

No. 704,514.

Patented July 15, 1902.

B. F. CLARK & W. SMITH.

WEEDER.

(Application filed Sept. 27, 1901.)

(No Model.)

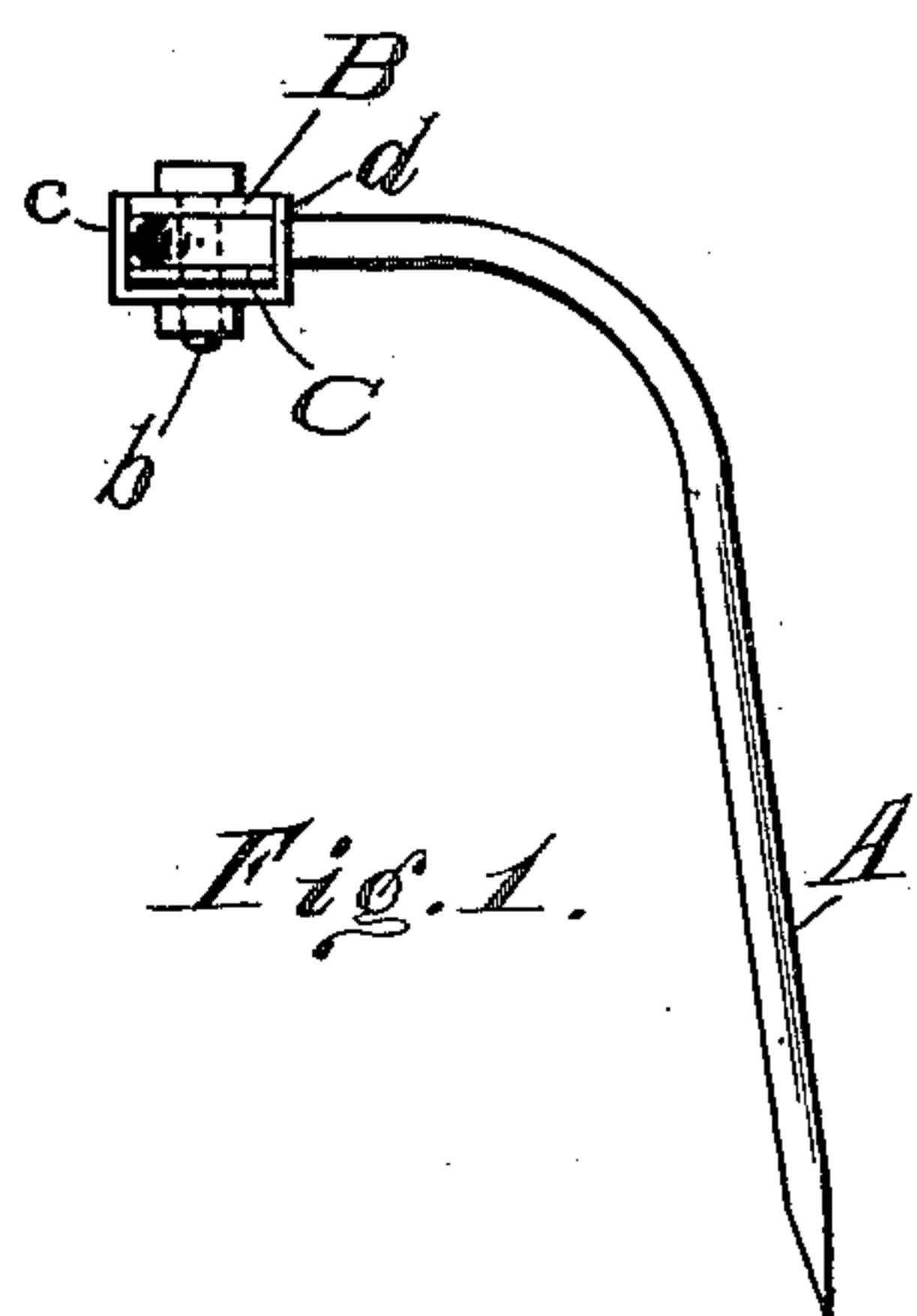


Fig. 1.

