

No. 803,088.

PATENTED OCT. 31, 1905.

C. I. J. BARKER.
WEEDER AND CULTIVATOR.
APPLICATION FILED JULY 19, 1905.

Fig. 7.

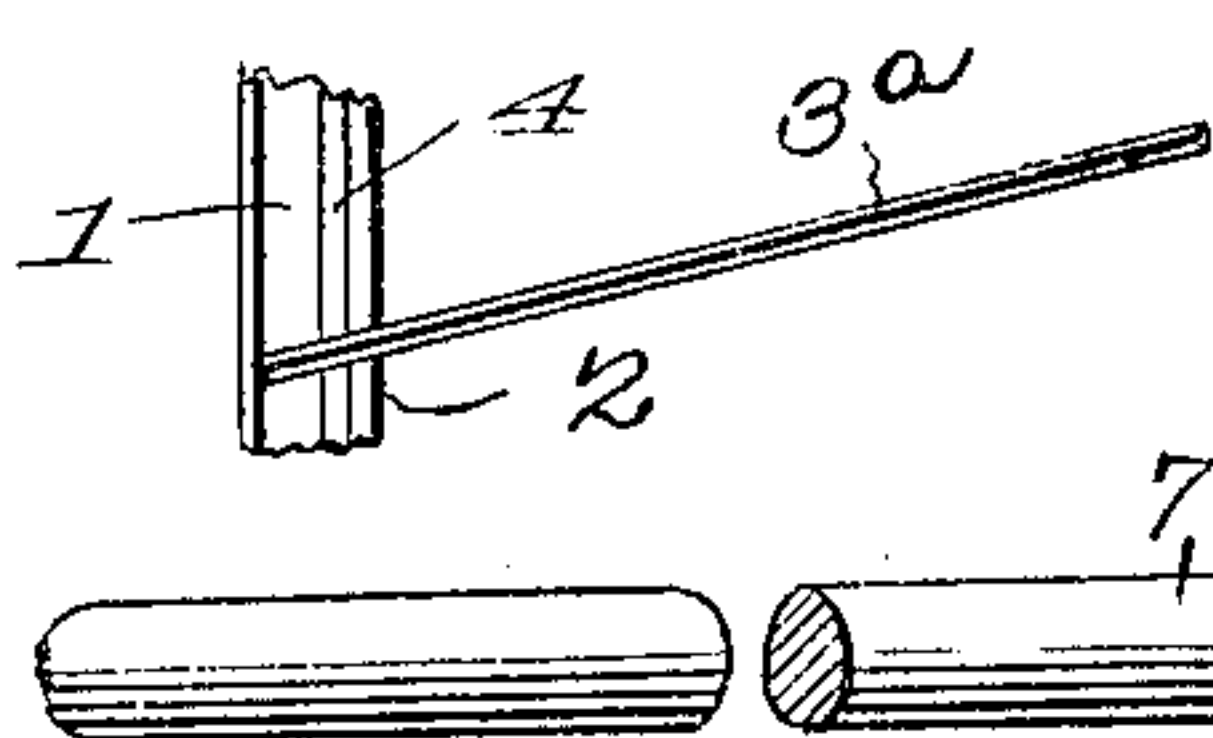


Fig. 1.

