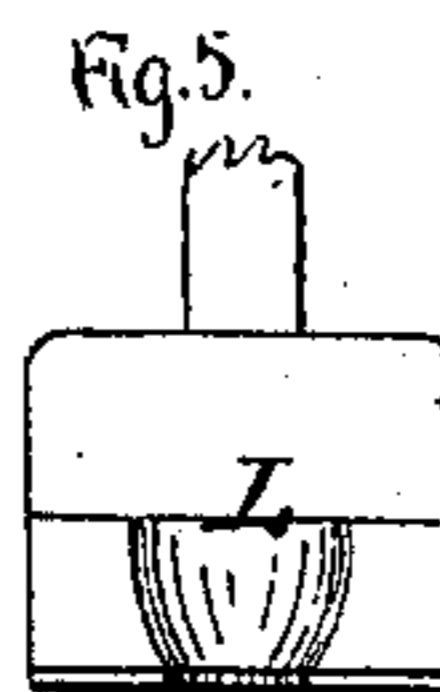
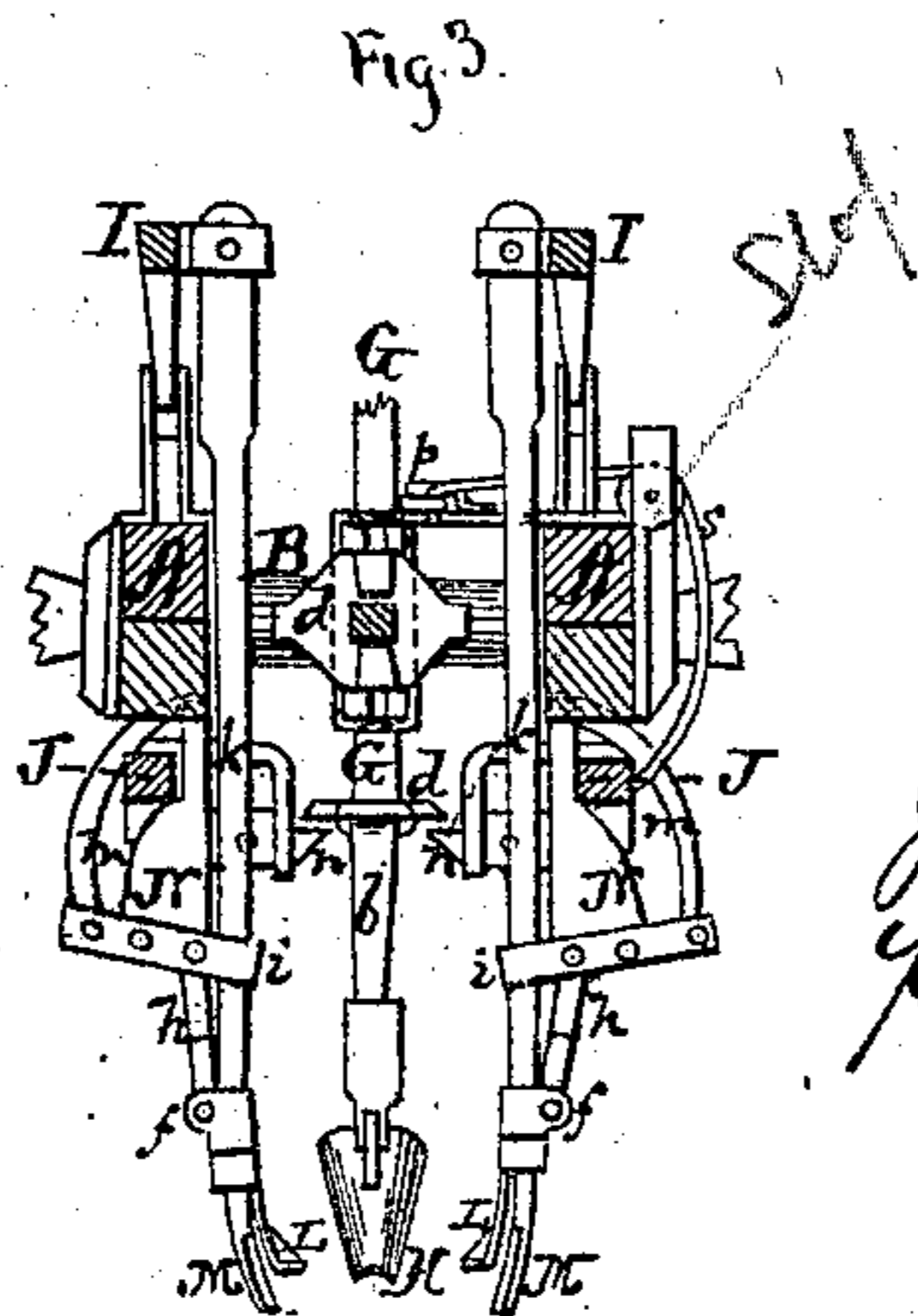
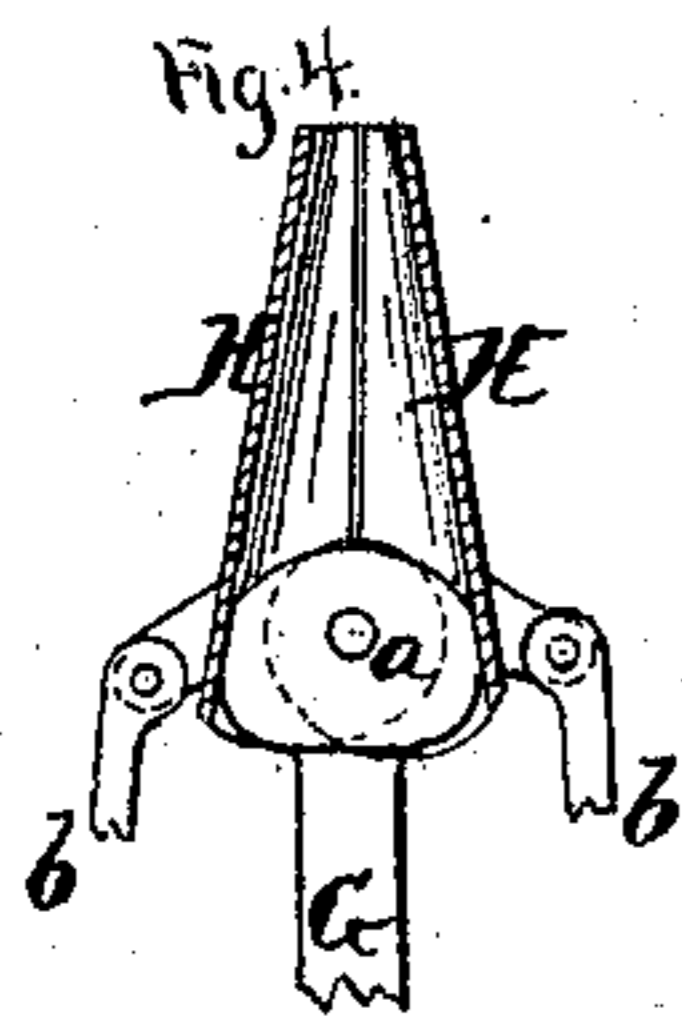
