

2 Sheets—Sheet 1.

T. GALLOWAY & J. LARSEN.
 Locking Device for Seeding-Machine Teeth.
 No. 221,675. Patented Nov. 18, 1879.

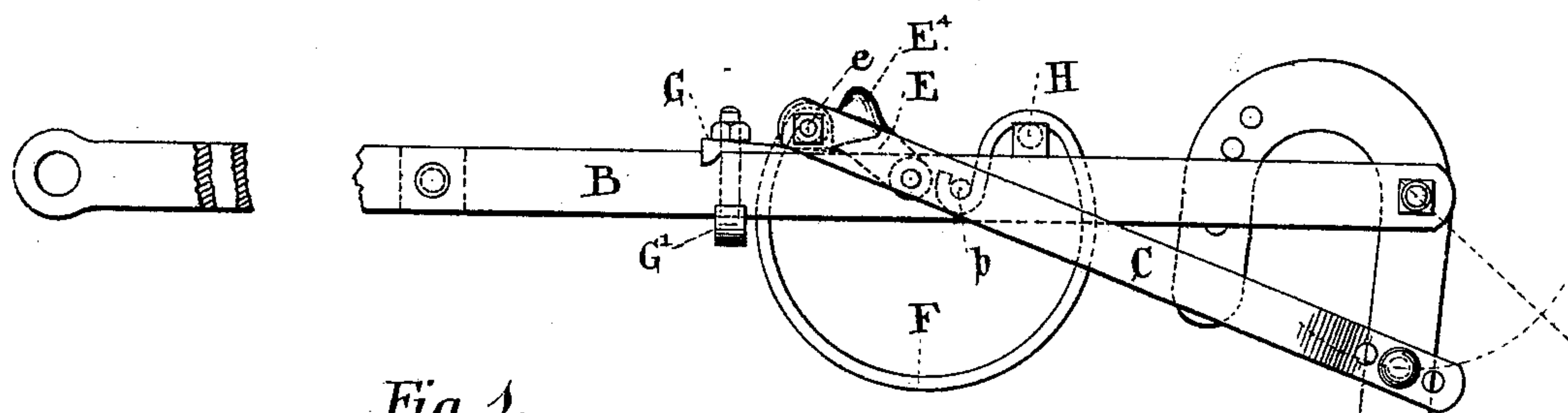


Fig. 1.

