(No Model.)

C. BRICK.

POTATO DIGGER.

No. 431,433. Patented July 1, 1890.

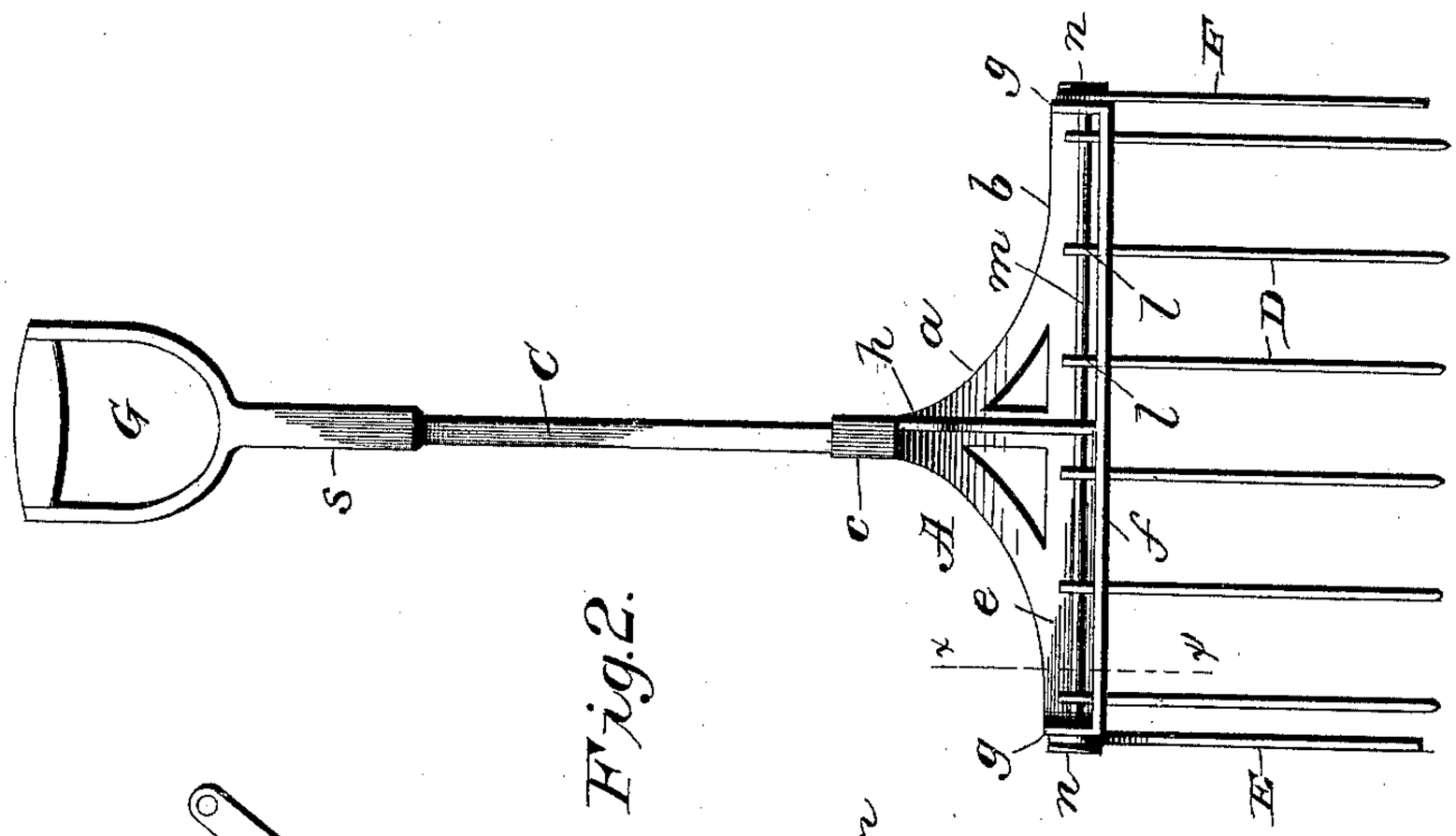

Fig. 2.