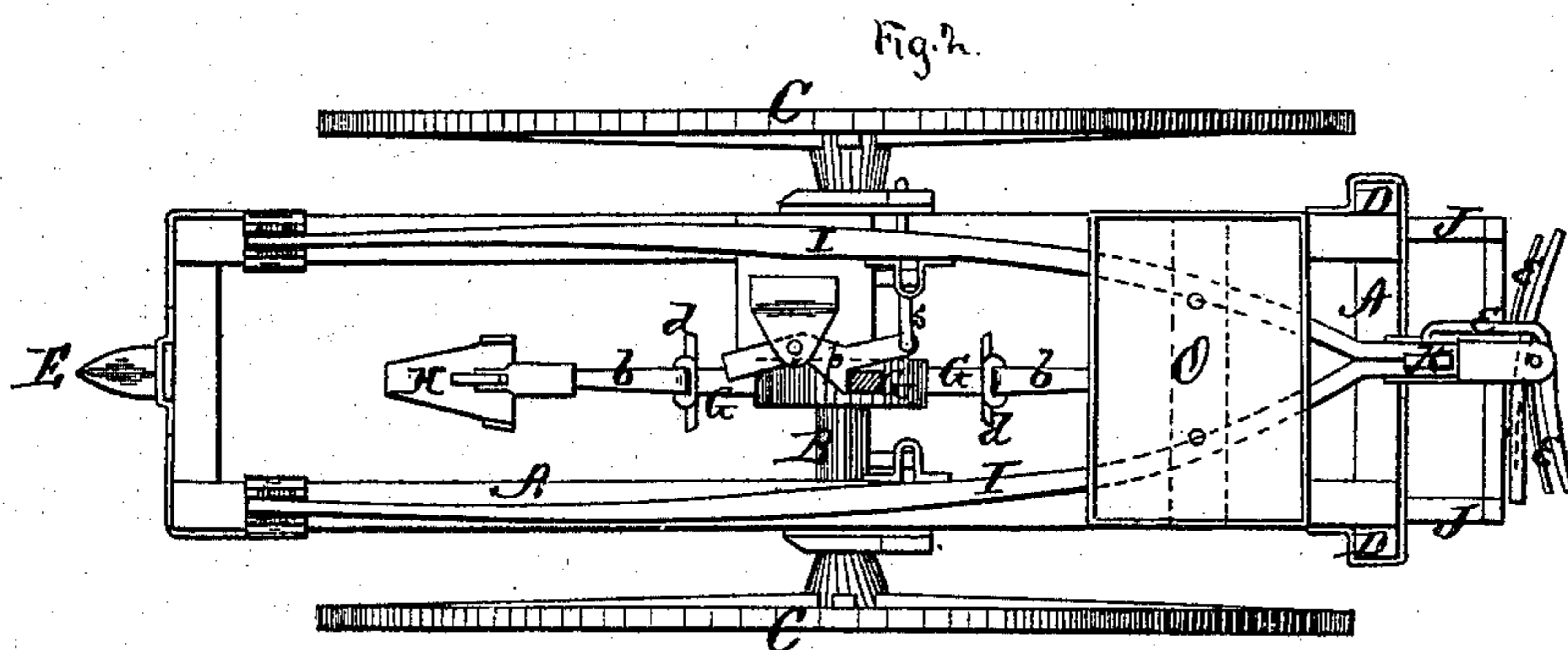
