J. I. EAVENSON.

Plow.

No. 221,798. Patented Nov. 18, 1879.

Fig. 1.

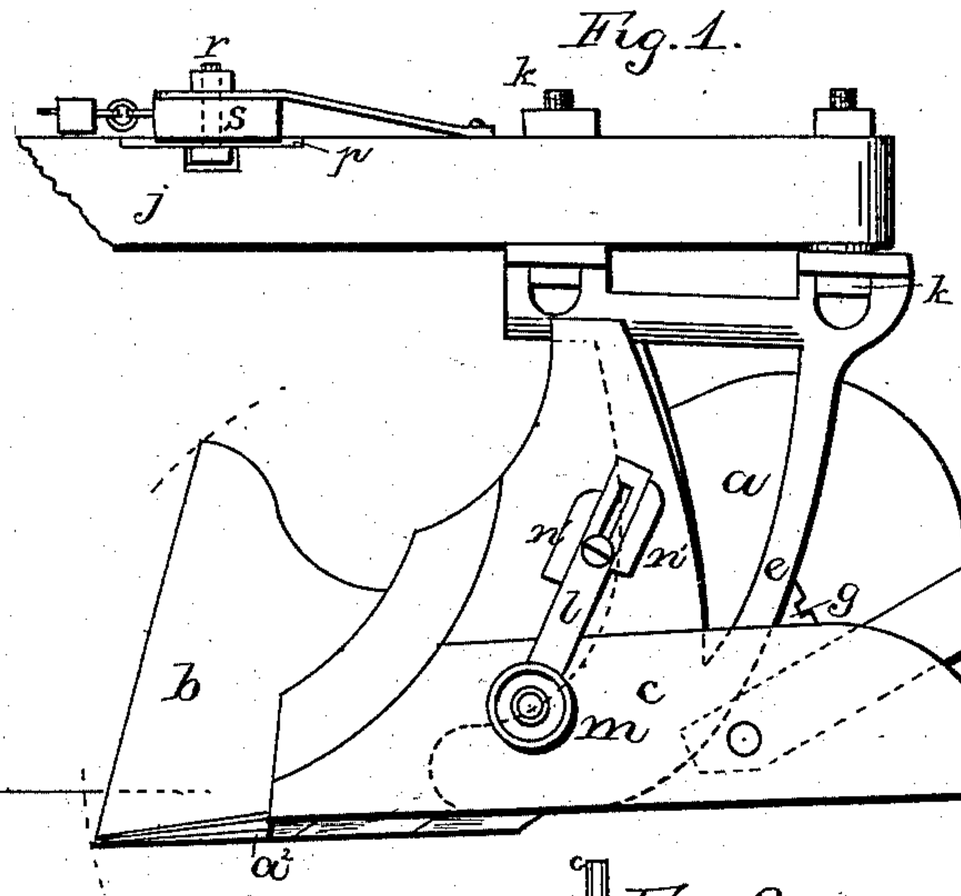


Fig. 6.

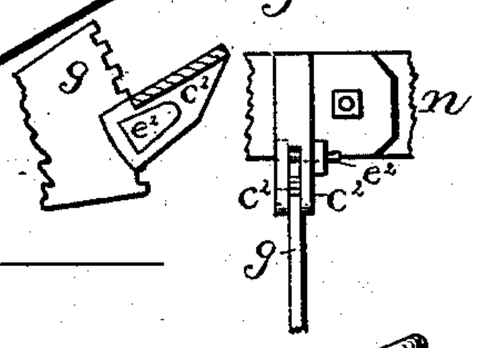


Fig. 2.

