

(No Model.)

A. C. WICKHAM.  
HARROW.

No. 468,081.

Patented Feb. 2, 1892.

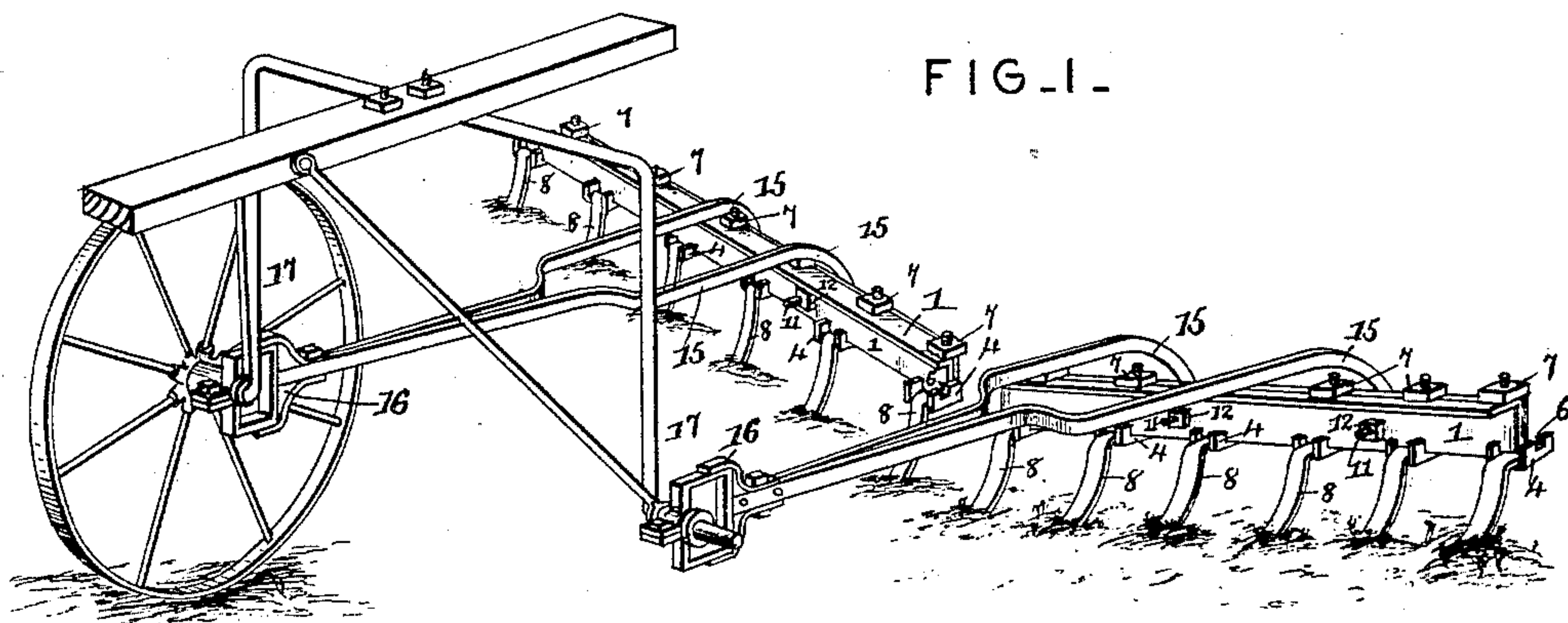


FIG. 1.

