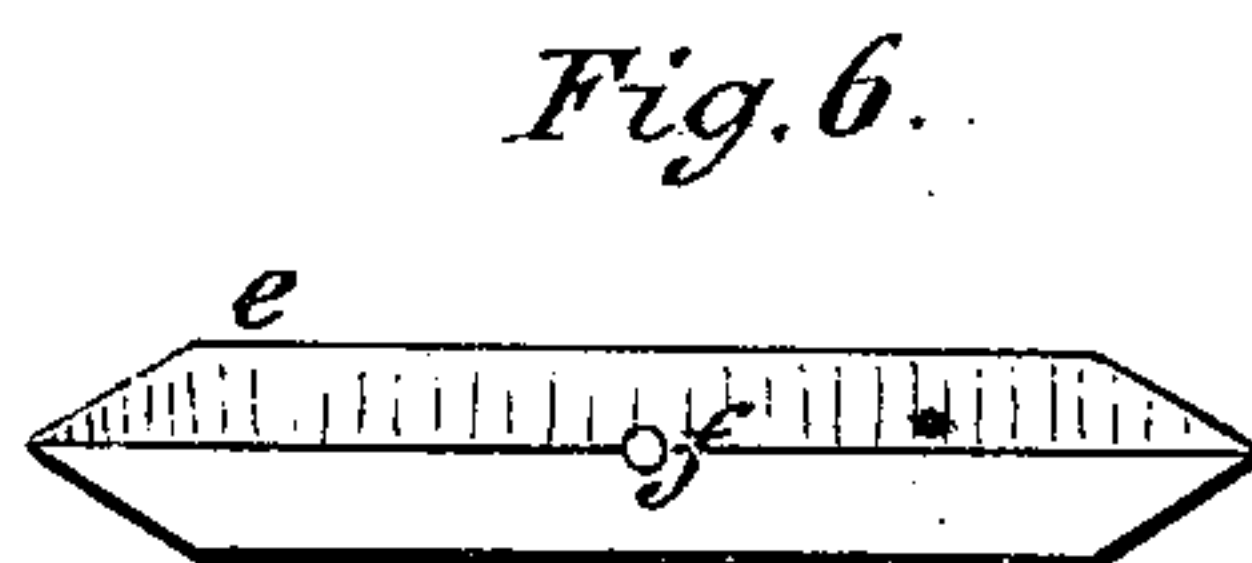
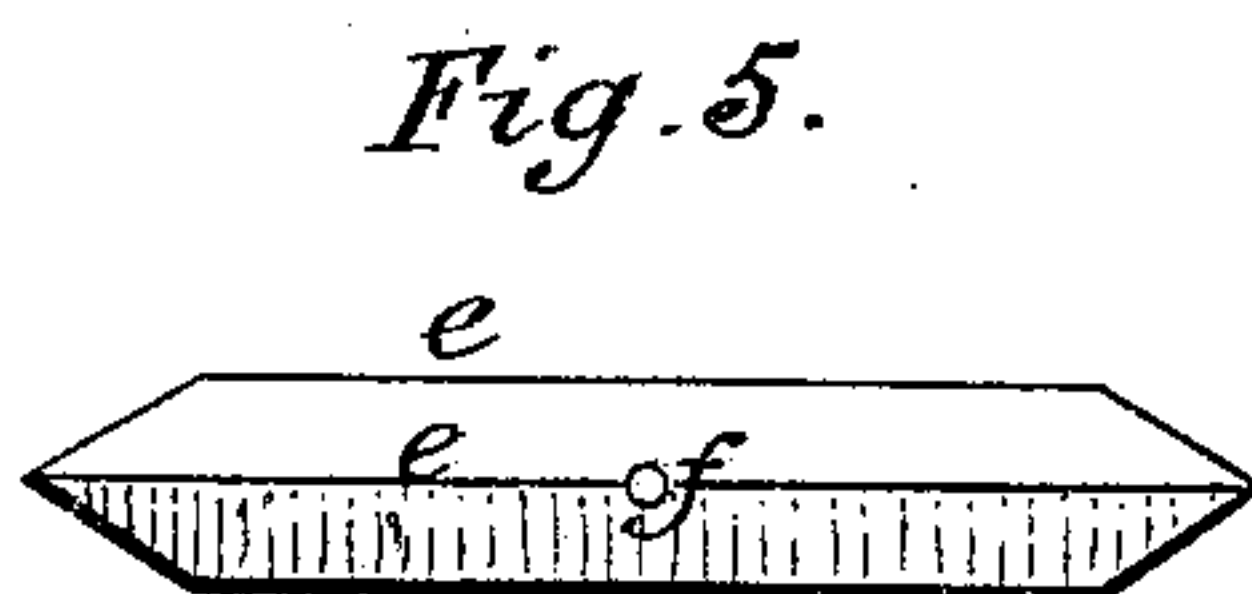