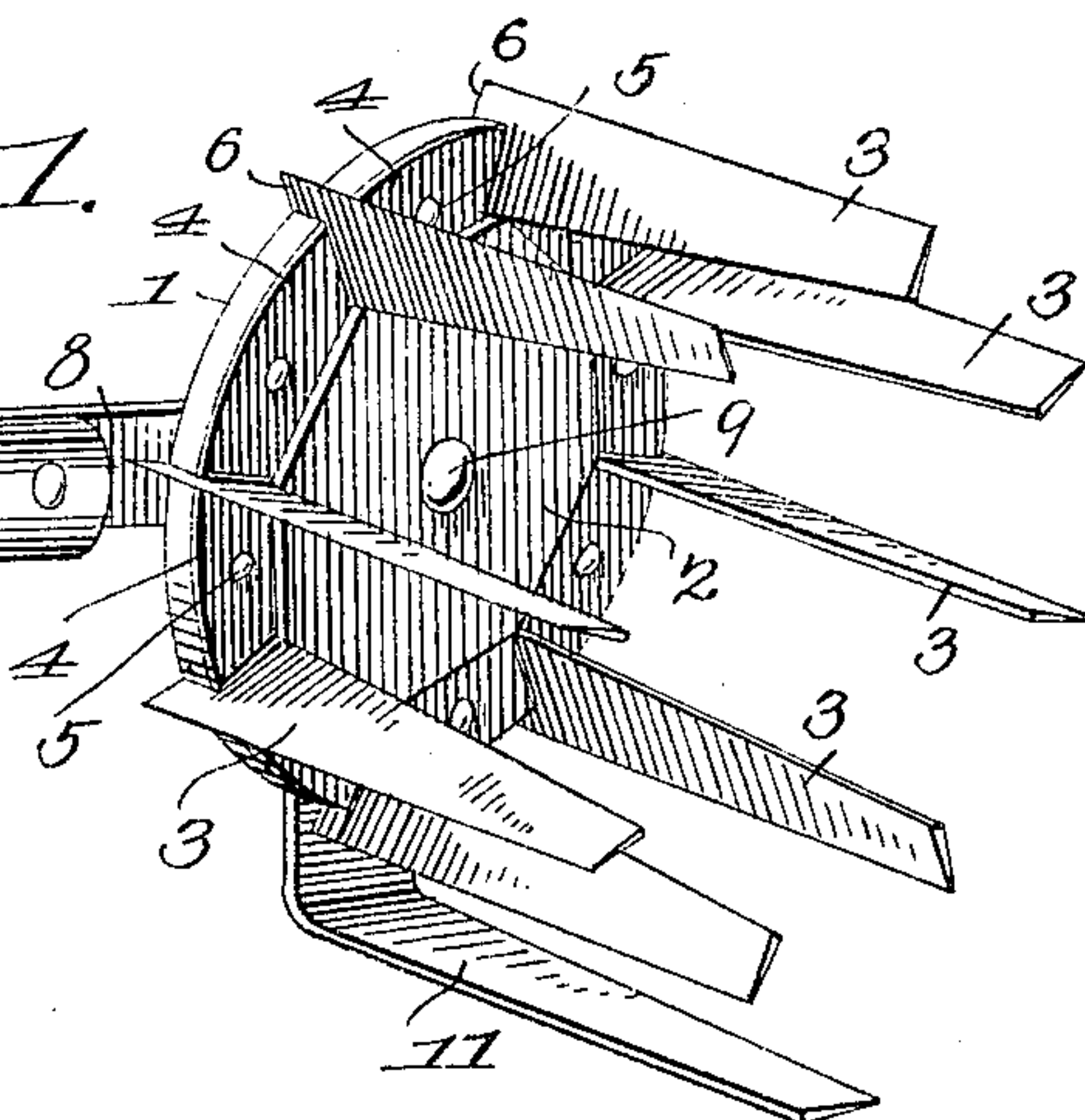


Fig. 2.