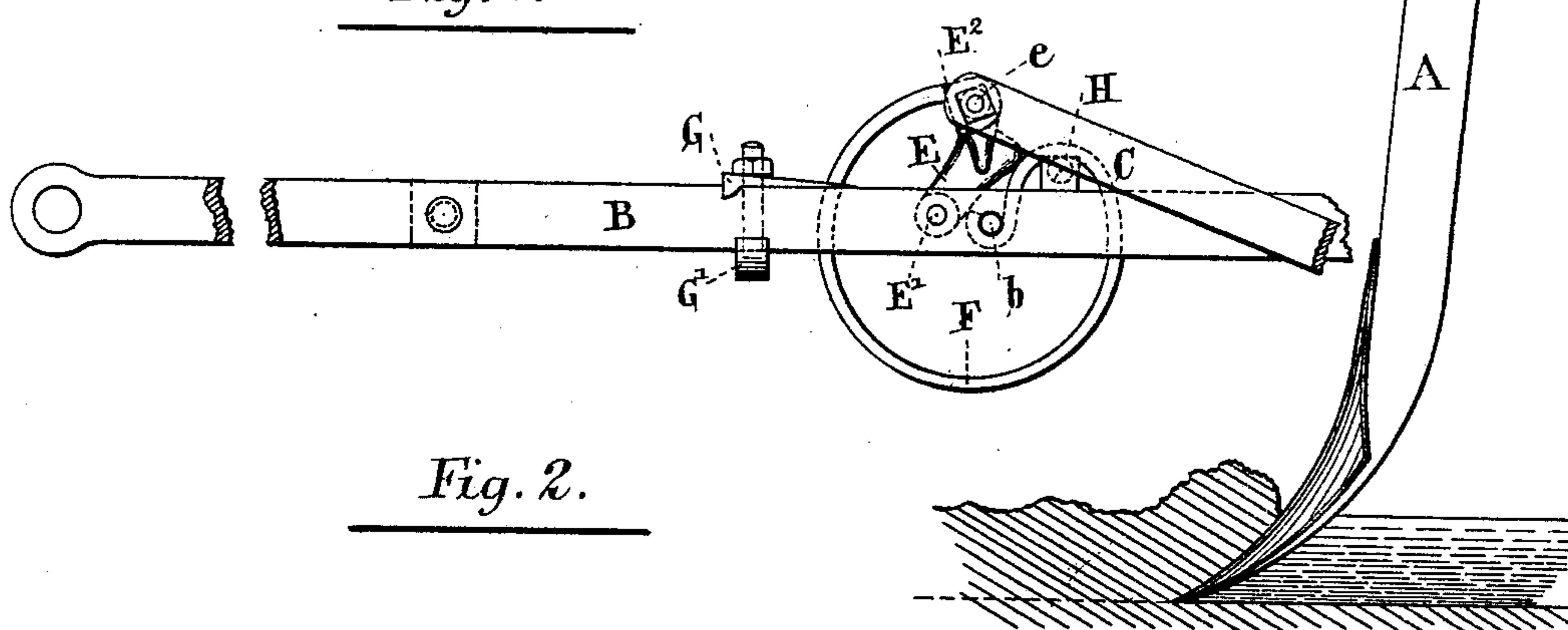


Fig. 2.

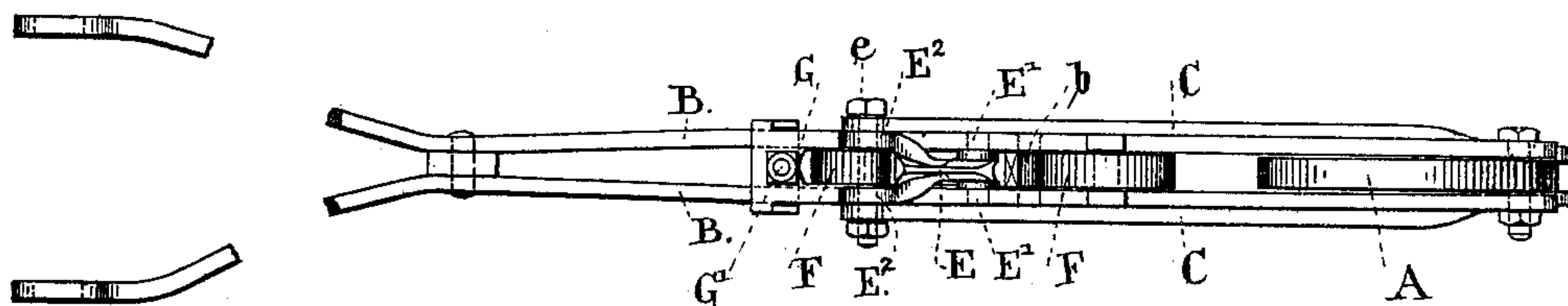


Fig. 3.

