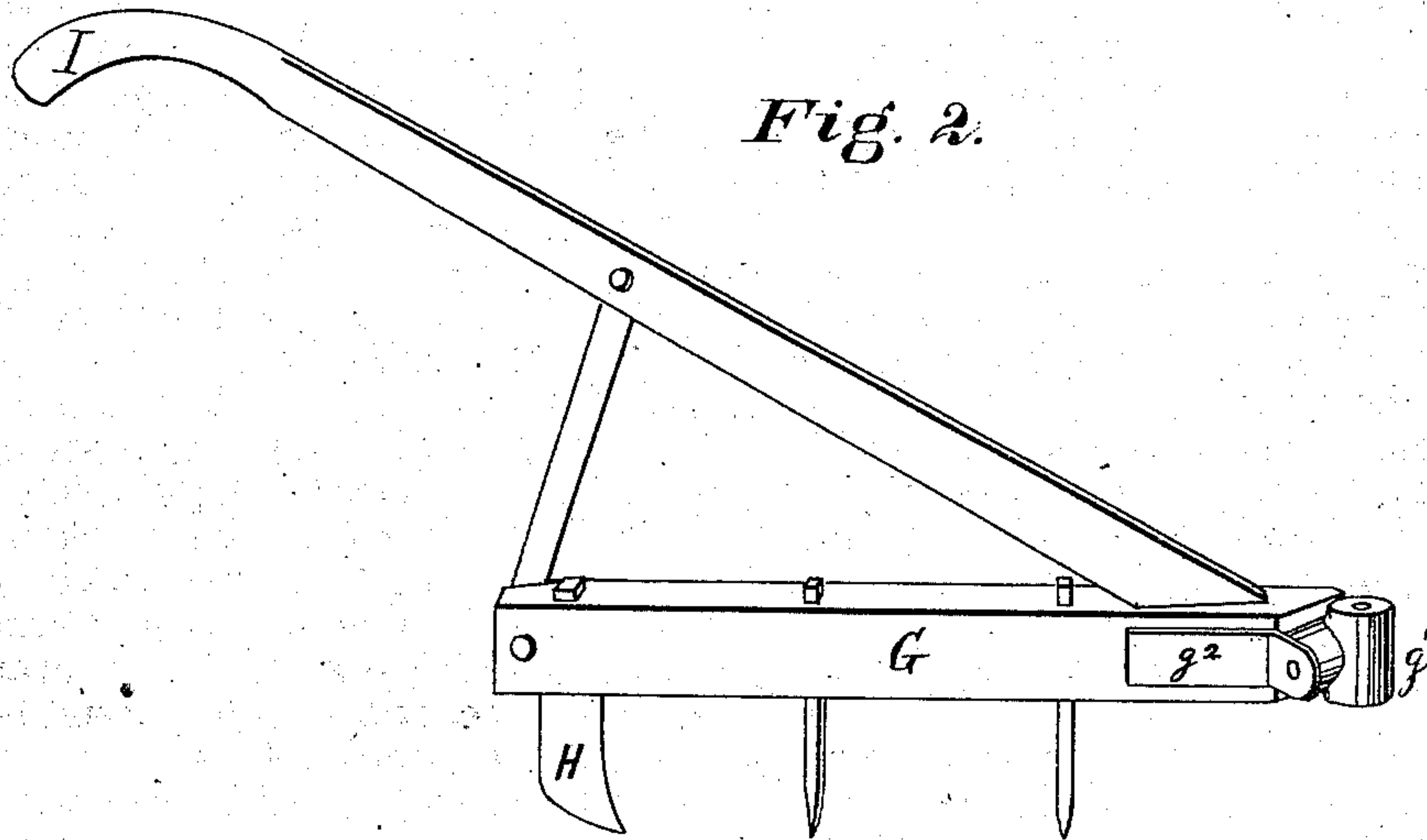


Fig. 2.