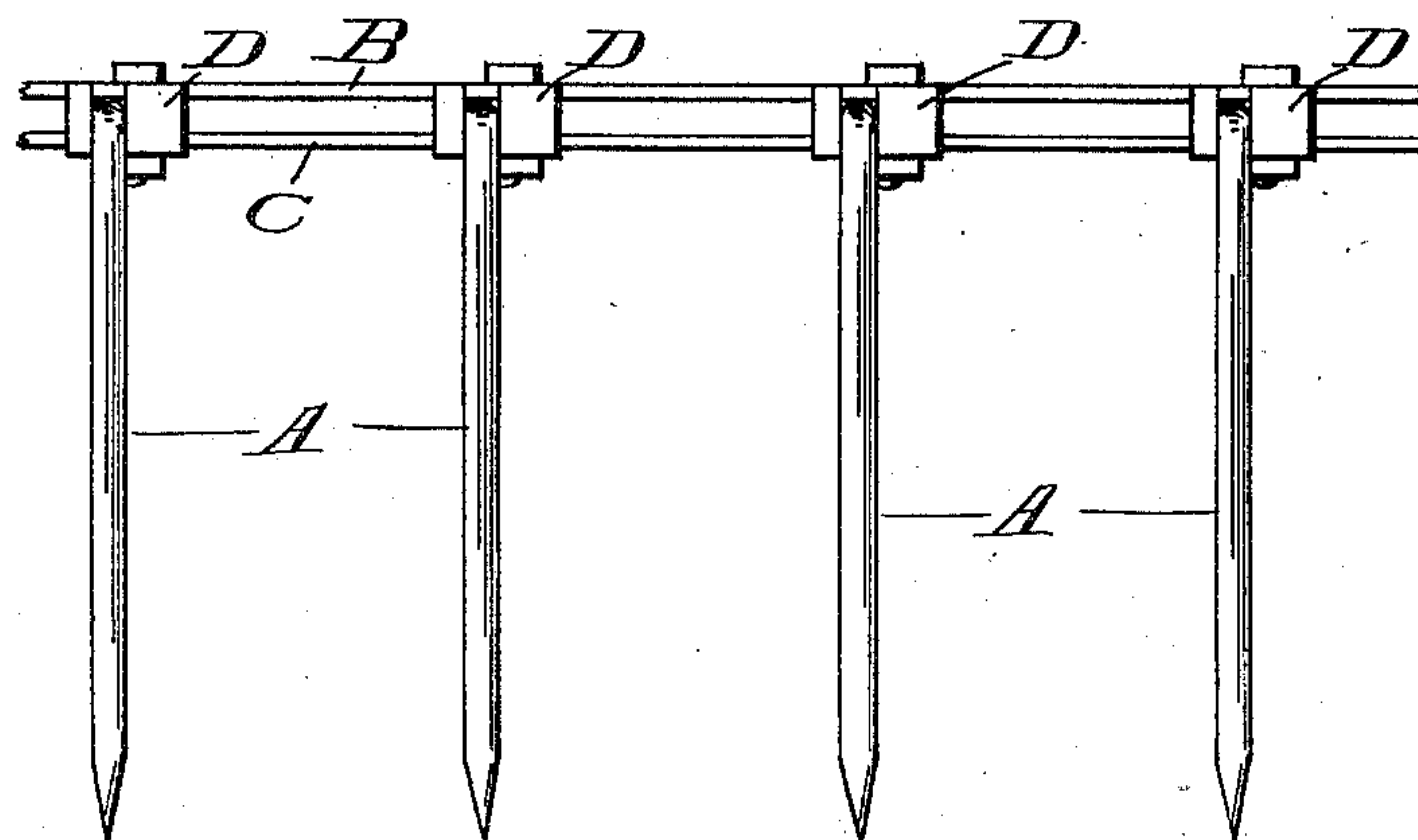


Fig. 2.