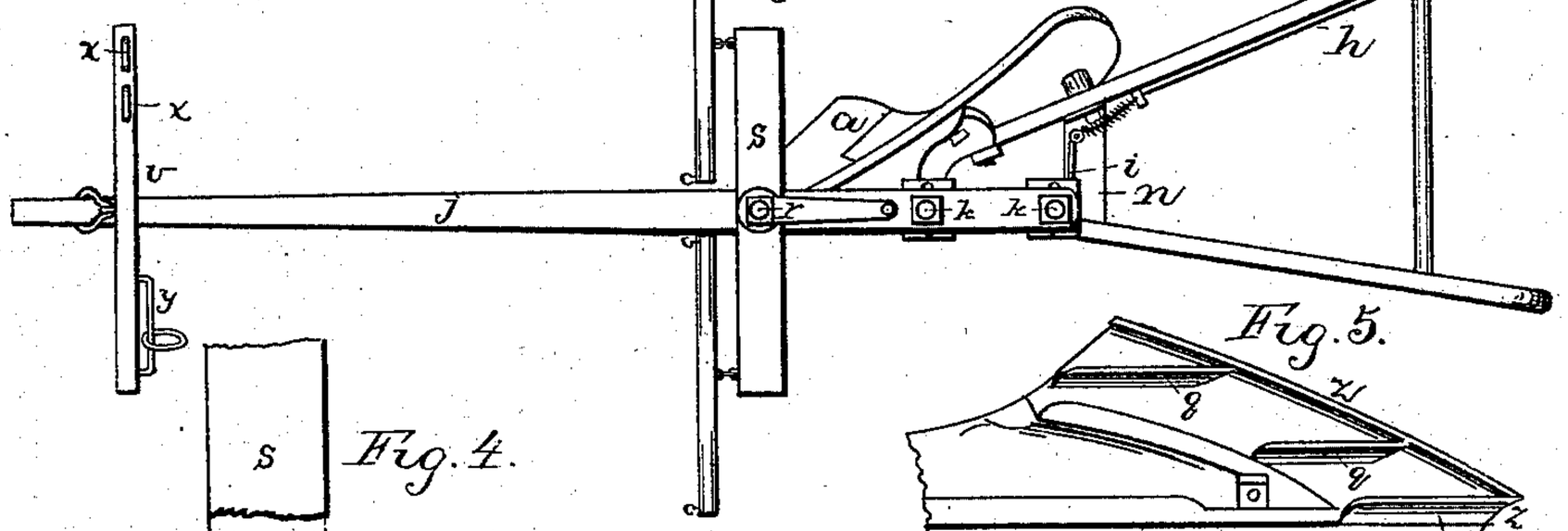


Fig. 5.

Fig. 4.

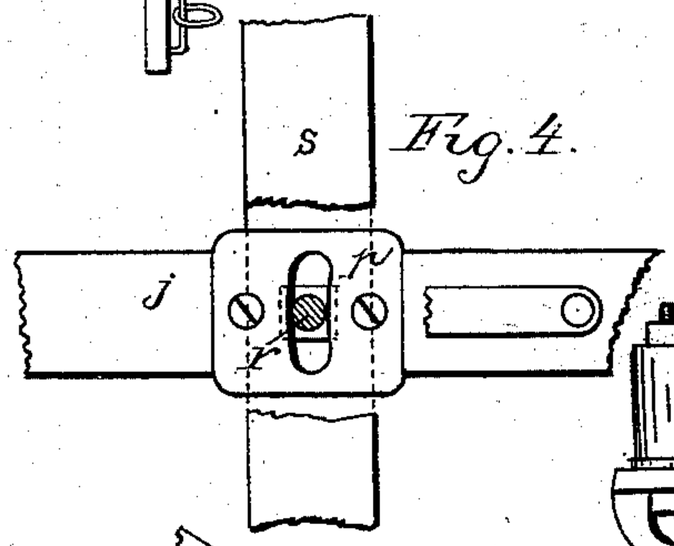
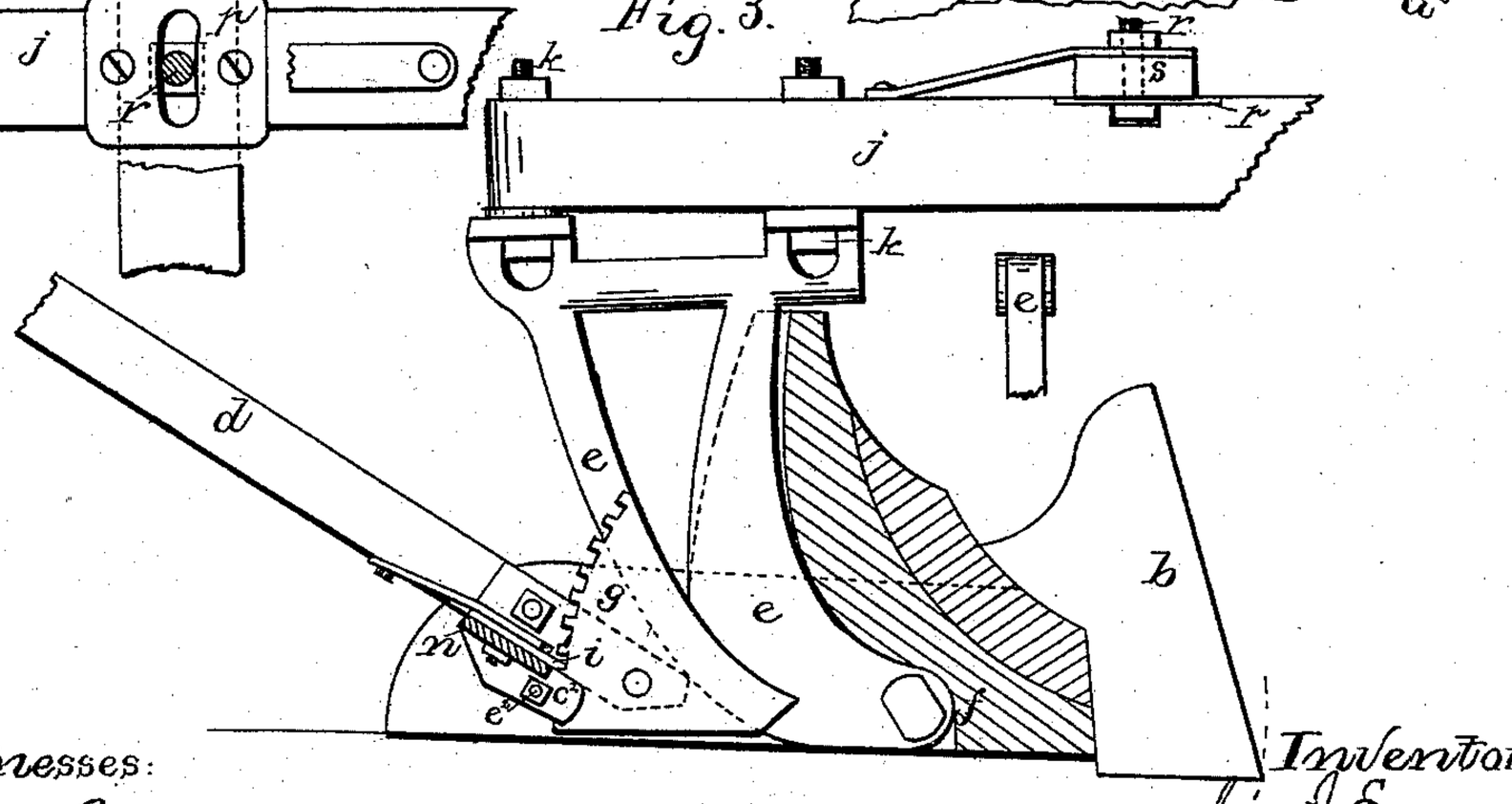


