

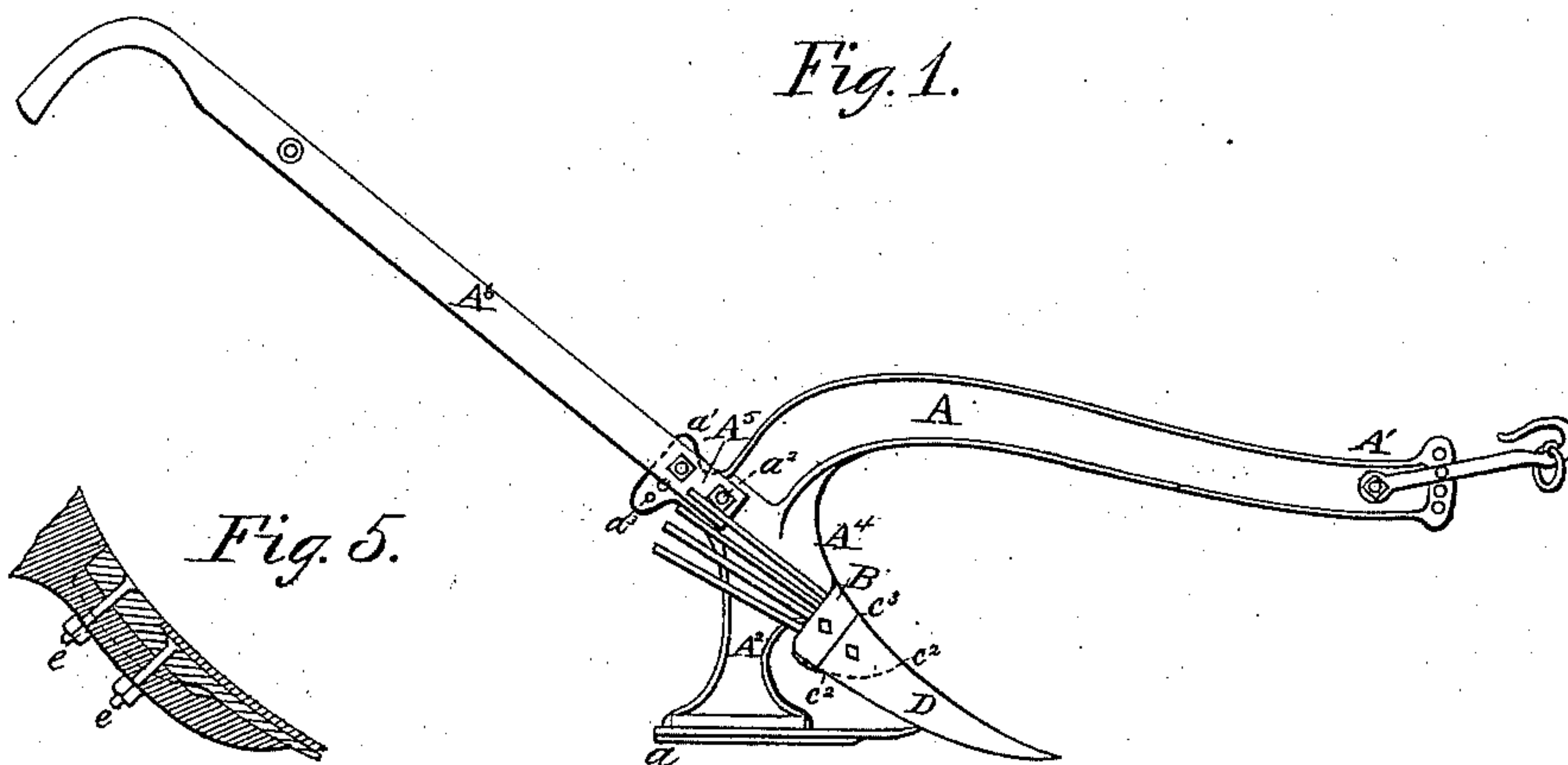
(No Model.)