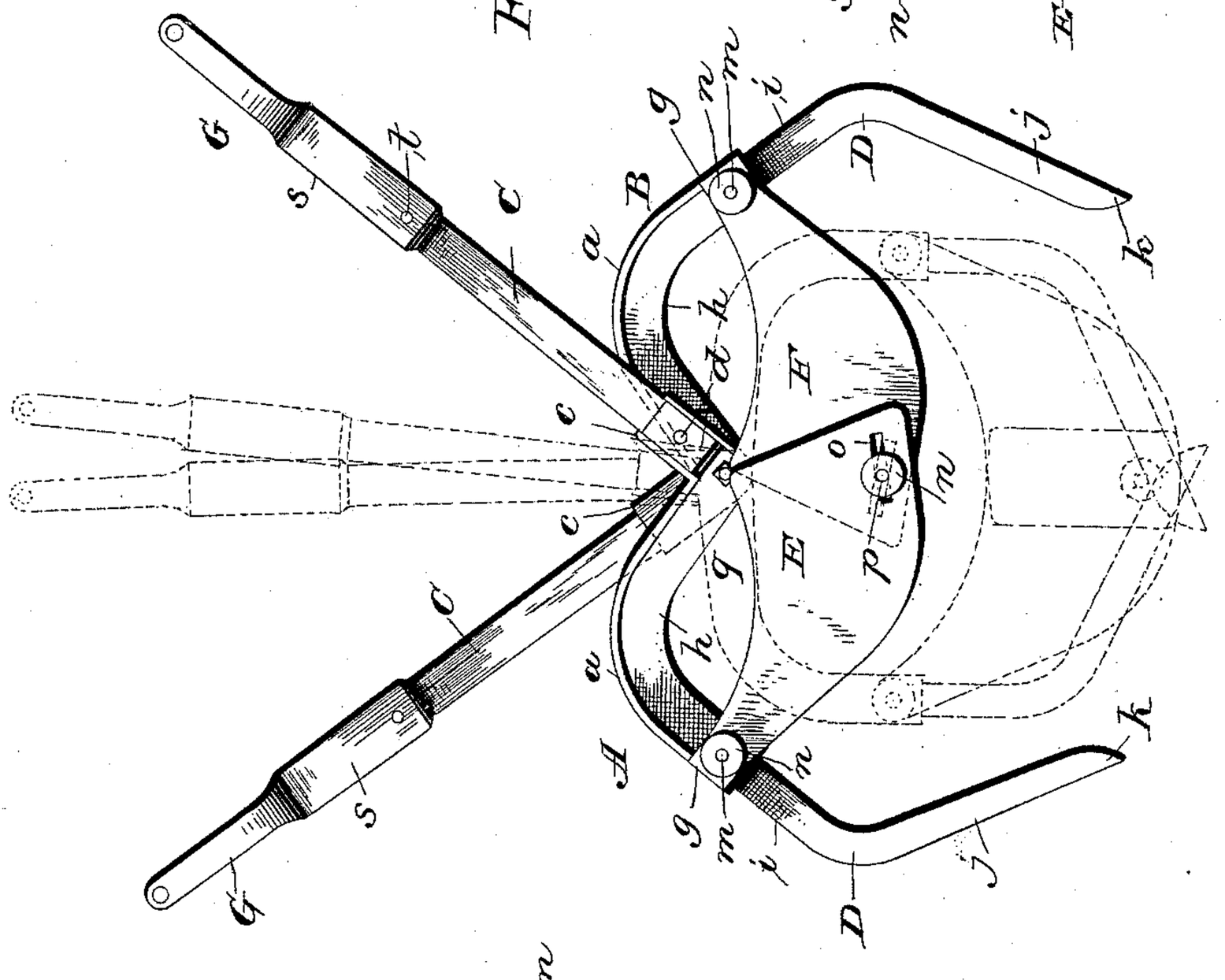

Fig. 1.