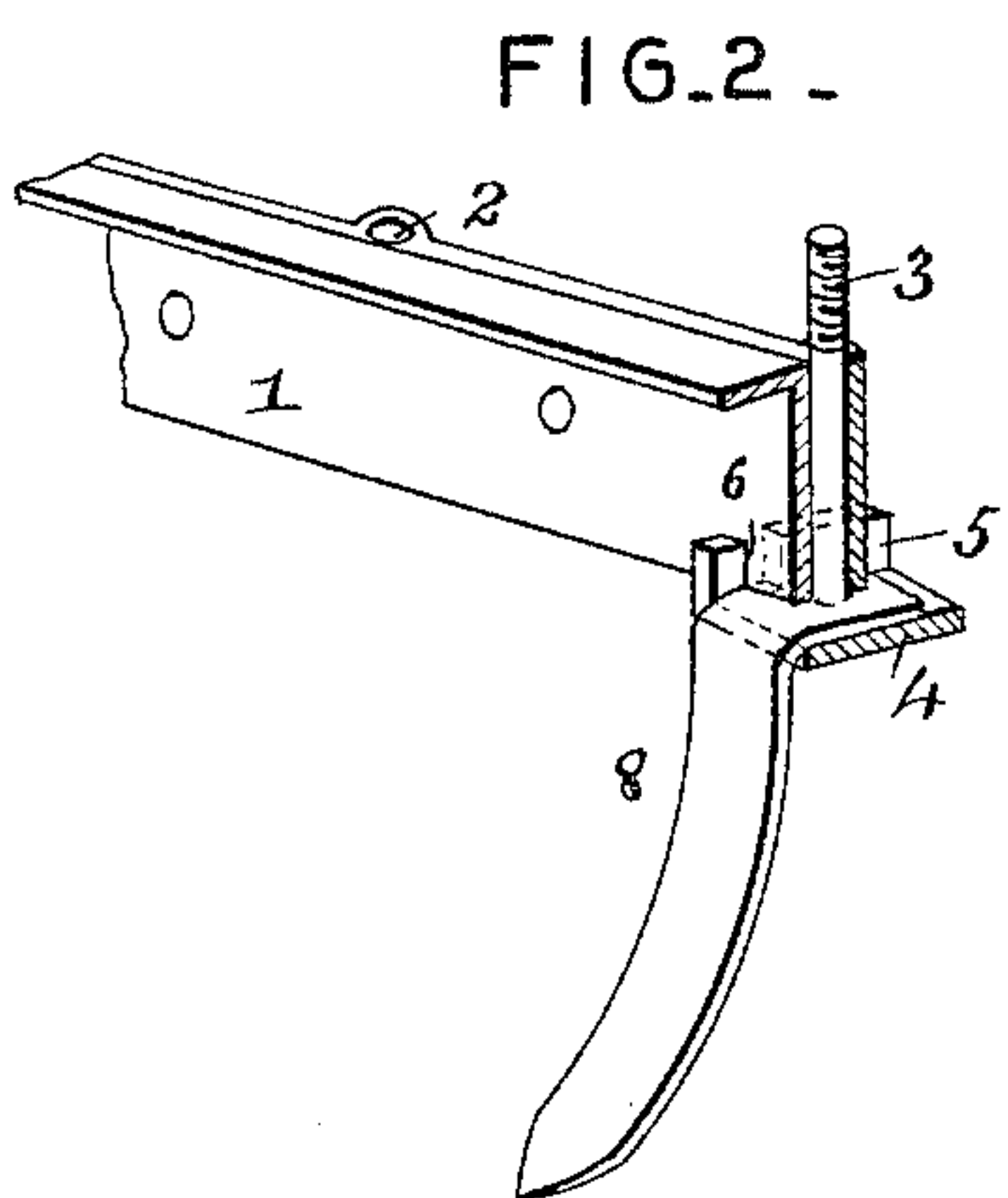


FIG. 2.