J. PENTREATH.

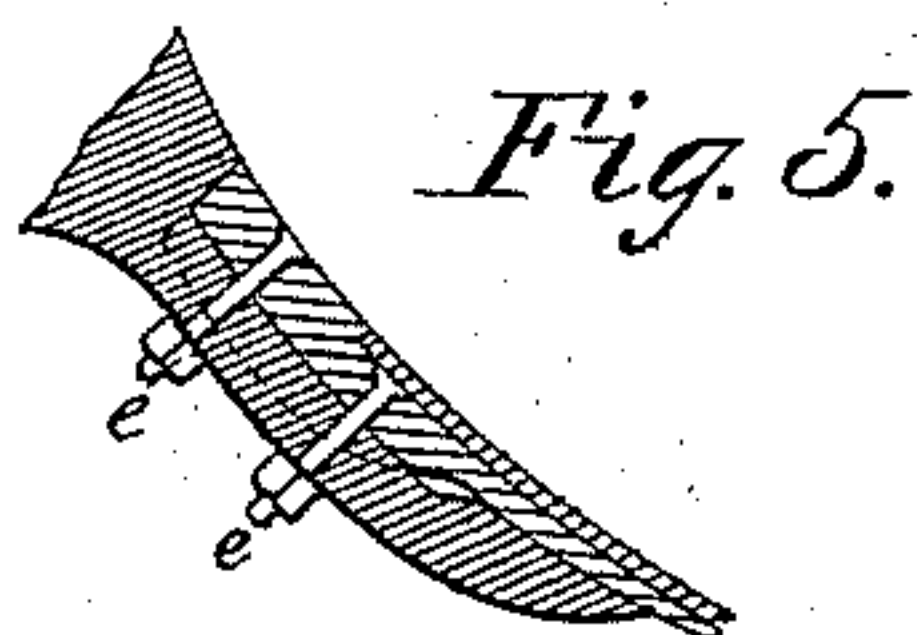
## POTATO DIGGER.

No. 331,082.

Patented Nov. 24, 1885.