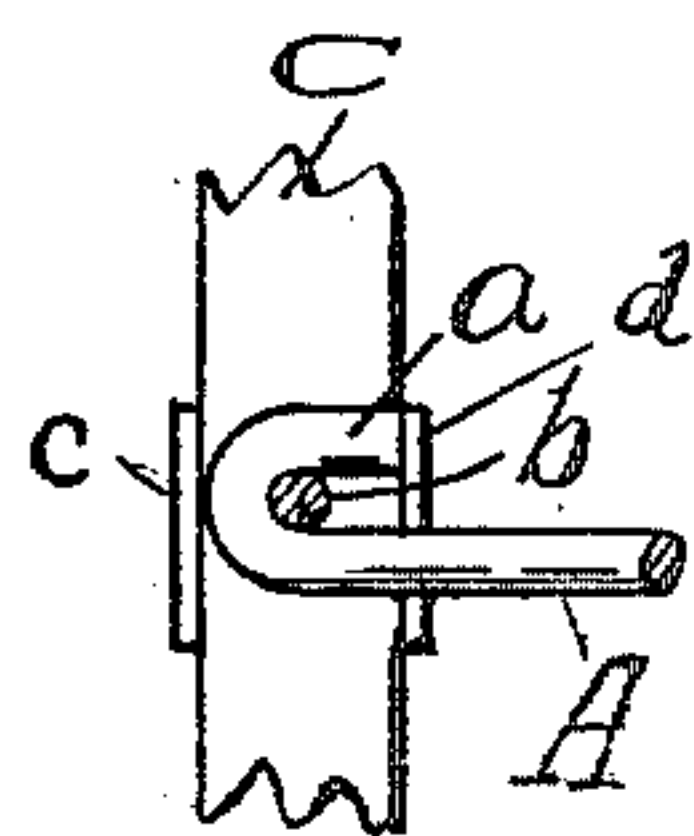


Fig. 3.