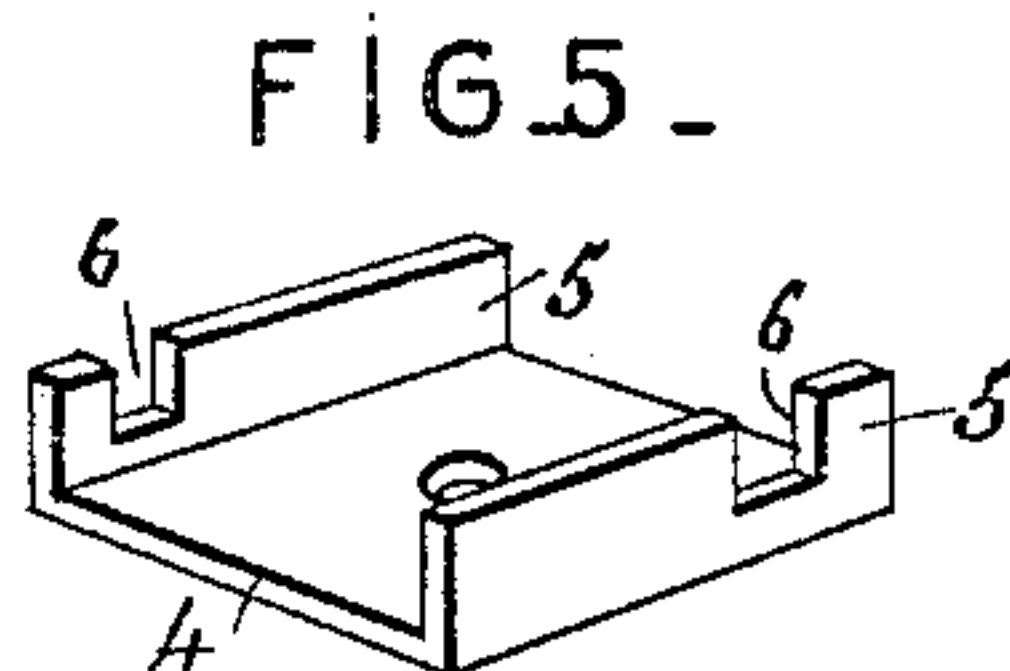


FIG. 5.