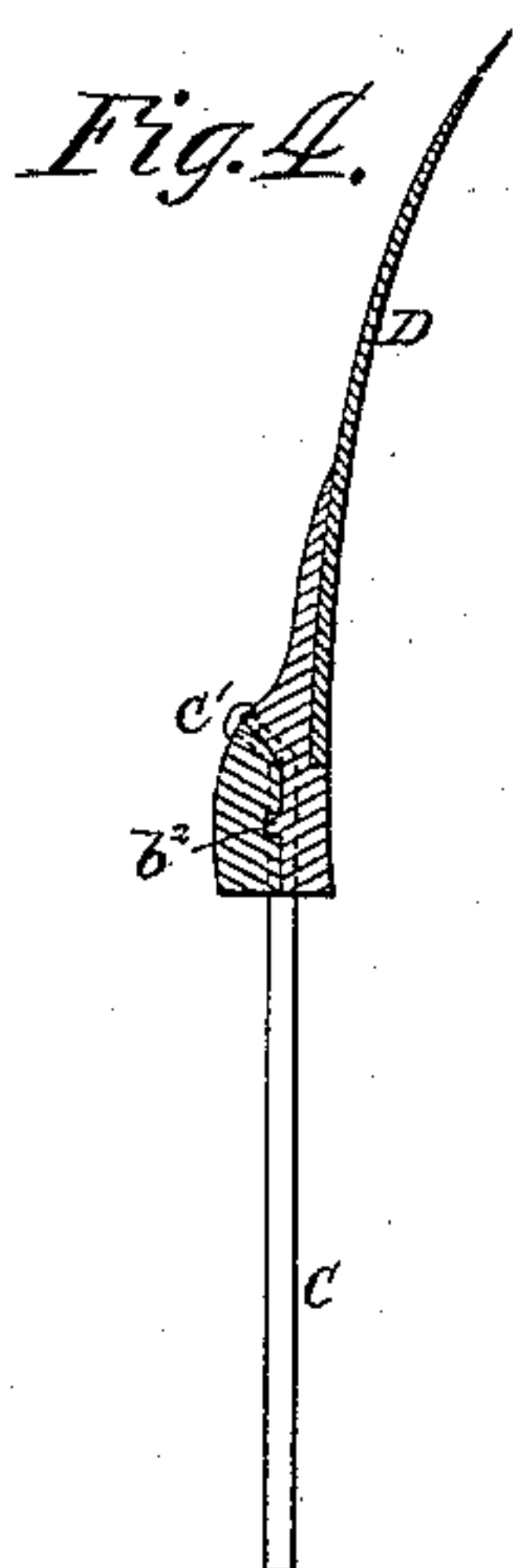


*Fig. 1.*

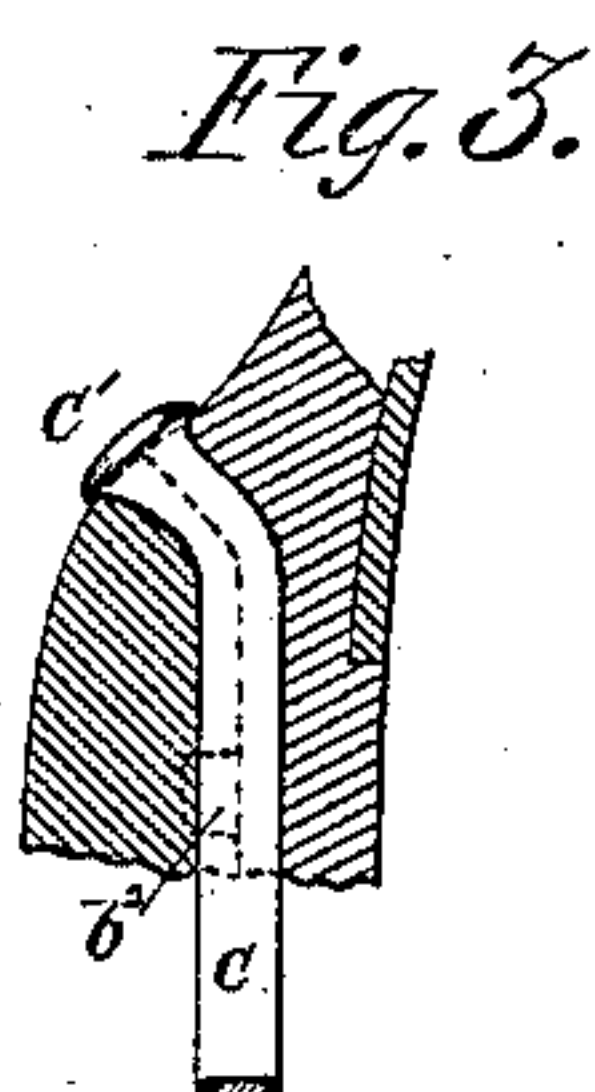