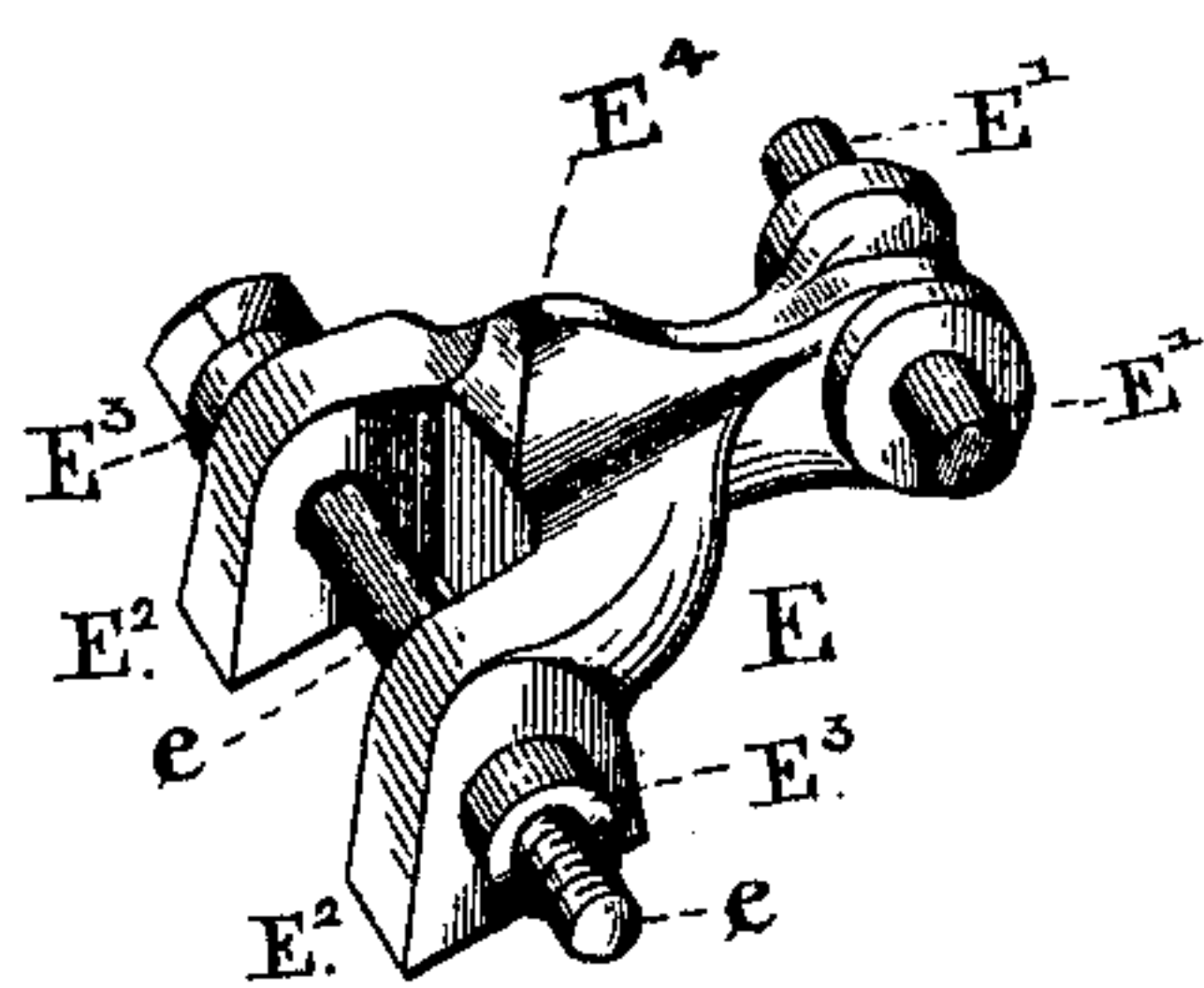


Fig. 4.

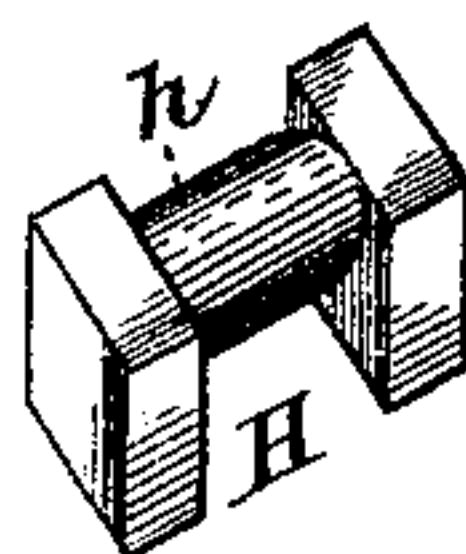


Fig. 5.