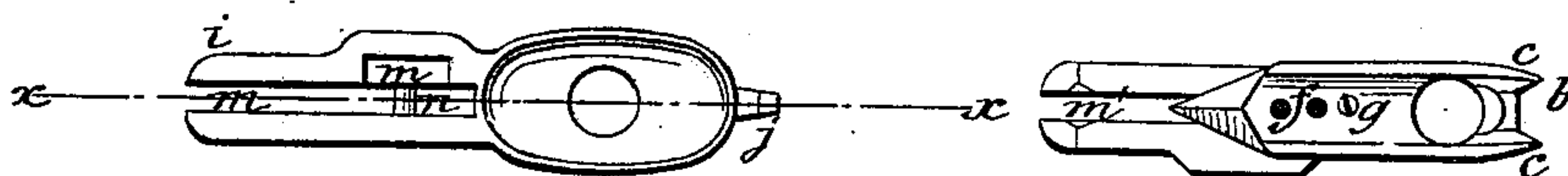
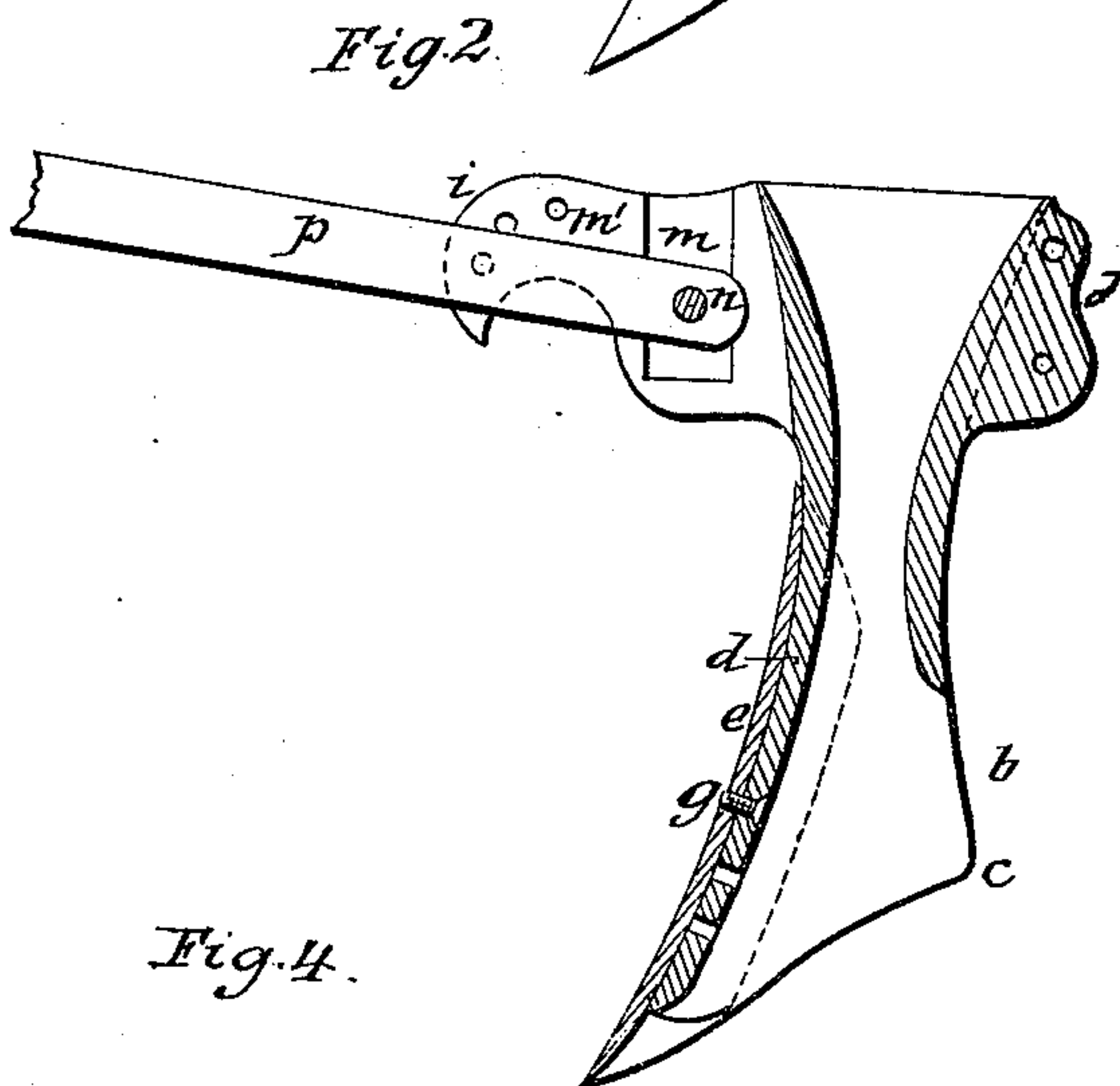
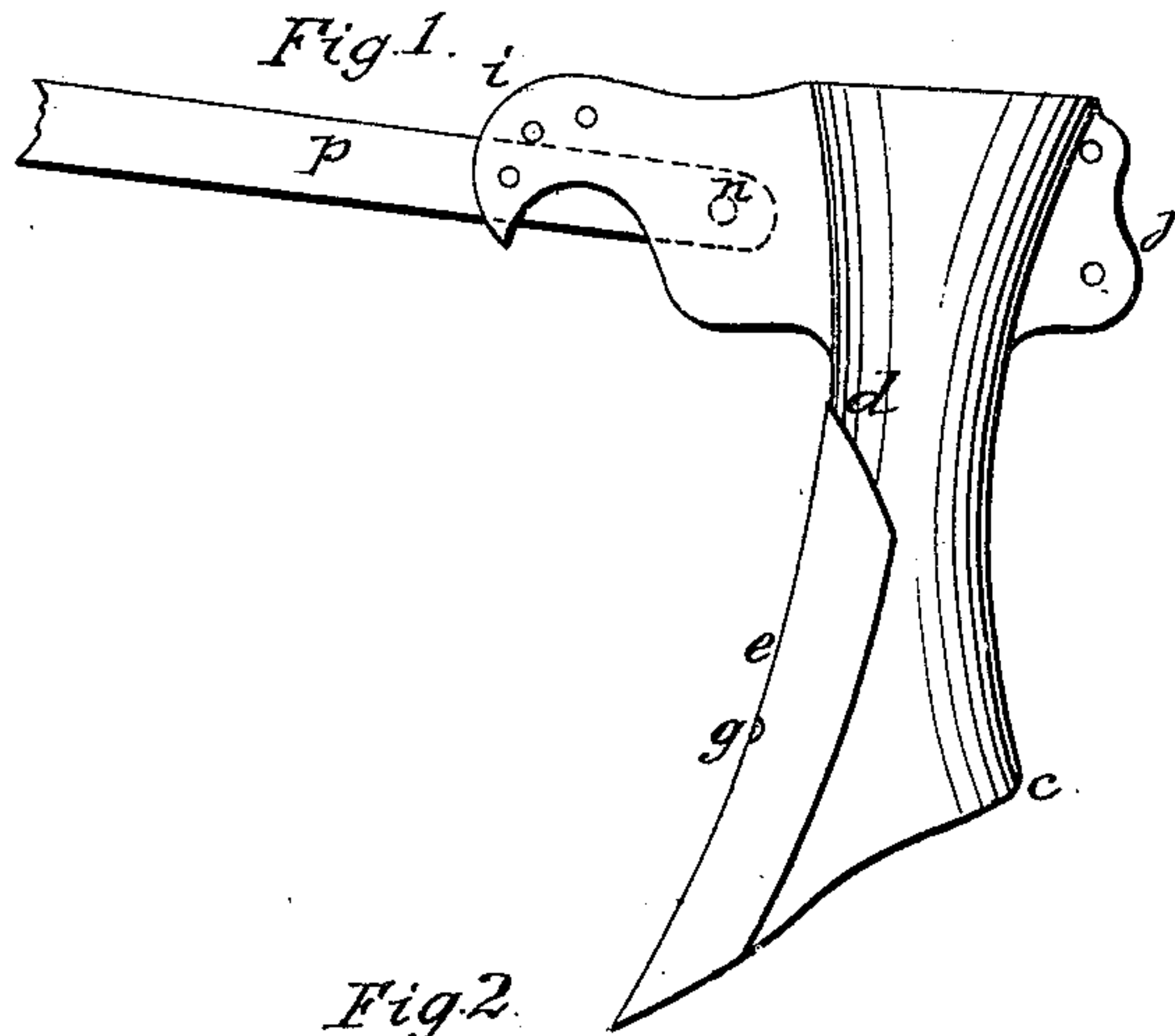