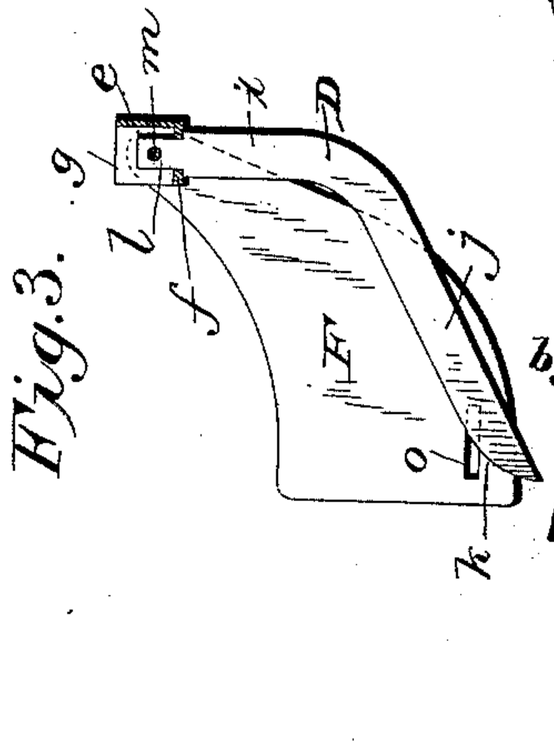

Fig. 3.

Witnesses
G. L. Ellis
E. W. Johnson

Charles Brick
Inventor
by
Attorney

UNITED STATES PATENT OFFICE.

CHARLES BRICK, OF SOUTH BEND, INDIANA.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 431,433, dated July 1, 1890.

Application filed January 18, 1890. Serial No. 337,375. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BRICK, a citizen of the United States of America, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Potato-Diggers; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has reference to potato-diggers; and it consists in the construction hereinafter described and set forth, whereby an efficient and durable potato-digger is provided that possesses numerous advantages over implements heretofore devised for such use.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of a potato-digger constructed in accordance with my invention, the same being represented in an open position. Fig. 2 is an end view of one of the sections comprising the digger, and Fig. 3 is a detail sectional view taken on the line *x x* of Fig. 2.

In its general purpose and operation the invention presented in the present case is somewhat similar to the digger covered by Letters Patent No. 407,465, issued to me July 23, 1889, and, while said patented construction has proved satisfactory, the features of the present implement increase the efficiency of the digger, and hence render it for many purposes more desirable.

Instead of forming the tooth-carrying sections and handles in one piece, as in the patented construction, the present improvement contemplates forming said sections as independent frames A B, each of which consists of a casting comprising a curved neck *a*, which contracts from its base *b* to a socket *c*, one side and the top of which are open for the reception of the wooden shank C of the handle, the said shank being secured in said socket by means of a bolt *d*, passing through the same and through the shank. The said base *b* is constituted by a horizontal portion comprising a vertical web *e*, inwardly-extending horizontal flange *f*, and ends *g*. For the sake of increased strength the curved neck *a* is provided on its inner side with a web or flange *h*.

Each frame A B carries a series of teeth D, which are so shaped and disposed that they will, when the frames are open, readily enter the ground with a comparatively small degree of friction and be forced together to form a basket for removing the earth and potatoes, as is well understood. A convenient form of tooth D is that represented, which is bent to form vertical tang *i* and lower part *j* at an obtuse angle therefrom, this form securing the best results in its ability to be readily forced into the ground. The relative positions of the tang *i* and portion *j* are such that when the frames are swung open the said lower portion will occupy substantially a vertical position for its direct entrance into the ground to its full extent, for when a depth is reached that occasions part of the tang to so enter the portions *j* of oppositely-located teeth will have turned under toward each other, so that the ground will not so strongly resist the action of closing the frames to bring the teeth together. The blunt curved ends *k* of each portion *j* enable the said end to move readily out through the ground in a horizontal plane when the frames are closed. The upper end of each tooth is reduced to constitute a neck *l*, adapted to pass through an opening therefor in the flange *f*, the shoulder formed at the base of the neck bearing against the under side of said flange, the neck above the latter being transversely perforated for the passage of a suitable securing-key. The retaining means represented consists of a horizontal rod *m*, passing through the perforations of all the teeth of the frame, the end portions of said rod bearing in the walls *g* thereof and being retained therein by means of heads *n*, formed on the extremities.

Instead of the specially-constructed end teeth disclosed in my said patented construction, I secure better results by employing at

each end a pair of peculiarly-shaped plates E F, arranged in vertical parallel planes, the outer reduced portions of which are perforated and hung on the projecting portion of the rod *m* and retained thereon by the heads aforesaid. The inner enlarged portion of each of the plates E F has a vertical edge, and adjacent to the lower end thereof is provided with a horizontal slot *o*, the slots of both plates registering at some point along their length, the two plates being pivotally connected by a rivet *p*, passing through the same.