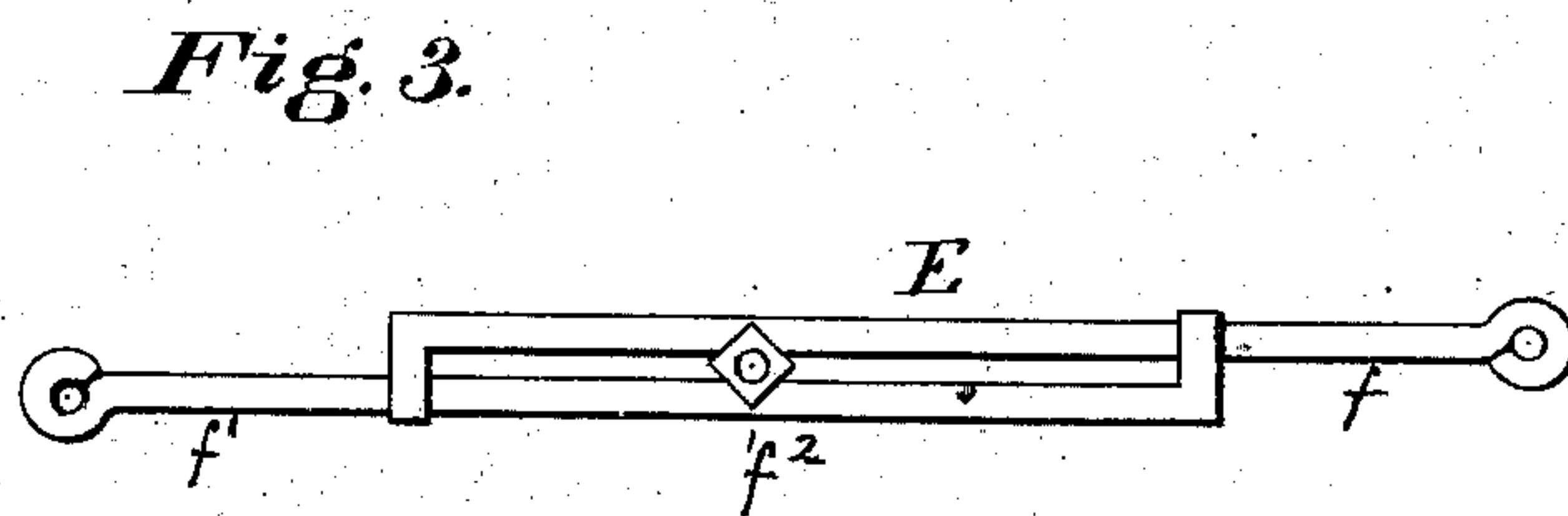


Fig. 3.

WITNESSES

George L. Ayer
L. Thurman

By

INVENTOR

Elisha Whisson
Geo. W. Ayer & Co. Attorneys

UNITED STATES PATENT OFFICE.

ELISHA WHISSON, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 155,688, dated October 6, 1874; application filed July 15, 1874.

To all whom it may concern:

Be it known that I, ELISHA WHISSON, of Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Improvement in Harrows; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object I have in view is an improvement in the construction of adjustable harrows, whereby the same may be more conveniently and effectively used; and my invention therein consists in the combination of two short beams having shovels at their rear ends and guiding-handles with an expansible harrow, as is more fully hereinafter explained.

To enable those skilled in the art to make and use my invention, I proceed to describe the same in connection with the drawings, in which—

Figure 1 is a perspective view of my invention; Fig. 2, detail view of one of the short beams; Fig. 3, view of adjusting-rod.