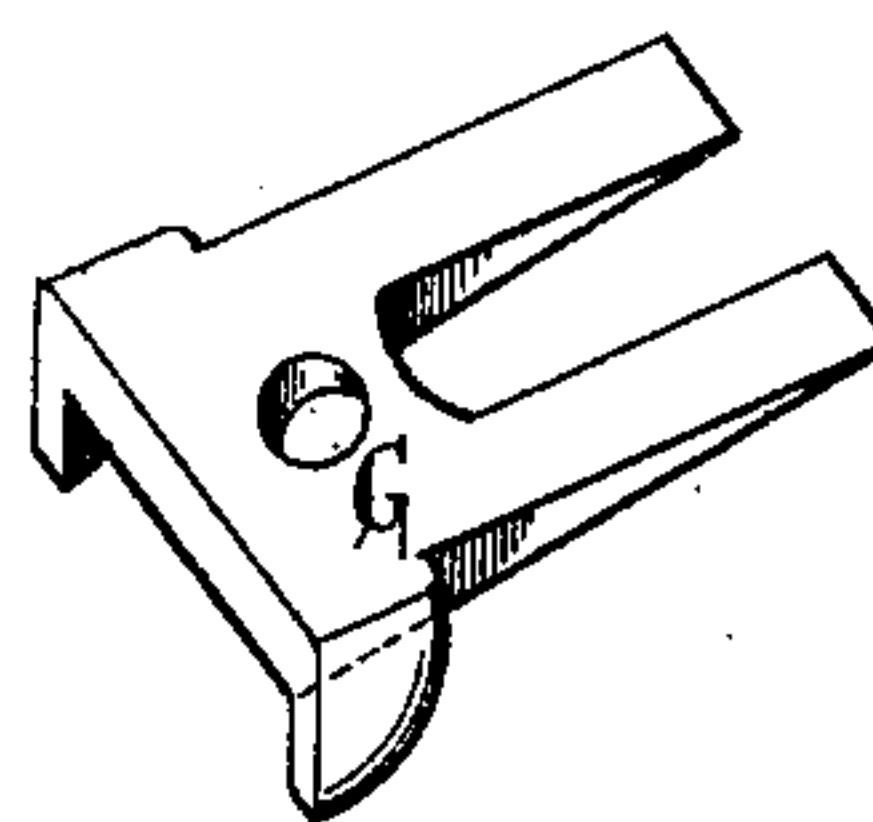


Fig. 6.

Witnesses:

Thos. Yates
Gordon Auld

Inventors:

Thomas Galloway
John Larsen
by Ridout & Bird & Co., Attys.

