M. FLYNN.

THRESHER CONCAVE.

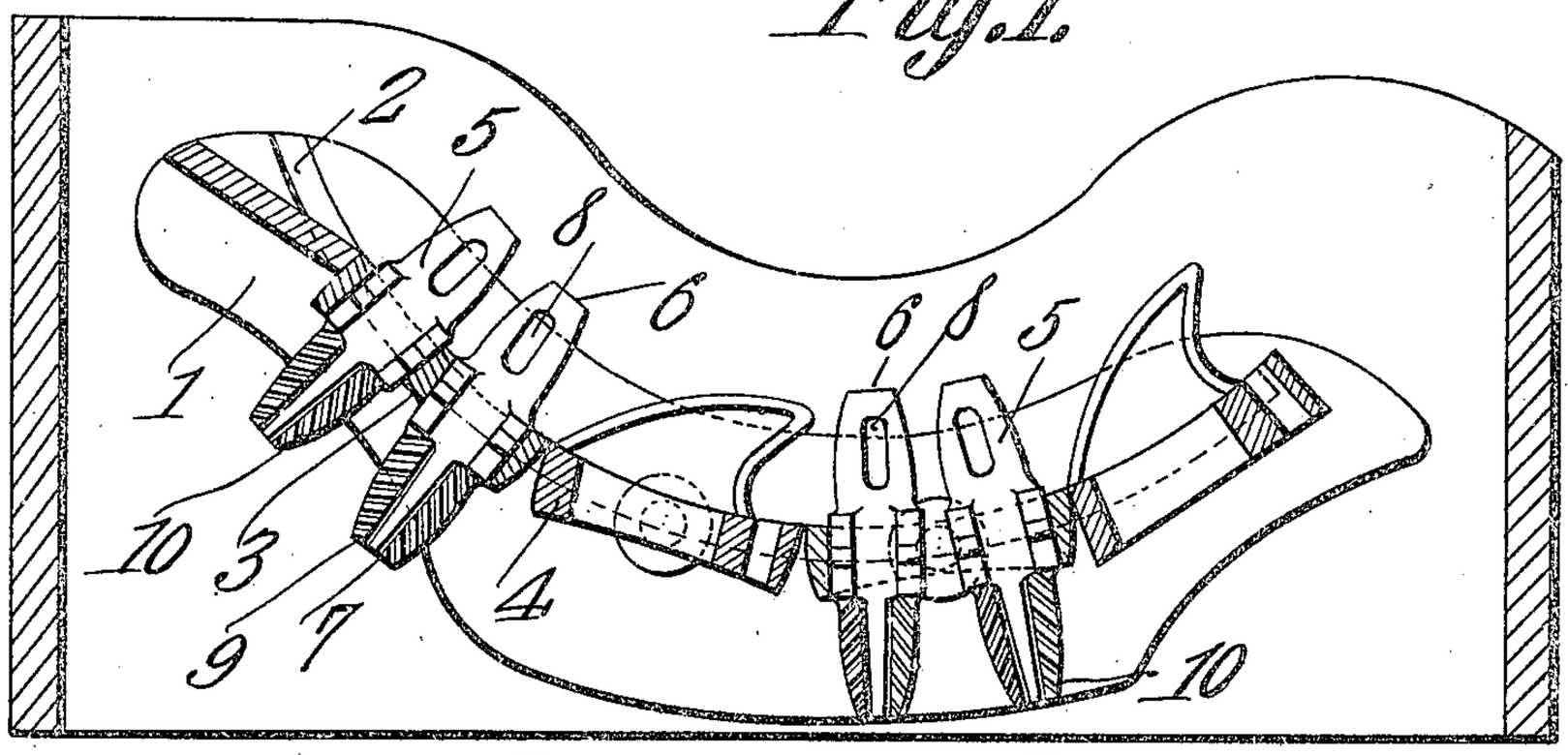
APPLICATION FILED JUNE 14, 1909.