*Fig. 5.*

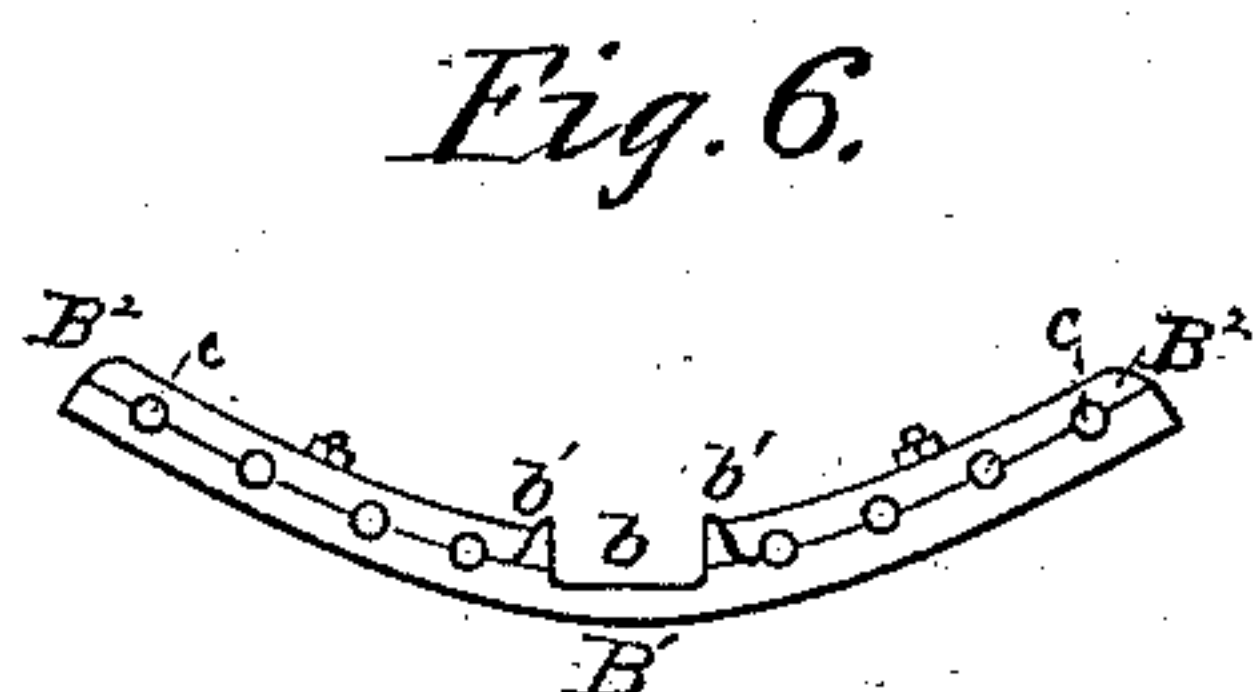
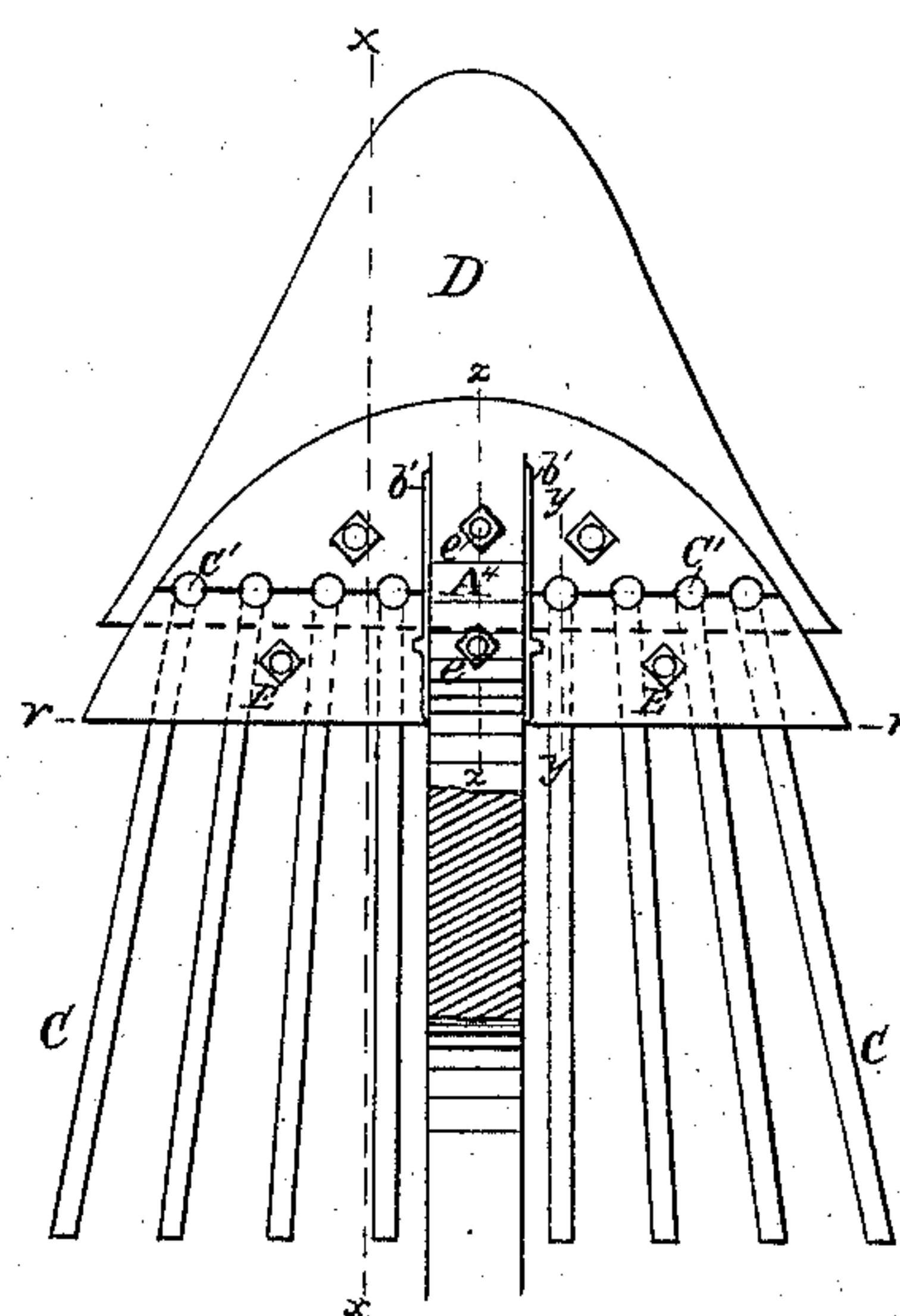
*Fig. 2.*