In the drawings, A, B, C, and D represent the four principal pieces or beams of the frame of the harrow. An eyebolt is driven in one end of each of the pieces A, B, C, and D, and secured by a nut. These pieces A and B are then connected together in pairs by placing the eye of one bolt over that of the other, and passing a bolt through them, said bolt being secured by a nut, thus forming a hinge. The adjacent ends of the pieces near the hinges are rounded off to allow the other ends to be spread apart or brought together. The pieces C and D are similarly connected by a hinge, *b*, and one triangle thus formed is placed within the other. All four pieces, A, B, C, and D, are connected together by bars *c c* and *d d*, the bars *c c* extending obliquely from the pieces C and D, respectively, near the apex of the triangle formed to the pieces A and B, respectively, and the bars *d d* extending from about the middle point of the pieces C and D, respectively, straight to the pieces A and B, respectively. These bars are pivoted at each end to allow for the play of the hinges, and they serve also to maintain the parallelism between the pieces A and C and between the pieces B and D. The pivot-bolt of the bars *c*

c, in the pieces A and B, serves also to secure the draft-hooks *e e*, to which gearing for hauling is attached. An adjustable sliding rod, E, extends from the piece C to the piece D. This rod E consists of two parts, *f* and *f*¹, and a clamp, *f*². Each of the parts consists of a rod having a loop at one end and an eye at the other end. These rods are put together by passing each, respectively, through the loop of the other. It will be seen by this means a rod is produced which may be lengthened or shortened. In the space which is left between the parts *f* and *f*¹ is placed a clamp, *f*², by means of which the rod E is held rigidly when finally adjusted. Straps *g* pass around the pieces C and D at about their middle points. The ends of the straps project inwardly and form lugs, in which hinge-pieces *g*¹ are pivoted vertically. Two short frame pieces or beams, F and G, having beveled ends provided with lugs *g*², are pivoted horizontally to the hinge-pieces *g*¹. It will be seen, therefore, the pieces F and G may be swung vertically and horizontally at the same time. From the rear lower face of each of the pieces F and G extends a shovel, H, which consists of a piece of plate metal placed obliquely across the bottom face of the piece, having its shank pass up through the same, where it is held by a nut, thus presenting an oblique surface to the ground through which it passes, facing inwardly or outwardly, as desired. Its lower end is beveled from the front upward to the rear, and the point thus formed at the intersection of the front and bottom edges is bent forward a little. The peculiar shape makes a sort of scoop or shovel out of it, while its front and bottom edge being sharp, it cuts readily through the ground. The handles I rise obliquely toward the rear and exterior of the machine from the front part of each of the pieces or beams F and G, to which they are securely bolted. Metal supports *h* extend from about the middle points of these handles to the ends of the pieces F and G and the handles I, so that the vertical motion of the pieces F and G is somewhat limited. The whole frame of the harrow is provided with a sufficient number of teeth, except at the immediate fronts, of the ordinary size and form.

It will be seen by the arrangement just de-

scribed that my harrow may be widened or narrowed at pleasure, and by removing the shovels it may be used in all sorts of places where other harrows are employed, its principal use, however, being that of a harrow-cultivator. With the shovels in place it is readily drawn over grain sown in drills, or potatoes or other roots in drills, the central space in the harrow, where there are no teeth, passing over the plants and not disturbing them, while the teeth on either side tear up the ground and destroy and uproot grasses, and the shovels either turn the earth upon the plants or away from them, as desired. The advantage, then, of the short beams to which the handles are attached is, that however wide or narrow the harrow may be made in use, the distance of the shovels apart is under the control of the farmer, who may thus run either or both of his shovels as close to the plants as he chooses, and raise either one of them or swing

it to one side to avoid any obstacle. He can always, by exerting a pressure, cause the shovels to penetrate the ground deeply or not at his will.

Having thus described my invention, its mode of use, and some of its advantages, what I claim as new therein, and desire to secure by Letters Patent, is—

In combination with the expansible harrow A B C D E *d*, the short beams F and G, having shovels at their rear ends and guiding-handles, and each pivoted with a universal joint to the beams C D at or near the center thereof, substantially as described and shown.

This specification signed and witnessed this 20th day of June, 1874.

ELISHA WHISSON.

Witnesses:

SAML. D. SCHOLES,

T. C. MATHER.