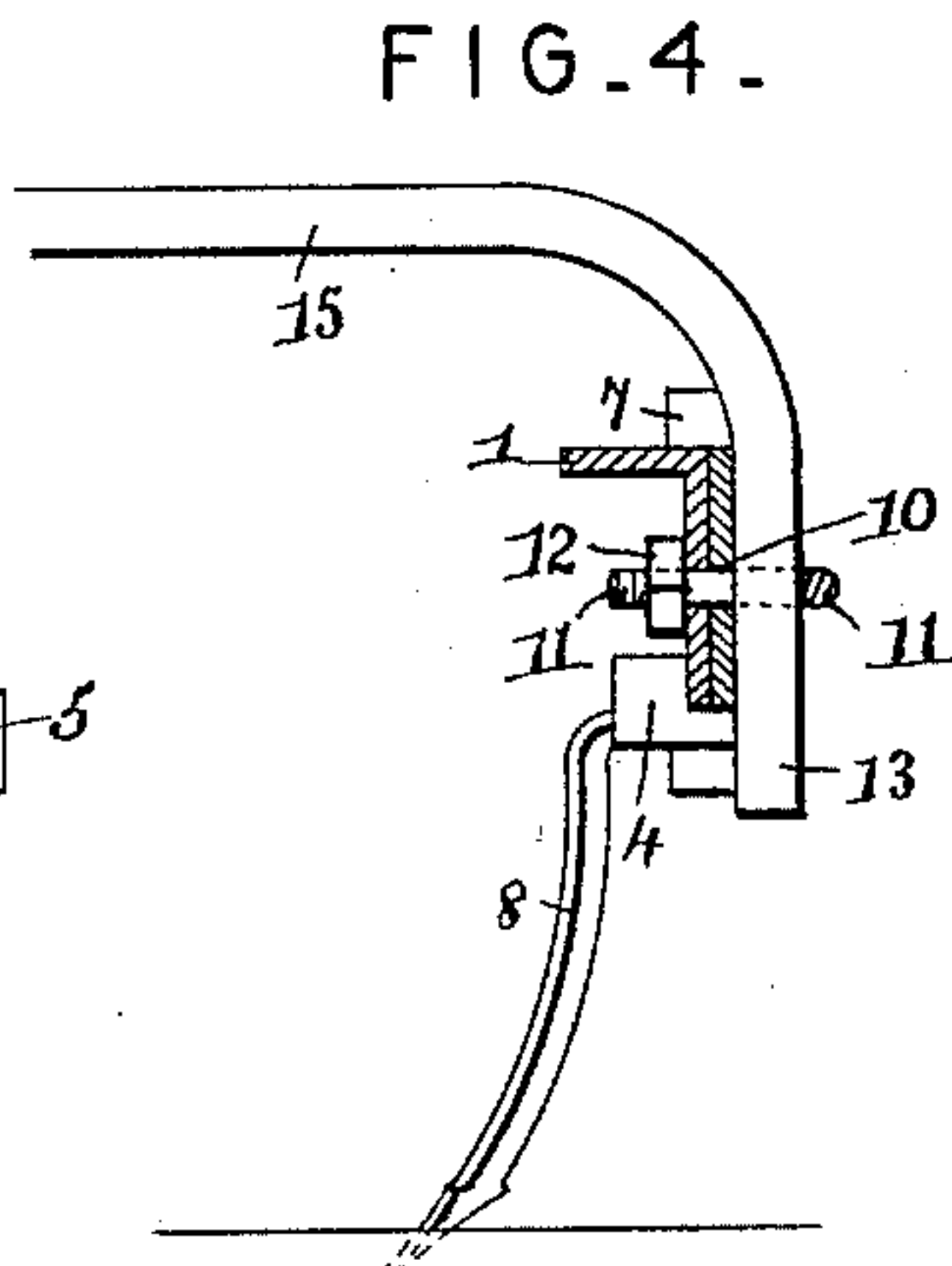


FIG. 4.

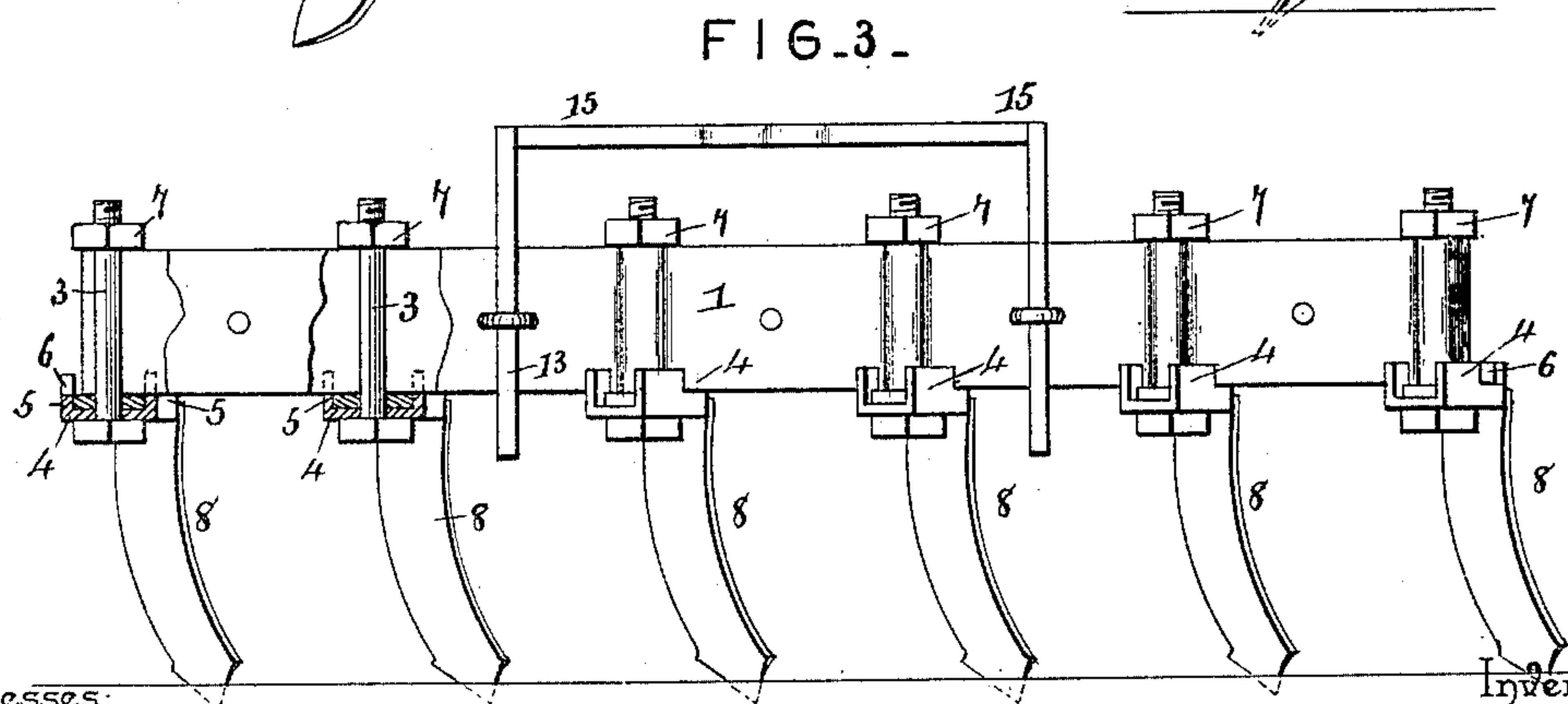


FIG. 3.