2 Sheets—Sheet 2.

T. GALLOWAY & J. LARSEN.
 Locking Device for Seeding-Machine Teeth.
 No. 221,675. Patented Nov. 18, 1879.

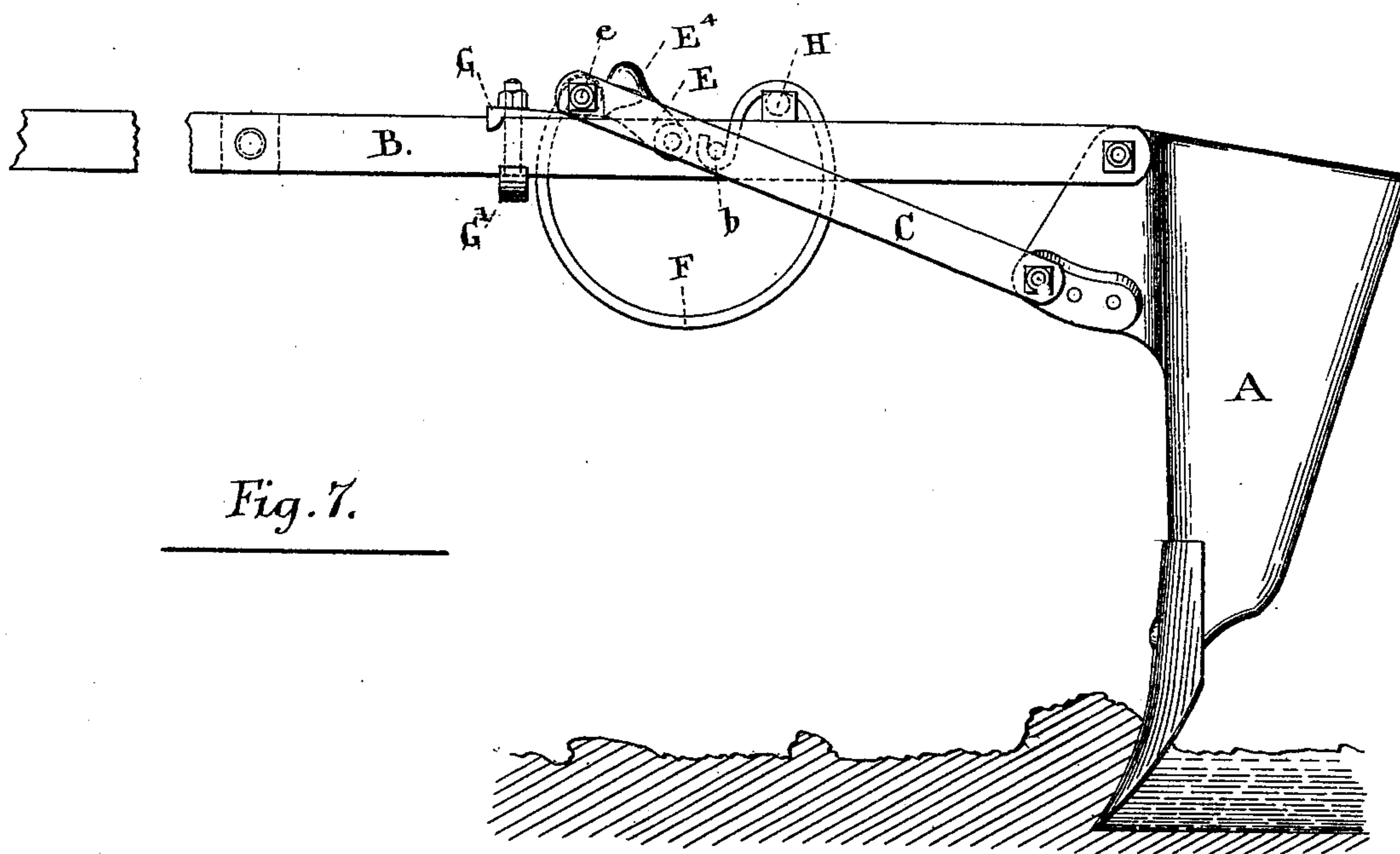


Fig. 7.

Witnesses:

Robt Yates

Gordon Aird

Inventors:

Thomas Galloway

John Larsen

by Ridout & Bird & Co.
Attys.

UNITED STATES PATENT OFFICE.

THOMAS GALLOWAY AND JOHN LARSEN, OF OSHAWA, ONTARIO, CANADA.

IMPROVEMENT IN LOCKING DEVICES FOR SEEDING-MACHINE TEETH.

Specification forming part of Letters Patent No. **221,675**, dated November 18, 1879; application filed June 30, 1879.

To all whom it may concern:

Be it known that we, THOMAS GALLOWAY and JOHN LARSEN, both of Oshawa, in the county of Ontario, in the Province of Ontario, Canada, have jointly invented certain new and useful Improvements in Locking Devices for the Teeth of Seeding-Machines, of which the following is a specification.

Our invention has relation to an improved construction of spring-locking device for the teeth of seeding and cultivating machines, by which simplicity, cheapness, and strength of construction, combined with adjustableness of parts, are obtained.

In the accompanying drawings, Figures 1 and 2 are side views, in different positions, of our locking device, shown as applied to a broadcast seeding-tooth. Fig. 3 is a plan of the same. Figs. 4, 5, and 6 are details in perspective. Fig. 7 is a side view, showing locking device applied to a drilling-tooth.

A is the tooth, and B B the drag-bars, constructed substantially in the usual way. C C are the tooth-retaining links connected with the tooth and locking-stud E. F is the spring, G, an adjusting-wedge for the locking-stud, and H an eccentric-block, by means of which the tension of the spring can be increased or diminished.