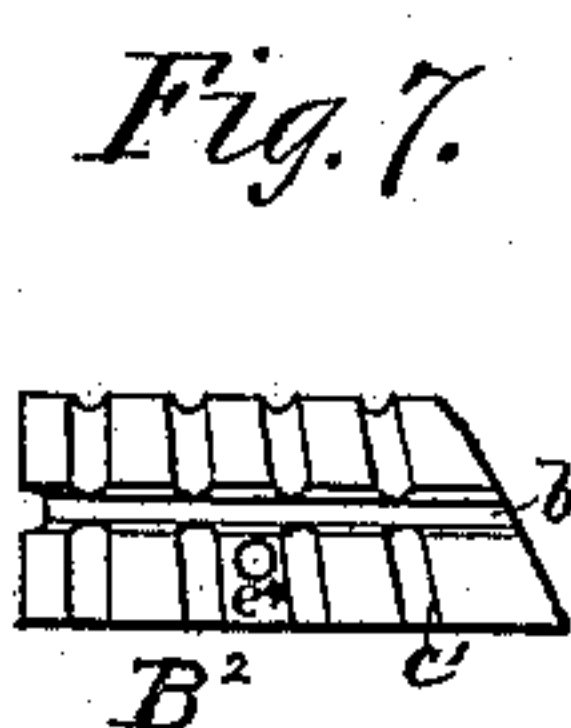
*Fig. 4.*



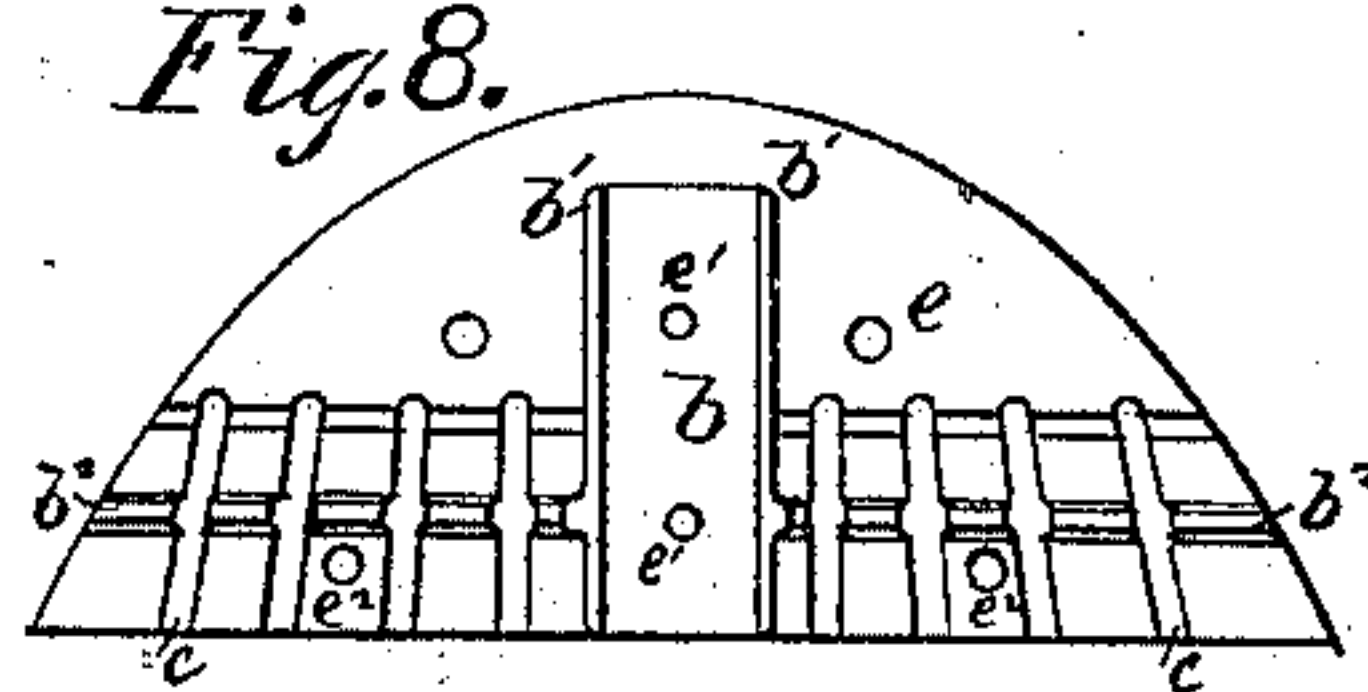
*Fig. 3.*



*Fig. 6.*



*Fig. 7.*



*Fig. 8.*

*Witnesses:*

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# UNITED STATES PATENT OFFICE.

JOHN PENTREATH, OF YONKERS, NEW YORK.

## POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 331,082, dated November 24, 1885.

Application filed April 7, 1885. Serial No. 161,511. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN PENTREATH, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented a new and useful Potato-Digger, of which the following is a specification.

My invention relates to that class of potato-diggers in which a shovel share or point is used.

The object of my invention is to separate the earth from the potatoes as the share turns them up, simplicity of construction, and adjustment of the handles of the digger. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation and shows all the parts in proper relation, the one to the other. Fig. 2 is a view of the share and the potato-digger, taken from the under side thereof, the back of the cross-head being removed in order to show the finger-connections with the cross-head. Fig. 3 is a detail of parts of the cross-head and share, being a vertical section taken at the line *y y* of Fig. 2. It shows a portion of one of the fingers clamped in the cross-head, also the tongue of the front part of the cross-head in the groove of the back part thereof. Fig. 4 is a vertical section of Fig. 2, taken at the line *X X*, and shows the share, cross-head, and one of the fingers projecting therefrom. Fig. 5 is an enlarged sectional detail of the front of the cross-head and parts of the share and lower portion of that part of the beam to which the cross-head attaches. The view shows the manner in which the cross-head is attached thereto. It is taken at the line *z z* of Fig. 2. Fig. 6 is an end view of the cross-head, taken at line *V V* of Fig. 2, and shows the cross-head with all its parts in proper relation, the one to the other, the bolts which hold the back sections to the front, the projecting flanges which provide a seat for the beam, also the holes in which the fingers are placed. Fig. 7 is a plan view of one of the back sections of the cross-head, and shows its front face provided with grooves which correspond to those in the back of the head, also the cross-groove which receives the tongue of said front portion, and one of the bolt-holes for bolting said section to the front. Fig. 8