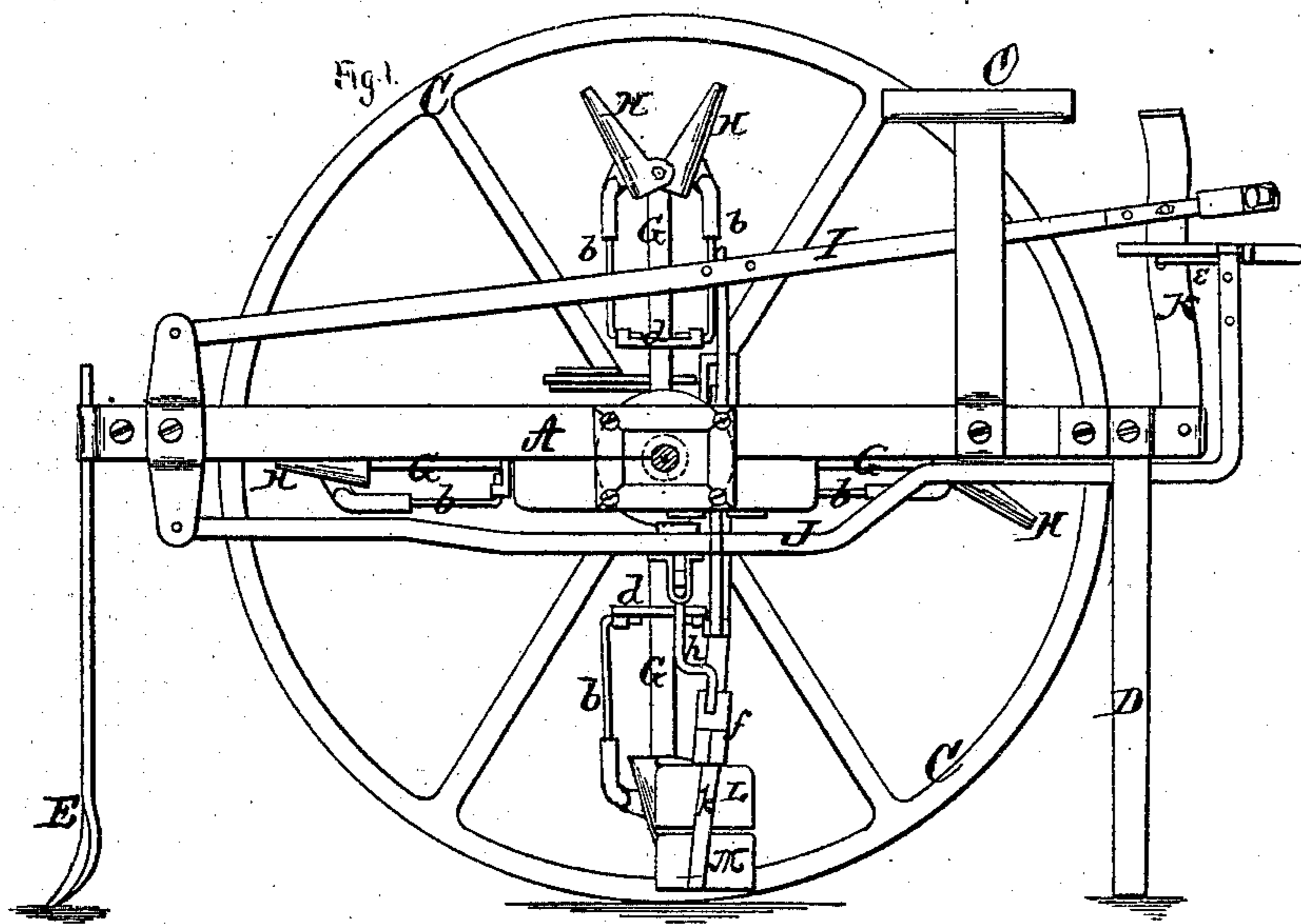