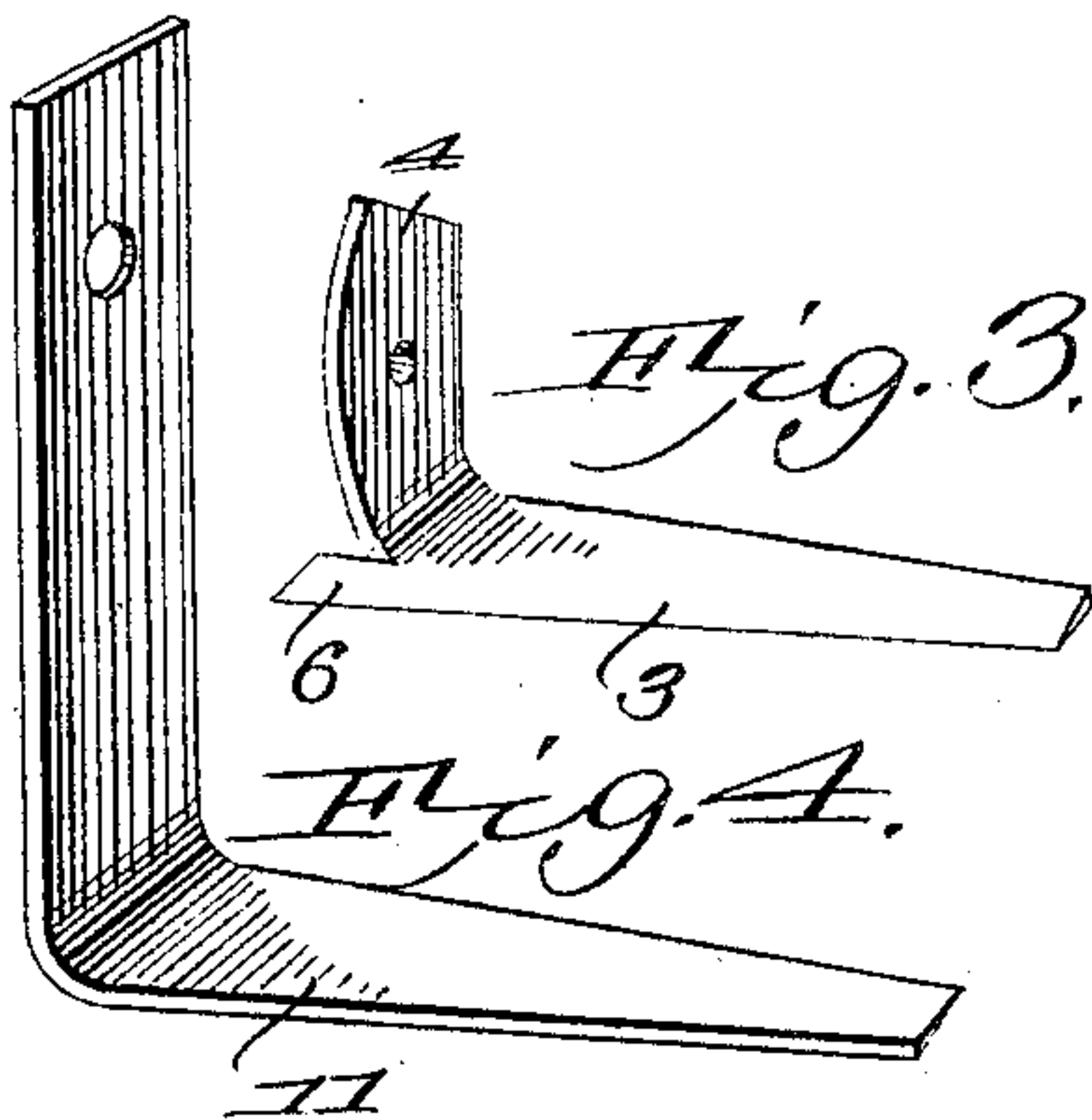