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE

JAMES I. EAVENSON, OF PAOLI, PENNSYLVANIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **221,798**, dated November 18, 1879; application filed September 26, 1879.

To all whom it may concern:

Be it known that I, JAS. I. EAVENSON, of Paoli, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Plows; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in plows; and it consistsin the arrangement and combination of parts that will be more fully described hereinafter, whereby a tongue, instead of the regular beam, is used, and the plow made more easy to manage and lighter on the team.

Figure 1 is a side elevation of the plow, taken from the land side. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal vertical section of the plow, showing the manner of adjusting it. Figs. 4, 5, and 6 are detail views.

a represents mold-board; *b*, the point, having a vertical sharp cutting-edge to cut the sod; *c*, the land-side, and *d* the handles.

The standard *e* is pivoted at its lower front end to the frog *f*, and is provided with the rack *g*, in which the spring-catch *i* catches, so as to hold the plow proper in any desired relation to the standard. This catch *i* is fastened to the rod *h*, which reaches up to the driver's hand, as shown in Fig. 2, so as to always have the plow under the most perfect control. The tongue *j* being held steady, it is only necessary for the driver to pull upon the rod so as to loosen the catch, and then he can by a single movement adjust the plow so as to run shallow or deep. This catch *i* is pivoted on the brace *n*, between the two handles *d*. Projecting downward from the under side of this brace are the two ears c^2, between which the edge of the rack passes, so as to be held steady and firm. Passing through these two ears is a bolt, e^2, the head of which is made large and long enough to clamp one side of the rack, while one ear bears against the other side. Should the standard become loose at any time by wear, it is only necessary to tighten the bolt, and all wear will be taken up at once.

The lower end of the standard has an ellipse formed on each side, and in the frog there is reamed out a circle for the end of the standard to catch in. The opening to this circle is narrower than the circle itself, and in order to insert the end of the standard up into the circle the end must be presented to the opening, so that the narrowest part of the ellipses will pass in. After the end is once in, turning the standard around into position turns the ellipses, so that their broadest parts are presented to the opening, and thus it will be impossible for the end to come out, and yet it turns freely, as if upon a pivoted bolt.