The two frames A B are pivotally secured together at the upper end of the necks adjacent to the sockets *c c* by a bolt *q*. Provision is made for having the handles extensible by forming each handle proper G with a short socket *s*, in which the upper end of the shank C slides, the combined length of the shank and handle being regulated by adjusting the socket upon the shank before the securing-bolt is passed through said socket and shank. By reference to Figs. 1 and 2 it will be noted that the neck and its strengthening-web *h* are flush with the closed inner side of its socket *c*, this arrangement permitting the necks of both frames to work close to each other when pivotally connected.

The employment of the guard-plates E F at the sides dispenses with the necessity for specially-constructed end teeth, and, what is more, insures the earth and potatoes being permanently grasped by the two series of teeth.

Another advantage consists in the fact that the several parts are made separable, thus enabling the construction to be readily repaired and replaced when broken, and also permitting the general construction to be materially lightened, especially as it admits of the employment of wood handles.

The vertical web *e* of the base braces the ends *g*, in which the rod bears, but protects the top connections of the teeth from becoming struck or otherwise subjected to loosening effects.

I claim—

1. The combination, in a potato-digger, of the two metallic frames having integral extensions pivoted directly to each other, having teeth detachably secured thereto, and wooden handle-shanks secured to the extensions of the frames, substantially as set forth.

2. The combination, in a potato-digger, of the two metal frames pivoted together and each cast in a single piece, and comprising base and curved neck having sockets integrally cast therewith, teeth connected to said base, and a handle-shank bolted in each socket, substantially as set forth.

3. The combination, in a potato-digger, of the pivotally-connected frames, each cast in a single piece, and comprising neck, socket, and having operating-handles secured in said sockets, and teeth, as described, of side plates pivoted to the sides of the frames and movably connected to each other at their inner ends, substantially as set forth.

4. The combination, in a potato-digger, of the pivotally-connected frames having operating-handles and teeth, as described, the end plates having contracted portions pivotally connected to the ends of the frames and provided with inner straight edges and horizontal slots adjacent thereto, and a rivet passing through said slots, substantially as set forth.

5. The combination, in a potato-digger, of the frame having pivotally-connected curved necks and sockets cast in one piece, operating-handles bolted in said sockets, said frames having integrally-slotted flanges *f*, teeth having necks projecting through said flanges, and a bar *m*, passing through said necks, substantially as set forth.

6. The combination, in a potato-digger, of the frames having pivotally-connected necks, sockets, and slotted flanges *f*, cast in one piece, teeth having necks projecting through said flanges, a rod *m*, passing through said necks, and end plates pivotally connected together at their inner portions and pivotally hung at their outer ends upon the rods *m*, together with handles bolted in said sockets, substantially as set forth.

7. The combination, in a potato-digger, of the frames having pivotally-connected necks, sockets, and slotted flanges *f*, provided with ends *g*, cast in one piece, teeth having necks projecting through said flanges, and a rod *m*, passing through said necks and ends and headed at their ends, plates slotted adjacent to their inner edges, and a rivet seated in said slots, the outer ends of said plates being hung on the sides of the frames, together with handles bolted in said sockets, substantially as set forth.

8. The combination, in a potato-digger, of the frames having pivotally-connected necks, sockets, and vertical webs *e*, and slotted flanges *f*, cast in one piece, teeth having necks projecting through said flanges, and a securing medium for the necks, together with handles bolted in said sockets, substantially as set forth.

9. The combination, in a potato-digger, of the pivotally-connected frames, each having a curved neck and web flush with the handle-connection to the same, such flush faces being adjacently arranged, together with a base portion having a slotted flange *f*, and teeth having their necks projecting through said flanges and locked, substantially as set forth.

10. The potato-digger consisting of the pivotally-connected handle-frames, teeth connected thereto and each consisting of a tang, and a lower portion bent at an obtuse angle

thereto and provided at its front with a short curved cutting-edge, substantially as set forth.

11. The combination, in a potato-digger, of the frames having pivotally-connected necks, sockets, and slotted flanges cast in one piece, teeth, as described, together with shanks C C, bolted in said sockets, and handles proper having sockets in which said shanks slide, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES BRICK.

Witnesses:

ABRAHAM L. BRICK,

JOHN FINCH.