The locking-stud E is constructed of malleable cast-iron, and at its pivotal point is provided with trunnions E' E', which fit into holes cut at the proper point in the drag-bars. At the point of its connection with the spring the locking-stud is provided with two lugs, E² E², through a cored hole in which a bolt, e, is passed, and between which, on said bolt, the forward end of the spring F is secured. The lugs E² E² of the locking-stud correspond in thickness with and are placed vertically above the drag-bars, and their under faces are squared to form a bearing for the stud on the drag-bars. The bearing thus formed for the stud holds the locking parts in proper adjustment; but in order that adjustment may be obtained to vary the strength of the lock a wedge, G, is provided. This wedge is slotted at its forward end to allow clearance for the spring, and is inserted between the bearing-faces of the stud and drag-

bars to any degree required for adjustment. It is secured in position by a T-headed bolt, G', which passes between the drag-bars.

The locking-stud is provided with laterally-projecting ears E³ E³, which form a pivotal connection for the front ends of the retaining-links C C. These ears are made longer than the thickness of the links C C, in order that the head and nut of the bolt e, when the whole combination is fastened together, may not bind on the links, but tighten against the faces of the ears, thus avoiding unnecessary friction.

The spring F is constructed of plate-steel, carefully tempered and bent to templet. It is secured between the drag-bars, at one end, by a stud, b. From the stud b it is carried above the drag-bars; thence, with a short turn, down and between the bars; thence forwardly and upwardly, in an easy curve, to connect with the bolt on the end of the locking-stud. At the point where the spring passes above the drag-bars an adjusting-block, H, is introduced. This block is provided at each end with four faces, which correspond with the position of the drag-bars, and which vary in degree of eccentricity with the central cylindrical portion, h. The object of this eccentric-block is to allow of the adjustment of the tension of the spring, which is accomplished by turning the block until the face having the proper degree of eccentricity bears upon the edges of the drag-bars.

The teeth, in practice, are frequently thrown back with such violence that the bars C C are bent out of position, and the usefulness of the locking device thus destroyed. To obviate this defect, we provide the locking-stud with a stop-block, E⁴, which, when the stud is drawn back, strikes against the face of spring, as shown in Fig. 2, limiting the distance to which the tooth can rise, and thus prevent the bars C from being injured.

The advantages gained by our improvements are, first, by means of the adjusting-wedge the strength of the lock can be regulated to a nicety to suit the varying requirements of different lands, and to correct any errors caused by irregular drilling of the holes for the pivotal points of the locking-stud; second, by means of the ears on the locking-studs extending be-

yond the thickness of the tooth-retaining bars, said bars can be securely fastened without binding, and, further, the bolt which secures the retaining-bars also forms the medium by which the spring is connected to the locking-studs; third, the durability, simplicity, and convenience of the spring, and the means provided for adjustment.

We claim as new and desire to secure by Letters Patent—

1. The locking-stud E, provided with the trunnions E' E', lugs E² E², ears E³ E³, and striking-block E⁴, all combined in a single piece of metal, as and for the purpose specified.

2. The slotted adjusting-wedge G and bolt G', in combination with the drag-bars and locking-stud, substantially as shown and described.

3. The locking-stud E, provided with the ears E³ E³, in combination with the retaining-links C C and the bolt e, said ears being made hollow and projecting beyond the outside faces of the retaining-links, substantially as and for the purpose specified.

4. The combination of the locking-stud E,

provided with the hollow projecting ears E³ E³, drag-bars, and the curved spring F, substantially as and for the purpose set forth.

5. The curved plate-spring F, connected at one end between the drag-bars, thence curving upwardly over an adjusting-block, thence curving downwardly and forwardly, and thence upwardly to connect with the locking-stud E, substantially in the manner shown, and for the purpose set forth.

6. The adjusting-block H, provided with the cylindrical body h and the eccentrically-faced ends, in combination with the drag-bars and the spring F, as and for the purpose set forth.

7. The combination and arrangement of the locking stud and attachments, adjusting-wedge G, drag-bars B B, tooth-retaining links C C, and the spring F, arranged and operating substantially as shown and described.

THOMAS GALLOWAY.
JOHN LARSEN.

In presence of—

A. R. GUNOW,
FRAS. GILBERT.