S. & M. PENNOCK.

Seed-Drill Teeth,

No. 7,822.

Patented Dec. 10, 1850.



UNITED STATES PATENT OFFICE.

SAML. PENNOCK AND MORTON PENNOCK, OF KENNETT SQUARE, PA.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. 7,822, dated December 10, 1850.

To all whom it may concern:

Be it known that we, SAMUEL PENNOCK and MORTON PENNOCK, of Kennett Square, Chester county, State of Pennsylvania, have invented a new and useful Improvement in Drill-Tubes of Machines for Planting Seed, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation of the drill-tube. Fig. 2 is a vertical section on the dotted line *xx* of Fig. 4. Fig. 3 is a view of the sole or under side of the tube. Fig. 4 is a view of the top of the tube. Fig. 5 is a view of the front of the changeable point. Fig. 6 is a view of the back of the same.

Where the same letters occur on the same figures they represent like parts.

The nature of our improvement consists in making the drill-tube of a peculiar form, which will be hereinafter described; adapting the front for the reception of adjustable and changeable points; having the heel open to prevent clogging, and for other purposes; making the changeable point of a peculiar form, and attaching the drill-tube to the drag-bar without the use of any kind of tool or separate fastening.

We make our drill-tube or tubular drill-tooth of a form somewhat resembling a boot without a heel and open or divided, as at *b*, Figs. 2 and 3, the sides *cc* of the rear portion of the tube being in the shape of wings, for the purpose of dividing the soil after being loosened and broken up by the point of the tube and turning it to the right and to the left, leaving room for the seed or manure to spread out into the furrow, at the same time preventing the earth falling in upon the seed or grain at any time before that reaches the bottom of the furrow, said opening in the heel also allowing the operator to observe the falling of the grain, and also if any obstructions may have clogged the tube by the backward pressure of the tube upon the loose earth, it frequently happening that the ordinary form of tube clogs with the earth and stops the passage of the grain without being observed until quite a space has been missed or skipped in seeding, whereas the open heel prevents the clogging of the tube.