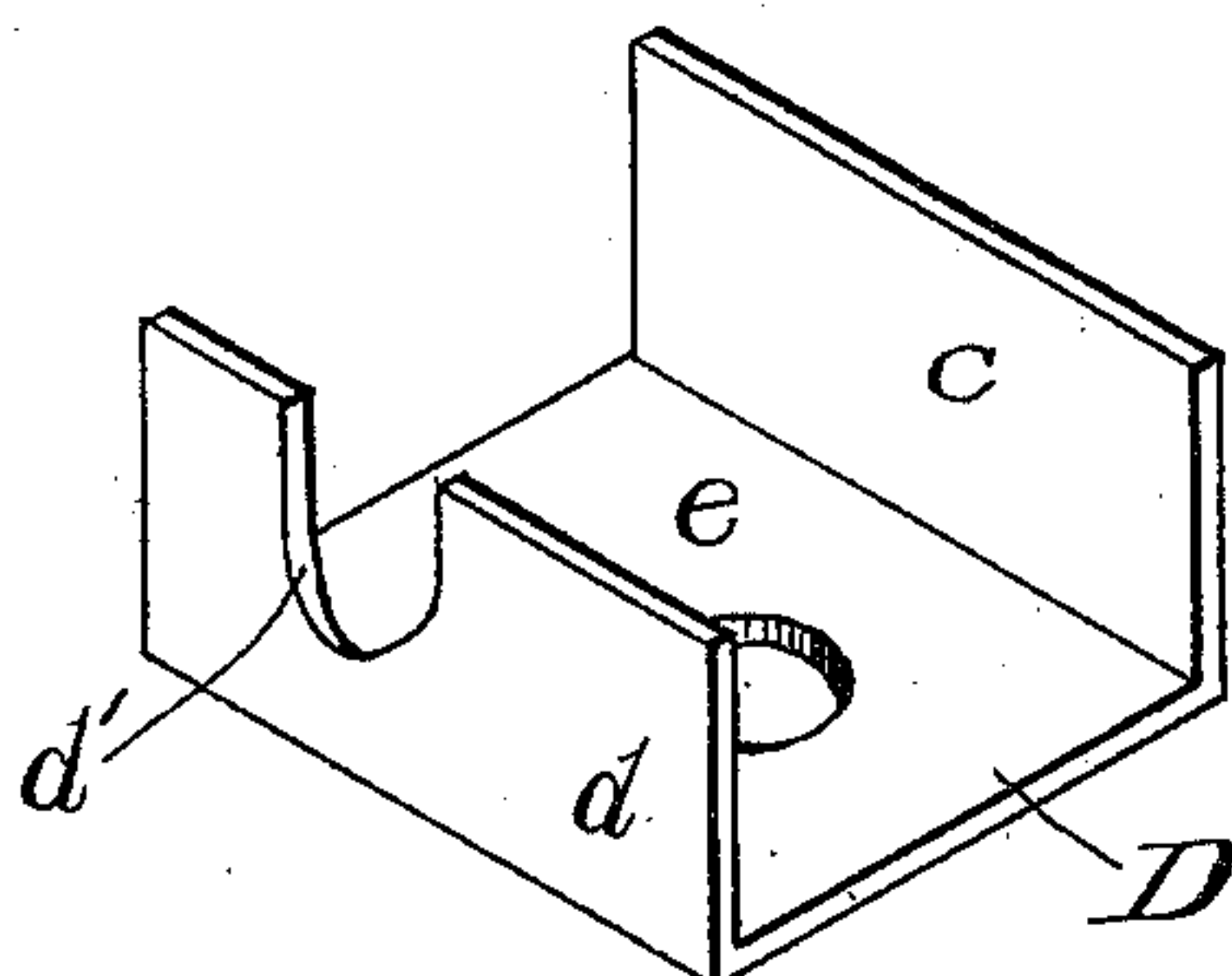


Fig. 4.

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UNITED STATES PATENT OFFICE.

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WEEDER.

SPECIFICATION forming part of Letters Patent No. 704,514, dated July 15, 1902.

Application filed September 27, 1901. Serial No. 76,724. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. CLARK and WILSON SMITH, citizens of the United States, and residents of Cambridge City, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Weeders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of our specification.

Our invention relates to improvements in weeders, and pertains more particularly to the method of mounting the teeth, whereby the same may be mounted independently of each other and yet provide a secure and rigid connection of the teeth to the frame of the machine, and its construction will be more fully hereinafter set forth and described in the following specification, of which the drawings form a part, wherein—

Figure 1 is a side elevation of a tooth and the bars to which it is mounted and also illustrating the clamp or clip whereby the same are held in their relative positions. Fig. 2 is a rear view of a number of teeth mounted in our improved manner to the frame of the weeder, which is shown broken away. Fig. 3 is a top view of the end of a tooth, which is secured to the frame, with the top bar and nut removed. Fig. 4 is a perspective view of the clip or clamp mechanism for securing the tooth to the frame.

Like letters of reference indicate identical parts in the various figures.

A represents the teeth, which are made of the well-known construction used in weeders, being round in cross-section and long and flexible, so that when in use they will not dig deeply into the soil nor injure the young plants which are being cultivated. The lower parts of the teeth are preferably substantially straight and so arranged that they incline rearward somewhat in order that they shall trail upon rather than dig into the soil as the implement is being used.

Our invention consists in the method of securing weeder-teeth which possess the necessary characteristics and comprises a tooth provided with a hooked or U-shaped bend at

its fastening-point, as more clearly illustrated in Fig. 3, the bend or part *a* lying in the same horizontal plane with the body of the hook.

B C are metallic bars forming the frame of the machine and made of any desired length, according to the size of the weeder it is intended to produce. These bars B C are arranged in the same vertical plane as illustrated in Figs. 1 and 2 and are provided at suitable intervals with bolt-receiving openings, through which the bolts *b* pass.

D represents channel-irons forming clamps or clips, the channel being of a width sufficient to incase the bars B and C, the portions *c d* intended to extend alongside of the bars from one to the other, as clearly illustrated in Fig. 1. The portion *e* of the clip D is provided with an opening which when the clip is placed in position on the bars B C registers with the bolt-openings in said bars and is intended for the passage of the bolt *b*, heretofore mentioned. The member or portion *d* is provided with a slot or cut-out portion *d'* at a point a little to one side of the bolt-opening, as clearly indicated in Figs. 3 and 4, this slotway *d'* being rounded to conform with the shape of the tooth.