is a rear plan view of the back of the cross-head, showing the finger-grooves, which correspond to those of its back section, (see Fig. 7,) the tongue which projects and corresponds to the cross-groove in said sections, also the projecting flanges which form a recess or seat between them for the beam, and the bolt-holes for bolting this part of the cross-head to the beam, and also for bolting the back sections of the head to this front part, so as to clamp the fingers between them.

It will be seen that all these views are inverted, excepting Figs. 1 and 5.

Similar letters of reference refer to similar parts in all the views.

A is the beam, A' being its head, and A<sup>2</sup> its foot, to which is attached a shoe, *a*. From the front of the beam, just below where it curves downward, is a strong but short projection, A<sup>4</sup>, to which the cross-head is bolted, all of these parts being constructed similar to those of a shovel-plow. From the back of the vertical part of the beam, and just below its downward curve or bend, is a short projection, A<sup>5</sup>, its free end being enlarged, so as to form a wide portion or head, *a'*. This head and projection *a'* A<sup>5</sup> is made thicker at its free end and tapers toward the beam, (wedge-shaped,) so as to conform to the flare of the handles A<sup>6</sup>, which are bolted to the beam by the bolt *a*<sup>2</sup>, which passes through both the beam and lower ends of the said handles.

*a*<sup>3</sup> is a series of holes in the head *a'*.

The handles are provided with a bolt-hole, which corresponds the one to the other and to the holes of this series. It will be seen that the handles can be adjusted to suit the operator, either up or down, by bolting the handles to either a high or low hole in the series *a*<sup>3</sup> in head *a'*, the bolt *a*<sup>2</sup> acting as a pivot for said handles to turn upon.