We also make the fore part or front, *d'*, of our tube in the form of a segment of a circle of a given radius, which is found in practice

to be the best form, as it admits of the use of an adjustable and reversible and extensible point, the uniform curve giving the point always the same inclination into the earth, however long it may be. The forward inclination of the point, being so much greater than the ordinary form of tooth, cuts its way into the earth with more ease to the team, works better in filthy ground, at the same time causing the filth to be discharged more easily and readily by sliding up over the front edge of the reversible point.

Our new form of adjustable and changeable point *e* is so made and arranged that either end may be used at pleasure, and as the point wears it may be moved forward. It is of a peculiar form on the front or cutting edge, forming a segment of a circle, the same as the front of the drill-tube. On the back it is made concave or saddle-shaped to fit over the front edge of the tube, and at each point it is shaped like a triangular wedge. In the thickest portion or at the middle is made a female screw, *f*, into which is inserted a screw, *g*, passed through the tube, the head of which being in the hollow of the tube and countersunk, or otherwise, a row of holes being made in the tube for the insertion of the screw as the point is brought forward to adjust the same, in order to compensate for the wear of the same. Each point, when properly adjusted, will extend beyond the toe of the drill-tube, as seen in Fig. 2.

The tubes and point, being cast all alike as to curvature, admit of the several adjustments and changes by merely withdrawing and inserting the confining-screw *g*. The point so completely protects the tube from wear that one tube will last for a long time without renewal, while the reversible point or colter-plate may be renewed several times. The intelligent practical farmer will at once perceive the importance of this changeable point or colter-plate. He will find that one of our improved points has from six to eight times the wear in it that the ordinary point has, besides producing great economy in time and labor, for in case any accident should happen by which one point should be broken the farmer meets but little detention, as all that he has to do is to reverse the position of the point and his implement is again ready for work, instead of being obliged to go to a mechanic to

have it repaired, and should both points be broken it may be thrown aside and a new one put in its place in a few moments.

The hooks *i* and ears *j*, for attaching and adjusting the tube to the drag-bar, are made in the manner described in our patent of July last. The mortise *m*, however, into which the rear end of the drag-bar is inserted, differs essentially and forms a valuable improvement. It is made a little over double the width of the portion *m'* between the hooks, thus forming a mortise or notch, *m*, in one of the hooked arms extending from the top or upper side of the arm to near the bottom for the purpose of admitting the rear end of the drag-bar into said mortise and allowing it to be moved toward the opposite arm, on which a projection or cog, *n*, is cast, to which projection the drag-bar *p* is hooked by the former entering an opening in the latter, the hooked arms being then raised so as to bring the drag-bar between the hooks where the mortise is narrow, as at *m'*, and the drag-bar being thus confined and prevented from having any lateral movement, it cannot become disengaged from the aforesaid projection *n*. To disengage the tube from the bar the former must be turned till the latter is in a line with the aforesaid wide portion *m'* of the mortise, and then by moving the tube or the bar laterally a distance equal to the thickness of the bar the tube and bar will become disengaged. This mode of attachment renders the connection more easy of accomplishment and much more secure, and makes the joint complete in itself without any movable device whatever—such

as a screw, wedge, pin, &c.—said improved mode of connection admitting of attaching or detaching said tube at pleasure without the use or aid of any kind of implement or tool, and there being no trouble and consequent loss of time in loosening fast pins, rusty screw-bolts, &c., with wrenches, hammers, tongs, &c. At the same time the joint is permanent. In transporting machines by means of such a joint the tubes may instantly be removed, thus enabling the farmer to pass or transport the machine over very uneven surfaces with greater safety and dispatch.

Having thus described the construction and operation of our improvements and the advantages of the same, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with the depositing-tube and the bar which connects said tube with the body of the machine, the joint *m n*, as above described, said joint being of such peculiar construction as to be complete and effective in itself without any movable device whatever, and which admits of attaching or detaching said tube at pleasure without the use of any kind of implement or tool or separate connecting-bolt or fastening, as before described.

In testimony whereof we have hereunto signed our names before two subscribing witnesses.

SAMUEL PENNOCK.
MORTON PENNOCK.

Witnesses:

HENRY FLEMING,
JOSHUA CLENDENORE.