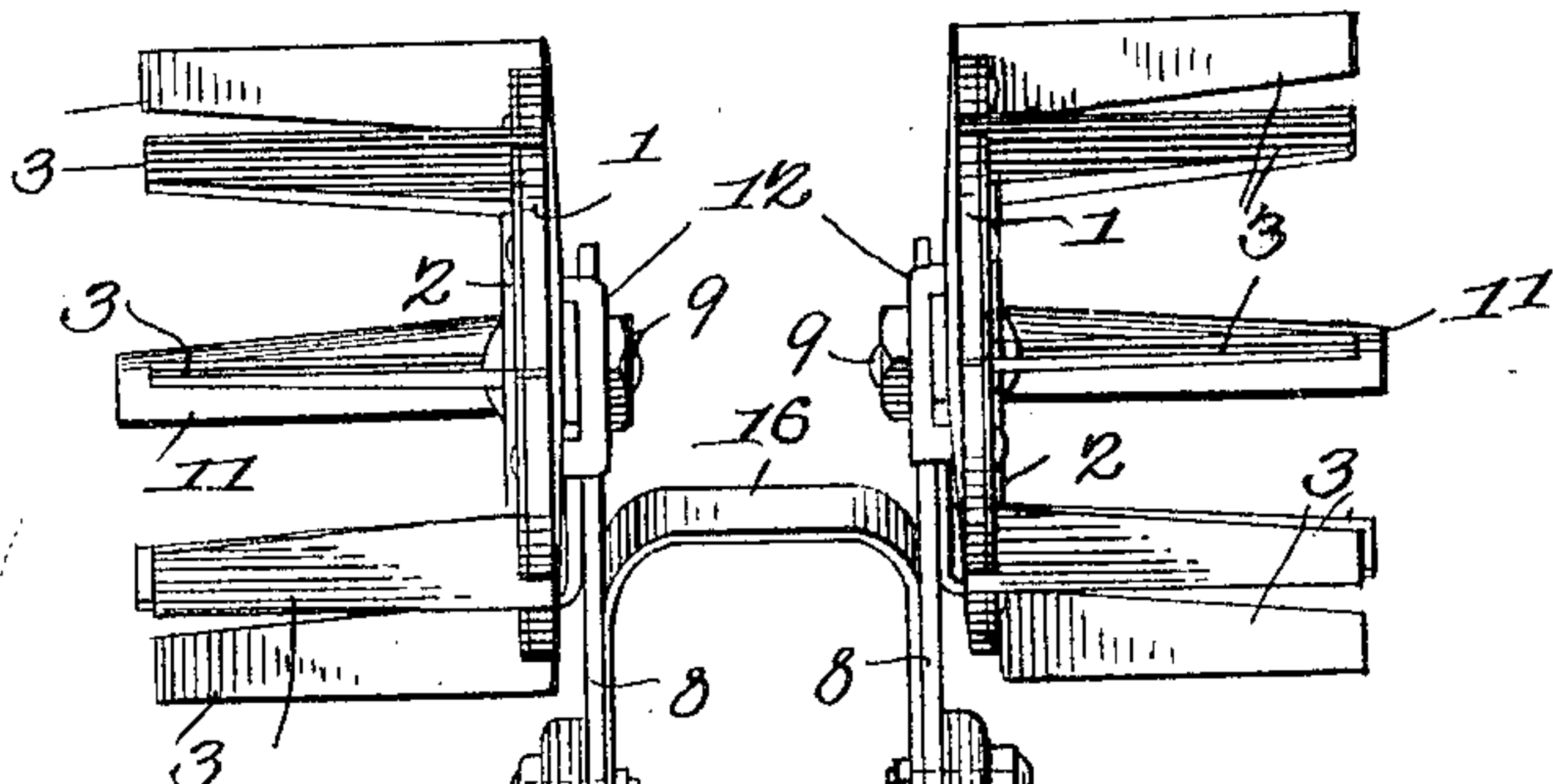