In practice the tooth is placed between the flat bars B C, having the loop to surround the bolt-openings in said bar. The clamp or clip D is then put into position by having the members *c d* extend upwardly, the slotway *d'* permitting the clip to surround the tooth, as shown in Figs. 2 and 3. This will bring the bolt-opening in the portion *e* of the clip D to register with the bolt-openings in the bars B C. The bolt *b* is then passed through the openings in the bars B C and the clip D and is then clamped in place by the usual nut, the various portions being snugly drawn together.

It will be seen that by the employment of our improved construction the teeth are firmly clamped into place and are held against any transverse movement.

One of the advantages of our improvement is its simplicity of construction and the ease with which the teeth can be mounted in place, and it is very apparent that should it be nec-

essary for any reason to replace one of the teeth in a weeder constructed in our improved method it can readily be done without the disturbance of the adjacent teeth.

5 We have thus described our invention as pertaining to the mounting of teeth used in weeders; but it will be readily apparent that the same improved method may be employed in the construction of other or similar imple-
 10 ments, and we do not wish to be understood as confining ourselves to the use of our improvement in connection with weeders alone, and it is also apparent that some slight modification of the construction described
 15 may be made, which, however, may come within the spirit of our invention—as, for instance, in place of employing two horizontal bars one above the other one might be employed, and in place of forming the teeth
 20 with a hooked portion at the upper end, as illustrated in the drawings, it might be provided with an eye for the reception of the bolt, or the upper end might be provided with an enlargement or shoulder of a size corre-
 25 sponding with the space included between the channel-clip and the width of the bars in order that the teeth may be braced and the shoulder or enlargement assist in preventing side play.

30 We do not, therefore, wish to limit ourselves to the exact construction illustrated; but

What we do claim as our invention, and wish to secure by Letters Patent, is—

35 1. In a weeder, the frame composed of horizontal bars, teeth, clips adapted to take over said bars and the ends of said teeth, and means whereby the clips and the ends of the teeth are held in place, substantially in the manner and for the purpose described.

40 2. In a weeder, the frame composed of a pair of bars extending horizontally, one above the other, teeth, clips adapted to take about said bars and the teeth, and means for securing said clips to the bars, to retain the teeth
 45 in place, substantially as and for the purpose described.

50 3. In a weeder, the combination of horizontal bars, two of which are arranged in the same vertical plane, teeth whose upper ends are bent in a horizontal direction, with clips adapted to take about said bars and teeth, and means for securing said clips in place,

substantially as shown and for the purpose described.

4. In a weeder, the frame comprising horizontal bars, teeth whose upper ends are bent to form hooks lying in a horizontal plane, and of a size to correspond with the width of the bars, clips composed of channel-iron and of a depth sufficient to take over said bars and
 60 the upper ends of the teeth, and means for securing said clips to the bars to retain the teeth in place, substantially as shown and for the purpose specified.

5. In a weeder, the frame comprising horizontal bars, teeth whose upper ends are adapted to fit against said horizontal portions, clips composed of channel-iron of a depth sufficient to take over said bars and the ends of said teeth, one flange of said clip provided with a
 70 slot for the passage of the teeth, and means for securing said clips to the bars to retain the teeth in place, substantially as shown and for the purpose specified.

6. In a weeder, the frame comprising horizontal bars, two of which are arranged in the same vertical plane, teeth whose upper ends are arranged and adapted to lie between said horizontal bars and clips arranged to take
 80 over said bars and provided with slots for the passage of the teeth, said bars, clips and ends of the teeth adapted to receive bolts, whereby the parts are held in place, substantially as shown and for the purpose described.

7. In a weeder or the like comprising a pair
 85 of horizontal bars arranged one above the other, teeth whose upper ends are bent laterally and adapted to lie between said bars, clips adapted to embrace said bars at the point where the teeth come between said bars,
 90 one flange of the clips provided with a slot for the passage of the teeth, said bars and clip provided with openings adapted to register, and bolts to be passed through said openings and the bent ends of the teeth,
 95 whereby the parts are clamped together, substantially as shown and for the purpose described.

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Witnesses:

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