In the top of the standard there are made two slots, up through which and the tongue are passed the two bolts *k*. By means of the slots, which run at a right angle to the tongue, the beam can be adjusted so as to regulate the width of the furrow.

Adjustably fastened to the frame of the plow is the slotted plate *l*, which has the roller *m* upon its lower end. This roller can be adjusted up and down, so as to run upon the top of the ground, and thus regulate the depth of the furrow. The upper end of the plate *l* is held between the two flanges *n'*, so that the plate will not be loosened or displaced by running against any obstruction that may be in the way.

I am aware that rollers have been placed in between the land-side and mold-board and attached to the rear side of the standard for the purpose of regulating the depth of the furrow; but in these cases the roller acts only as a fulcrum upon which the plow or cultivator turns, and not as a gage, as in my case. As my roller runs upon the top of the ground, it will readily be seen that it acts as a gage alone, and it is impossible for the furrow to exceed the desired depth.

The edge *z* of the point *b* on the mold-board side extends far enough below the edge of the land-side to incline the plow over toward the land-side, and this projecting edge is hollowed out on its under side, as shown in Fig. 5, so as to be self-sharpening. This form also gives the plow suction enough to hold it to the earth. To the under side of this edge, in a line with the land-side, are one, two, or more braces, *q*, which strengthen this edge, so that it cannot be broken, and prevent the edge from cutting

too deep. Through the upper corner of this point *b* is passed a screw or bolt for holding the point in place. As this point conforms in shape to the frog, it will be seen that the point has such a firm bearing that it is not possible to break or displace it.

The land-side edge a^2 of this point is turned outward at a suitable angle, as shown in Fig. 1, which inclination increases in height backward until an elongated triangle is formed. This triangle catches under the lower edge of the furrow and serves to hold the plow down to the ground, and the more abrupt the angle is at the top the more the plow is inclined to run deeper.

Instead of using a beam, as in common plows, I here use a tongue, which acts as both a beam and a tongue, and by means of which two horses can be hitched to the plow so close that the dirt will almost be thrown on their heels. By thus hitching the horses close to the plow the horses can draw the plow with much more ease, the plow will stick to the ground better, and is more easily managed, and it cannot be upset.

Upon the top of the tongue is secured a slotted plate, *p*, up through which passes the bolt *r*, upon which the double-tree *s* is pivoted. In order to perfectly balance the plow, this double-tree can be moved endwise the length of the slot, and thus move either horse nearer to the tongue. This double-tree being fastened to the tongue so that neither end can be raised vertically, one horse pulls up and the other down as soon as the plow becomes uneven. Should it be desired to back the plow, it is only necessary to raise the plow on the point by means of the handles, and then the horses can back the plow like a wagon.

The holdback *v* is of ordinary construction, with the exception that it is provided with the two loops *x*, so that the horse which has to walk in the furrow can be hitched nearer to or farther away from the tongue, as may be found necessary. On the other end of the holdback is a long loop, *y*, so that the land-side horse can move in and out as he pleases without affecting the width of the furrow.

If preferred, the double-tree can be attached to the under side of the tongue instead of on top.

Having thus described my invention, I claim—

1. In a plow, the combination of the standard pivoted at its lower front end to the frog and provided with a rack, the handles fastened to the mold-board and land-side, a rod, *h*, and spring-catch *i*, substantially as shown.

2. In a turn-plow, the combination of a standard and a tongue attached to its top, instead of a plow-beam, and which answers as both a tongue and a beam, substantially as shown.

3. In a turn-plow, the combination of a standard and a tongue attached to its top, instead of a plow-beam, and which answers as both a tongue and a beam, and a double-tree and a holdback, the parts being combined and arranged to operate substantially as set forth.

4. In a turn-plow, the combination of a standard and a tongue attached to its top, instead of a plow-beam, with a double-tree that is adjustable endwise on the said beam, substantially as specified.

5. The point *b*, having the convex edge *z*, which is provided with braces *q* on its under side, substantially as specified.

6. The standard *e*, having an ellipse formed on each side of its lower end, in combination with the frog having a recess to receive the end of standard, forming the pivots on which the plow turns, substantially as shown.

7. The combination of the brace *n*, having ears c^2, with the rack and bolt e^2, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of September, 1879.

JAMES I. EAVENSON.

Witnesses:

F. A. LEHMANN,

OTTO STEIN.