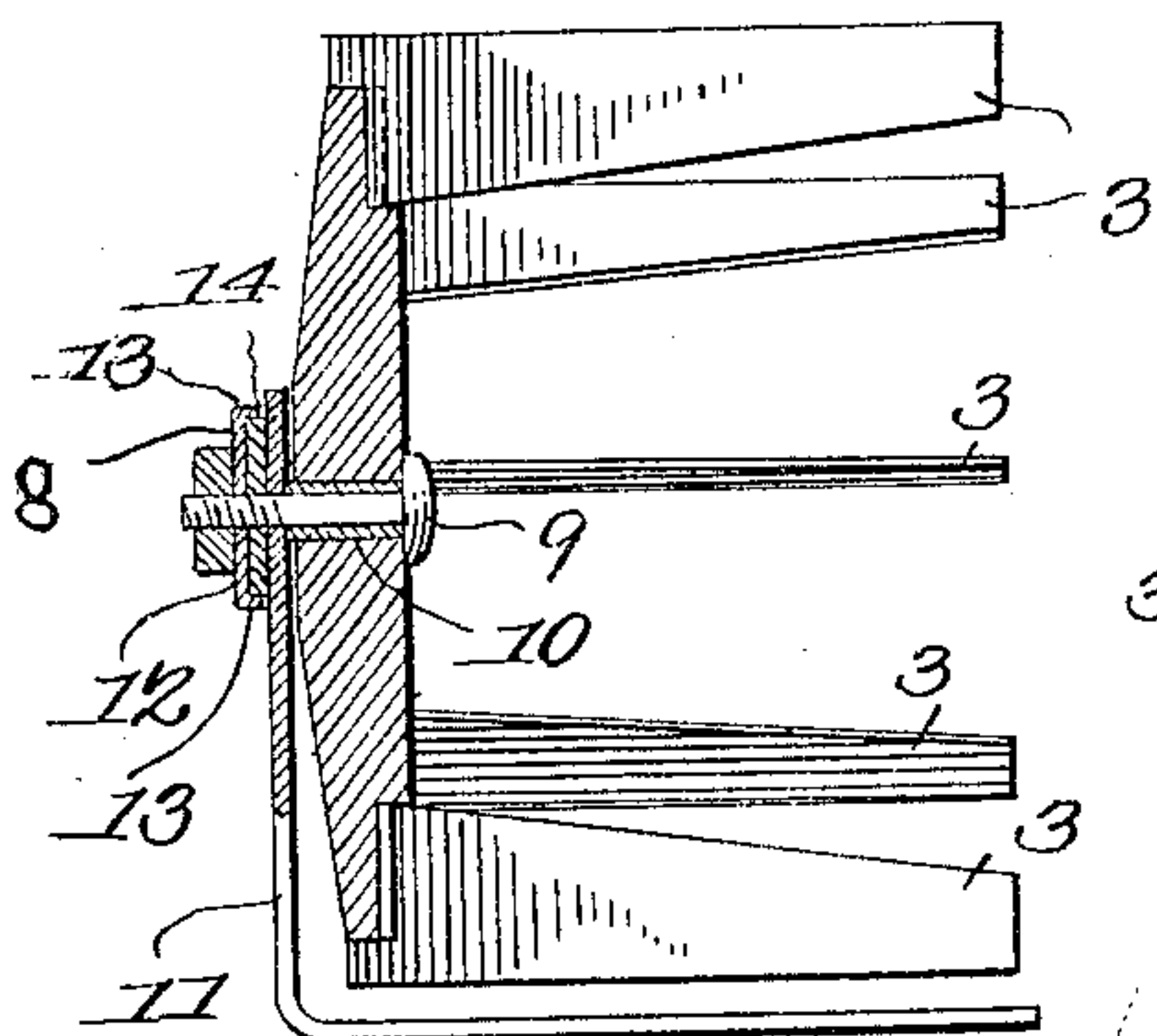