J. M. GILBERT.

Transplanting Machine.

No. 133,849.

Patented Dec. 10, 1872.



Witnesses:
James O. Hutchinson.
C. L. Evers.

Inventor.
James M. Gilbert
per Alexander Mason
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES M. GILBERT, OF EAST PUTNEY, VERMONT.

IMPROVEMENT IN TRANSPLANTING-MACHINES.

Specification forming part of Letters Patent No. 133,849, dated December 10, 1872; antedated December 7, 1872.

To all whom it may concern:

Be it known that I, JAS. M. GILBERT, of East Putney, in the county of Windham and in the State of Vermont, have invented certain new and useful Improvements in Machines for Transplanting Tobacco and other Plants; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for resetting or transplanting tobacco and other plants, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation; Fig. 2, a plan view of my entire machine; and Figs 3, 4, and 5 are detached views of certain parts of the same.

A represents a rectangular frame of suitable dimensions, having the axle B passing through journal-boxes attached at or near the center, and a wheel, C, upon each end of the axle. At the rear end of the frame A are two standards or legs, D D, for supporting and steadying the machine while the root of the plant is being covered, and at the forward end of the frame is a point, E, for making the hole. Attached to the axle B are four arms, G G, at right angles to each other. Each of these arms is, at its outer end, provided with a head or enlargement, *a*, to which are hinged conical jaws H H for holding the plant. Each jaw H is, by a hinged or pivoted spring connection, *b*, connected with a slide, *d*, moving upon the arm G—that is, each set of jaws is attached to one slide moving upon the arm to which said set of jaws is hinged. The two side connections *b b* to each set of jaws have tension enough to prevent gravity from acting on them, so that they will remain open or shut as they are acted upon by working the apparatus. On each side of the frame A, at the forward end, are pivoted two levers, I and J, the former above and the latter below the frame, the

corresponding two levers being connected at their rear ends—that is, the two levers I I are connected together, and the two levers J J also connected together. The connected ends of each set of levers have slotted projections which pass over an upright bar, K, pivoted at the rear end of the frame A, and the levers are held on said bar by means of spring-catches *e e* on the levers, which enter holes on the bars. These connected levers serve as handles to push the apparatus along. On each side of the frame under the axle is a presser, L, constructed as shown in Figs. 3 and 5, each presser having, at its upper edge, a socket, *f*, on the outer side of which is pivoted the lower end of a bar, *h*. The upper ends of these bars *h h* are pivoted to the lower levers J J. Through the sockets *f f* of the pressers pass shanks *k k*, the upper ends of which are pivoted to and supported by the upper levers I I, and hoes M M are firmly secured to their lower ends. On the under side of each side of the frame, below the axle, is pivoted or hinged a plate or block, N, at the lower end of which, on the inner edge, is a loop, *i*. The shanks *k k* pass through the loops, *i i*, as shown in Fig. 3. The levers J J pass through curved or wedge-shaped slots *m m*, near the outer edges of the plates or blocks N N, so that when said levers are moved downward the plates or blocks N N will swing inward and carry the pressers and hoes with them, and when the levers are moved upward again the pressers and hoes will be swung outward with the plates or blocks N N. Attached to the lower levers J J are stops or catches *n n*, one on each side, which, acting against the plates or slides *d*, to which the jaw-connections *b b* are attached, open the jaws and release the plant, when the levers are raised, after having been pressed down to operate the hoes and pressers. The upper levers I I are for raising or lowering the hoes, as the character of the surface of the soil requires.

It will be seen that in operating the machine the pressers slide down the surface of the hoes, thereby keeping them clean and enabling the apparatus to be used if the soil is wet.

On the upper surface of the frame is a catch or stop, *p*, operated through a flexible connection, *s*, by the lower lever, and against which the upper vertical arm strikes, and stops when

the lower vertical arm is at the right point for inserting the plant. On the rear end of the frame, elevated above the sweep of the upper levers, is a box, O, for carrying plants.

The operation of the machine is as follows: It requires two men or boys to run it—one to push the apparatus along and operate the levers, and one to feed in the plants. In pushing along, the point E on the forward end makes the hole. The man who feeds lays a plant with the roots out on the half jaw of the upper vertical arm and closes the jaws with the same hand. The apparatus is then trundled along, and when the jaws are with the plant at their position directly underneath the axle the motion is stopped by the catch *p* above described. The man who moves the apparatus rests the same on the standards D D behind, and presses down the lower levers J J, which action draws up the soil and presses it, and at the same time releases the catch *p* above. He then raises the levers to their position, which releases the plants by opening the jaws, and the apparatus is moved along for the next plant. During these movements the man who feeds supplies the jaws as they come up.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. The arms G G arranged radially at right angles with each other upon the axle B, and each arm provided with the jaws H H, connections *b b*, and slide *d*, substantially as and for the purposes herein set forth.

2. The combination of the pressers L L, loops or sockets *f f*, pivoted bars *h h*, hoes M M with shanks *k k*, and the levers I I and J J, all constructed and arranged substantially as and for the purposes herein set forth.

3. The swinging blocks or plates N N, provided with loops *i i* and slots *m m*, and operated by the levers J J to throw the pressers and hoes in and out, substantially as herein set forth.

4. The combination of the arms G G, jaws H H, connections *b b*, slides *d d*, and catches *n n* on the levers J J, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of March, 1872.

Witnesses: JAS. M. GILBERT.
JOHN F. AUSTIN,
F. E. CONGIER.