B is a cross-head, constructed in three parts—to wit, a front, B', which has a central recess, *b*, formed by the projecting flanges *b'* *b'* *b'*, said recess being adapted to receive the lower end of the projection A<sup>4</sup> of the beam.

*e e* are bolts, which bolt this part of the cross-head to said beam projection.

*b*<sup>2</sup> *b*<sup>2</sup> are tongues, which project the same as said flanges and at right angles to them.

*c c c c*, *c c c c* are a series of grooves, which



extend longitudinally of said front as far as that portion of it as will be covered by the back sections,  $B^2 B^2$ , of the cross-head. These grooves are in depth a little less than one-half the diameter of the fingers C, to the contour of which they correspond.

$e'$  are the bolt-holes for the bolts  $e$ .

$e^2$  are bolt-holes corresponding to those in the sections  $e^4$ .

10 This cross-head may be described as crescent-shaped in its outline, and on its front curved transversely and longitudinally, as shown in Fig. 1, and that portion of it which is covered by the share D, as shown by the dotted line  $c^2$  and true line  $c^3$ , is removed (or rabbeted out) to the depth of the thickness of the share, so that the top of the share abuts against a shoulder, as shown by line  $c^3$ . This (front) portion of the cross-head is firmly secured to the beam  $A^4$  by the flanges  $b' b'$  and bolts  $e' e'$ . The back of the part  $B'$ , to which the back sections,  $B^2$ , connect, is curved at its lower end, as in Fig. 3.

$B^2 B^2$  are the back sections. They are grooved in a similar way with longitudinal grooves  $c'$ , for the reception of the fingers C, as the front  $B'$ , and have transversely a groove,  $b^3$ , for the reception of the tongues  $b^2$ . At the lower ends these sections curve back at an angle of about forty-five (45) degrees from the line of the grooves  $c'$ , and fit on the back of the cross-head, one on each side of the flanges  $b' b'$ , which support the beam  $A^4$ , against which they firmly abut. Said sections are secured to the front by bolts E E, Fig. 2, the tongue  $b^2$ , and groove  $b^3$ , and thus make the connection rigid.

By reference to Fig. 6 it will be seen that when said cross-head is complete it is perforated by a series of holes,  $c c c c$ , formed by the grooves  $c$  and  $c'$ . Into these holes are inserted the fingers C, which are secured therein by their lower ends being bent so as to conform to the line of the said holes or grooves  $c c'$ , their lower ends being hammered down to form a slight head,  $C'$ . The bolts E E, being screwed up tight, also clamp the fingers C securely in the grooves  $c c'$  of the front and back. The several fingers extend back and

upward from the top of the cross-head B, radially or otherwise.

By the above it will be seen that in the event of any of the fingers becoming bent or broken they can be taken out by unscrewing the nut of the bolt which holds the back section of the cross-head which clamps any such finger or fingers, and removing said section, whereupon said fingers can be removed and repaired, or a new set of fingers inserted; or, if it is desired to use the implement as a shovel-plow, the fingers and back sections can be removed.

I claim--

1. The combination of the cross-head having grooves on its rear side, the back sections provided with grooves corresponding to those in the cross-head, so that when bolted to the cross-head sockets are formed by the grooves, and the fingers C C, provided with heads  $C'$ , and placed in the sockets formed by the grooved cross-head and back sections, whereby the fingers are rigidly held.

2. The combination of the cross-head having grooves on its rear side, the back sections provided with grooves corresponding to those in the cross-head, so that when bolted to the cross-head sockets are formed by the grooves, the fingers C C, provided with heads  $C'$  and placed in the sockets formed by the grooved cross-head and back sections, whereby the fingers are rigidly held, and the share connected to the front of the cross-head independent of the back sections, so that the fingers can be removed without disturbing the share.

3. The combination of the cross-head  $B'$ , having grooves in and transverse tongues projecting from its rear side, the back sections,  $B^2$ , correspondingly grooved, and also having transverse grooves to receive the tongues upon the cross-head, the fingers C C, having heads  $C'$ , the share connected to the cross-head independent of the back sections, and the beam having the projection  $A^4$ , substantially as described.

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Witnesses:

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J. W. PENTREATH.