Fig. 3.

Fig. 4.

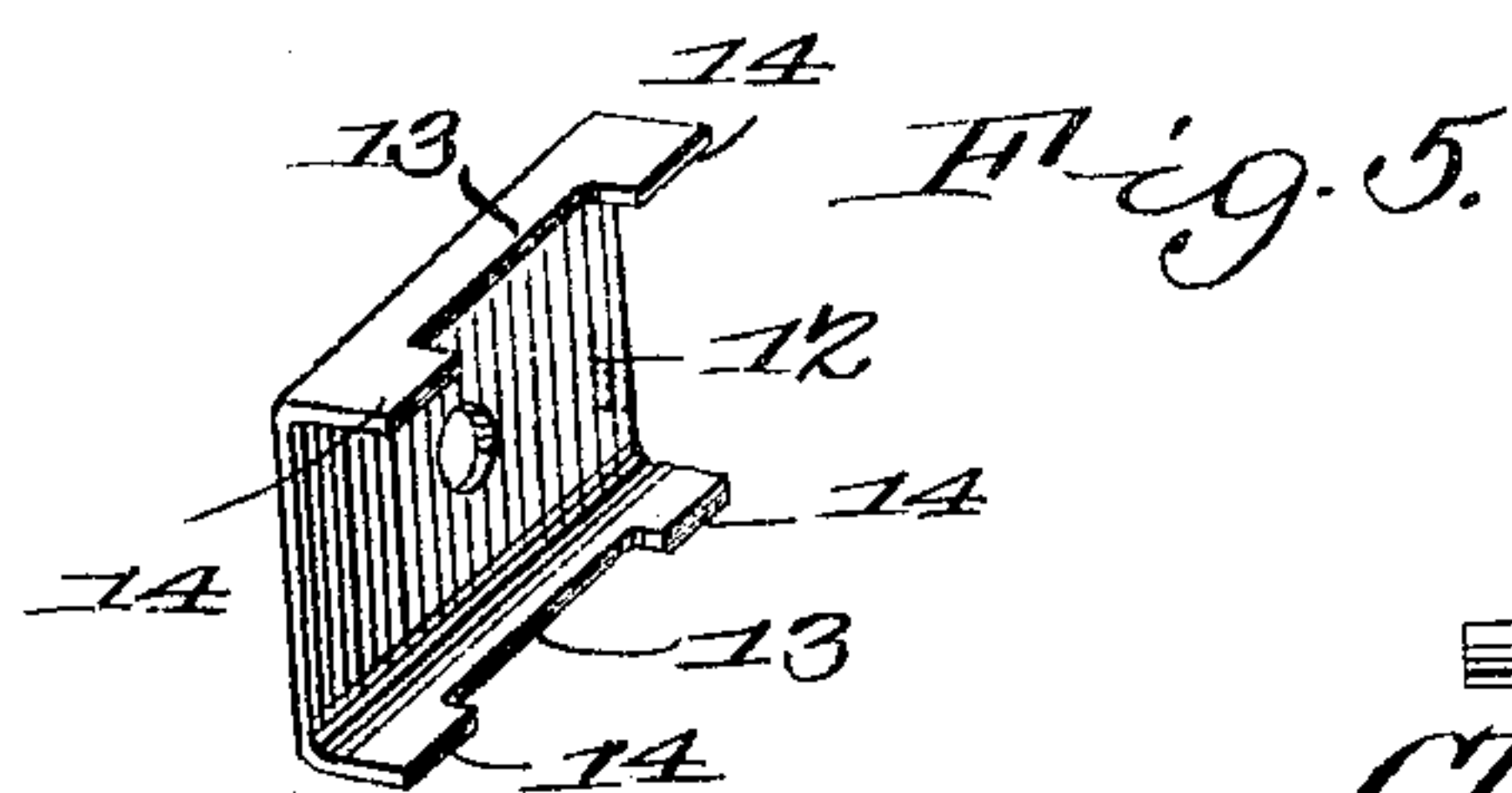


Fig. 5.