Witnesses:

Inventor

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# UNITED STATES PATENT OFFICE.

AMOS C. WICKHAM, OF CARTHAGE, MISSOURI.

## HARROW.

SPECIFICATION forming part of Letters Patent No. 468,081, dated February 2, 1892.

Application filed June 13, 1891. Serial No. 396,160. (No model.)

*To all whom it may concern:*

Be it known that I, AMOS C. WICKHAM, a citizen of the United States, residing at Carthage, in the county of Jasper and State of Missouri, have invented a new and useful Harrow, of which the following is a specification.

This invention relates to improvements in harrows; and the objects in view are to provide a cheap and simple construction of harrow adapted for cultivating cotton, corn, or other growing plants, whether planted upon ridges or in furrows, and adapted to use either ordinary harrow-teeth or the bull-tongue species.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a perspective of a harrow constructed in accordance with my invention, the same being connected to a cultivator. Fig. 2 is an enlarged detail in perspective of a portion of the harrow-bar. Fig. 3 is a rear elevation of the harrow-bar. Fig. 4 is a vertical section through connection between harrow-bar and standard. Fig. 5 is a detail of the washer for securing the teeth.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a harrow-bar, which may be constructed of wood or of light angle-iron, as desired, and in the present instance of the latter. The bar is duplicated, and each is provided with a series of vertical perforations 2. These vertical perforations may receive ordinary harrow-teeth, as will be obvious, or, as shown in the present instance, receive vertical bolts 3. The bolts 3 are provided at their lower ends with the ordinary heads and between said heads and the lower edge of the harrow-bar with washers 4, which washers are U-shaped in cross-section, having opposite vertical flanges 5. These flanges are notched, as at 6, and are adapted to be drawn up into engagement with the lower edge of the harrow-bar through the medium of nuts 7, mounted in the upper ends of the bolts, above the harrow-bars.

8 designates a series of bull-tongue harrow-

teeth the shanks of which are abruptly rearwardly bent, and each rests in a washer between the flanges and has passed there-through the bolt for connecting the washer. It will be obvious that by changing the notches that engage the lower edge of the harrow-bar the disposition of the teeth with relation to the harrow-bar may be altered.

Each harrow-bar is provided with a perforation 10 at each side of its center, and in each perforation is mounted a hook-shaped bolt 11, provided upon its front end with a binding tap or nut 12. These hook-shaped bolts receive the rearwardly and downwardly bent terminals 13 of a pair of V-shaped drag-bars or standards 15, which are coupled by clevises 16 to the frame 17 of an ordinary cultivator. One standard or terminal of each drag-bar is shorter than the other, so that the longer terminal of each drag-bar being located in the outer hook said harrow-bars are diverged toward their outer ends, and thus travel in an inclined manner to the line of draft or obliquely, as will be apparent. By adjusting the outer hook lower upon the outer terminal of the drag-bar each harrow-bar will decline toward its outer end, and thus will be adapted for hilling up. By raising the outer end of the harrow-bars they will be adapted for cultivating listed corn or harrowing the sides of furrows or hills. It will be obvious that the drag-bars may change positions, so that the outer ends of the harrow-bars will converge to the front, and in this manner adapted to harrow the opposite sides of a cotton-hill and clear the same of trash.

Various other manners may be easily devised for using a harrow attachment thus constructed to advantage in the cultivation of various kinds of crops, and especially adapted for the cultivation of cotton and listed corn, both of which, and especially the former, are well recognized as being difficult to cultivate with any degree of success.

Having described my invention, what I claim is—

In an attachment of the class described, the combination, with opposite harrow-bars, each provided with a series of perforations, of bolts mounted in the perforations and terminating

at their lower ends in heads, U-shaped wash-  
ers mounted on the bolts and having their  
opposite flanges notched to engage the lower  
edges of the bars, bull-tongue harrow-teeth  
5 perforated to receive the bolts and mounted  
in the washers, and nuts for clamping the  
washers in position mounted upon the upper  
ends of the bolts, substantially as specified.

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

AMOS C. WICKHAM.

Witnesses:

C. B. HUSSEY,  
M. C. CLEMMONS.