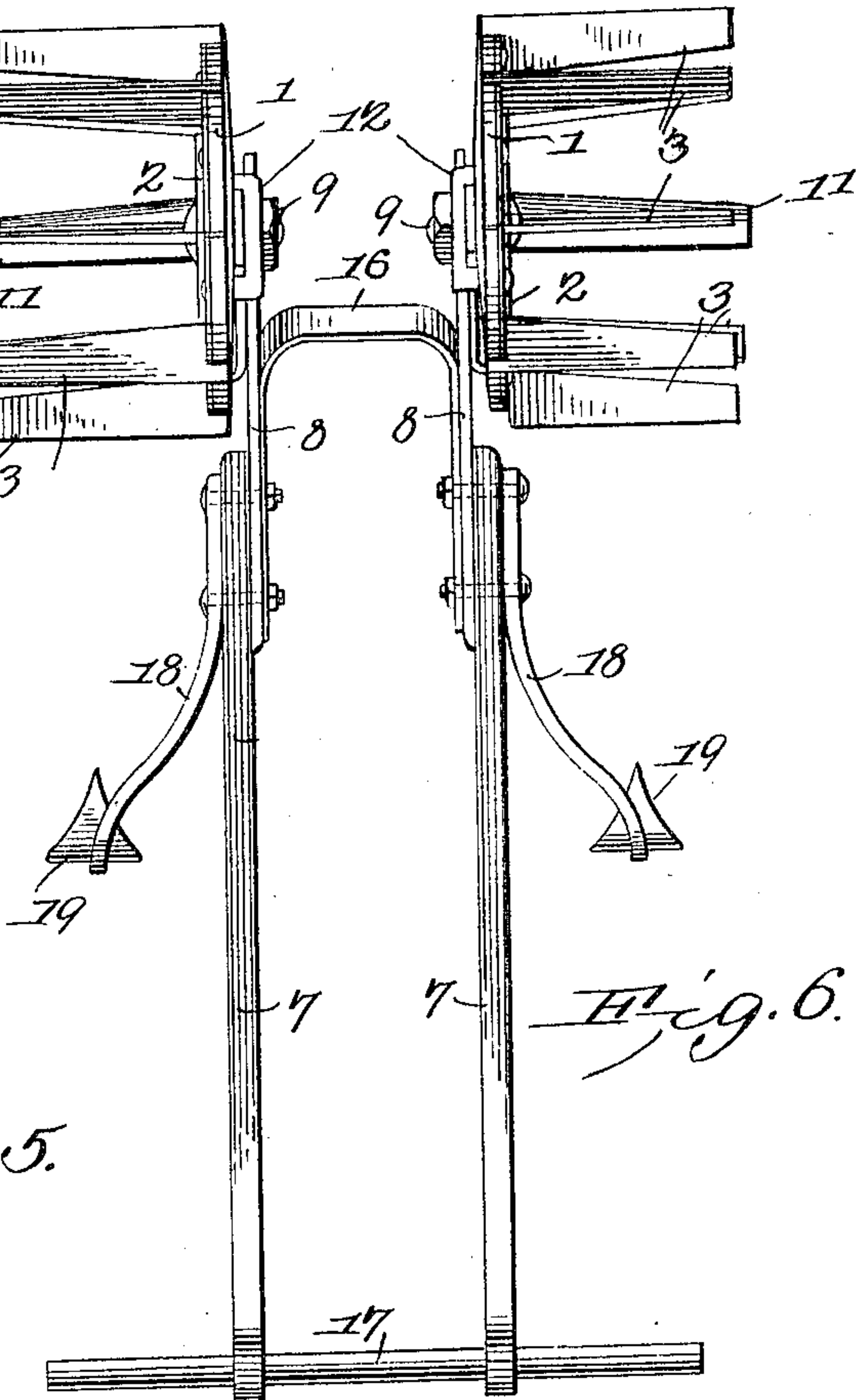


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

CLARENCE IRVIN JOHN BARKER, OF DAVID CITY, NEBRASKA, ASSIGNOR
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WEEDER AND CULTIVATOR.

No. 803,088.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed July 19, 1905. Serial No. 270,420.

To all whom it may concern:

Be it known that I, CLARENCE IRVIN JOHN BARKER, a citizen of the United States, residing at David City, in the county of Butler and State of Nebraska, have invented a new and useful Weeder and Cultivator, of which the following is a specification.

This invention relates to devices for exterminating weeds and for pulverizing, cultivating, and mulching the soil, and it has particular reference to devices of this class which are adapted to be operated by hand and which therefore are specially adapted to the cultivation of garden crops and the like, although, of course, the said devices are capable of being made on a larger scale to be operated by animal-power.

The present invention has among its objects to simplify and improve the construction and operation of this class of devices; and with these and other ends in view, which will readily appear as the nature of the invention is better understood, the said invention consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to such changes and alterations as may be made within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a perspective view of an implement constructed in accordance with the principles of the invention. Fig. 2 is a vertical sectional view taken through the rotary head of the device. Fig. 3 is a perspective detail view of one of the blades or cutters to be connected with the rotary head. Fig. 4 is a perspective view of the stationary blade or hoe detached. Fig. 5 is a perspective detail view of the hoe-securing clamp. Fig. 6 is a plan view showing two of the improved implements connected by an arch to straddle a row and equipped with auxiliary cultivating devices. Fig. 7 is a detail view illustrating a slight modification.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

In the manufacture of this improved implement there is provided a circular head 1, con-

stituting an earth-engaging wheel and provided upon one side thereof, which may be called the "outer" side, with a boss or projection 2 of regular polygonal shape, said boss having been illustrated as forming a regular octagon, although it is to be understood that it may be provided with more or less sides, as preferred. Upon this rotary head there is secured a plurality of blades or cutters 3, said blades being disposed radially with relation to the axis of the head and extending laterally from said head, the outer or cutting edges of said blade being preferably parallel to the axis, while the inner blunt edges of the blades are tapered in an outward direction. Each of the blades has an integral lug or member 4, bent at right angles thereto and secured to the head by means of a transverse bolt 5, the lugs 4 having straight edges abutting upon the sides of the polygonal boss, curved outer edges coinciding with the periphery of the head and the inner edges of said lugs being of a length equal to the length of the sides of the polygonal boss. These lugs, as stated, are integral with the blades and are upturned therefrom approximately at right angles; but the blades are provided with sharpened portions 6, extending beyond the lugs 4 and contacting with the perimeter of the rotary head, and thus practically gaging the extent to which the cutters shall be permitted to penetrate into the soil.

In the ordinary form of the device a handle 7 is provided, upon which is riveted or otherwise secured a bracket-bar 8, near the outer end of which the head 1 is mounted for rotation upon a pin or bolt 9. The inner side of the head is preferably convex, as shown in Fig. 2, and said head is apertured for the reception of a spacing-sleeve or washer 10 of a length slightly exceeding the thickness of the head, so as to form a bearing upon which said head may freely rotate without undue friction. Upon the axial pin or pivot 9 is adjusted the shank of an L-shaped hoe 11, which is retained securely in position by means of a clamping-plate or washer 12, having downturned flanges 13, provided with lugs 14, which abut upon the side edges of the shank of the hoe-blade, while the flanges 13 abut upon the side edges of the bracket-bar 8, thus holding the hoe securely against turning.

The operation of the device as thus far described will be readily understood. The implement is preferably operated by pushing it forwardly by the handle, and consequently

the front edge of the hoe-blade will be sharpened, as indicated in Fig. 1. Both edges of said blade may, however, be sharpened when desired, so that the implement may be operated with a pulling action. The outer edges of the blades 3 are likewise sharpened, so as to penetrate readily into the soil. In operating the device the blade of the hoe is permitted to enter beneath the soil, which is engaged by the cutters or choppers 3 3, which latter will serve not only to pulverize the soil and to cut or chop the grass and weeds, but also to press or force the soil in the direction of the hoe, the forward movement of which will thus be facilitated. This is an important feature of the invention, inasmuch as without the means described for positively engaging the soil the forward movement of the hoe would be greatly impeded and the operation of the device would require a much greater expenditure of power. It is obvious that the device will be operated with the inner convex side of the head facing the row of plants, and the earth-engaging edge of said head will serve to press down the soil adjacent to the plants so as to prevent the latter from being disturbed by the action of the implement. Thus the weeds and grass growing adjacent to the plants will be effectually uprooted and destroyed, the roots being chopped and slightly upturned, so as to be exposed to the destroying influences of the rays of the sun, while the plants themselves are not only uninjured, but are firmly bedded by the use of the implement.

When desired, two of the improved implements may be connected, as by means of an arch 16, which is preferably resilient, the handle-bars 7 being likewise connected by means of a transverse handle-bar 17. This construction, which has been illustrated in Fig. 6 of the drawings, converts the device into a row-straddling implement. Each of the handle-bars may also be provided with a suitably-constructed beam 18, carrying a cultivator-blade 19, or several such blades, of ordinary construction to follow up the rotary head for the purpose of throwing the trash away from the growing plants, or for the purpose of throwing the dirt in the direction of the plants, as may be desired, according to the construction and arrangement of the cultivating implement used.

In Fig. 7 has been illustrated a slight modification under which the blades or cutters (here designated 3^a) instead of being placed parallel to the axis of the head 1 are disposed spirally upon the head. The operation is practically the same; but this construction may at times be preferred.

Having thus described the invention, what is claimed is—

1. A head mounted for rotation and having

a polygonal boss, and cutters connected with said head and having members bent at right angles thereto and bearing against the sides of said boss.

2. A disk or head supported for rotation, a plurality of blades having integral portions bent at approximately right angles thereto and connected with the head from which said blades extend laterally, and means upon the head for supporting the bent integral portions of the blades.

3. A disk or head supported for rotation and having a polygonal boss; and blades having integral lugs bent at approximately right angles thereto, secured to the head and fitted against the sides of the polygonal boss.

4. A disk or head having a polygonal boss, blades having integral members fitted against the sides of the said boss, said blades being provided with sharpened portions extending beyond said members and engaging the perimeter of the disk, and means for securing the blades radially with relation to the disk from which they extend laterally in an outward direction.

5. A disk or head having radially-disposed laterally-extending blades, a handle, a spindle carried by the handle and supporting the disk for rotation, an L-shaped hoe having a cutting member extending beneath the disk and approximately parallel to the cutting edges of the blades connected therewith, and a clamping member holding said hoe securely with relation to the handle.

6. A disk having a plurality of radially-disposed laterally-extending blades, a handle-bar having a bracket member, a sleeve extending through a central aperture in the disk, a hoe member, a connecting-bolt extending through the sleeve, the hoe member and the handle-bracket, a clamping member fitted upon said bolt and having flanges bearing against the sides of the handle-bracket and lugs bearing against the sides of the hoe member, and tightening means.

7. In combination, a pair of disks having radially-disposed laterally-extending blades, handles supporting said disks for rotation, hoe members connected with the handles and having cutting-blades extending beneath the rotary disks and the blades of the latter approximately parallel to the cutting edges of said blades, an arched resilient spring connecting the handles, and cultivating devices independently connected with said handles.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLARENCE IRVIN JOHN BARKER.

Witnesses:

A. H. ETTING,
E. WILLIAMS.