952,795.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



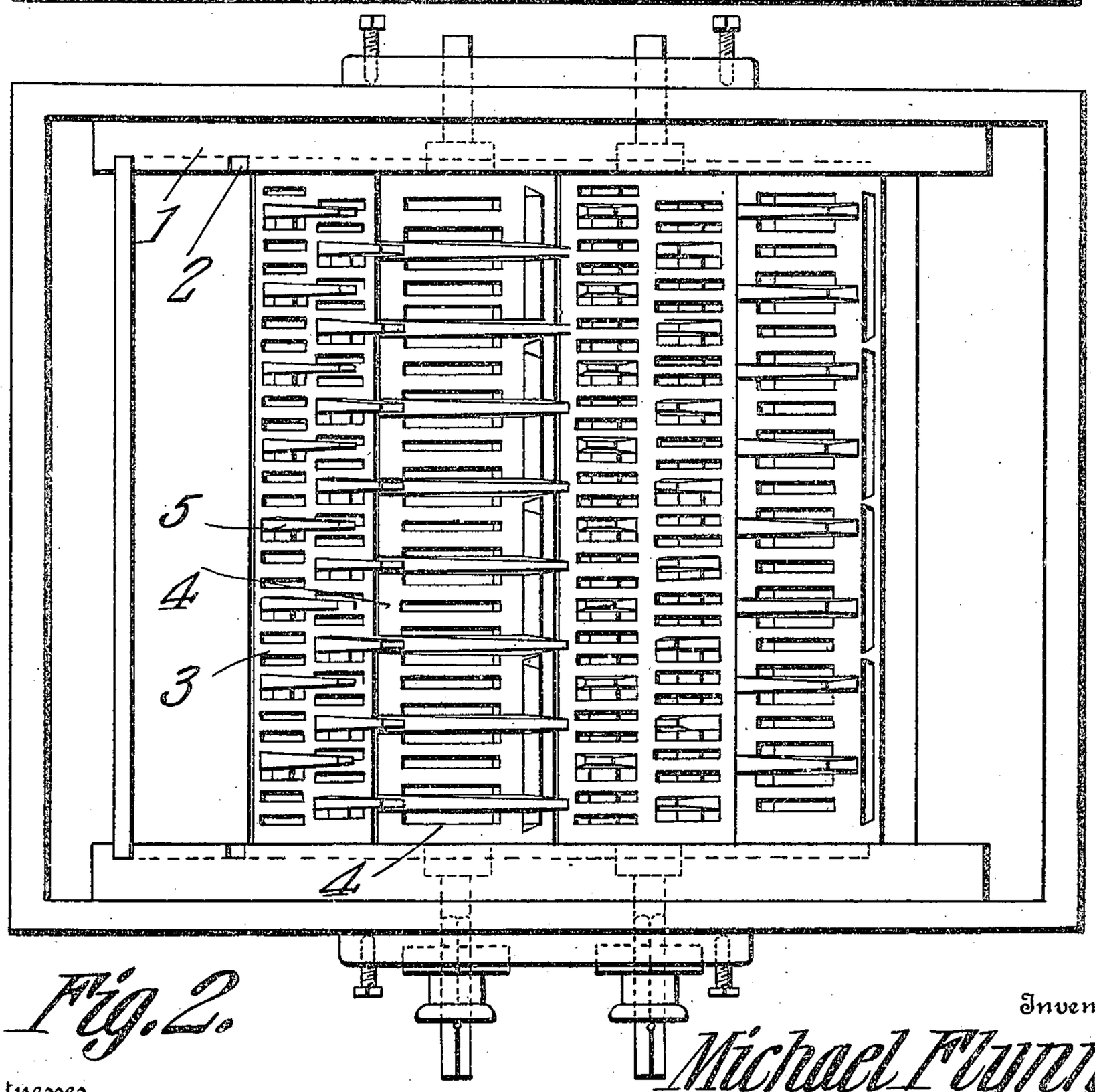


Fig. 2.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

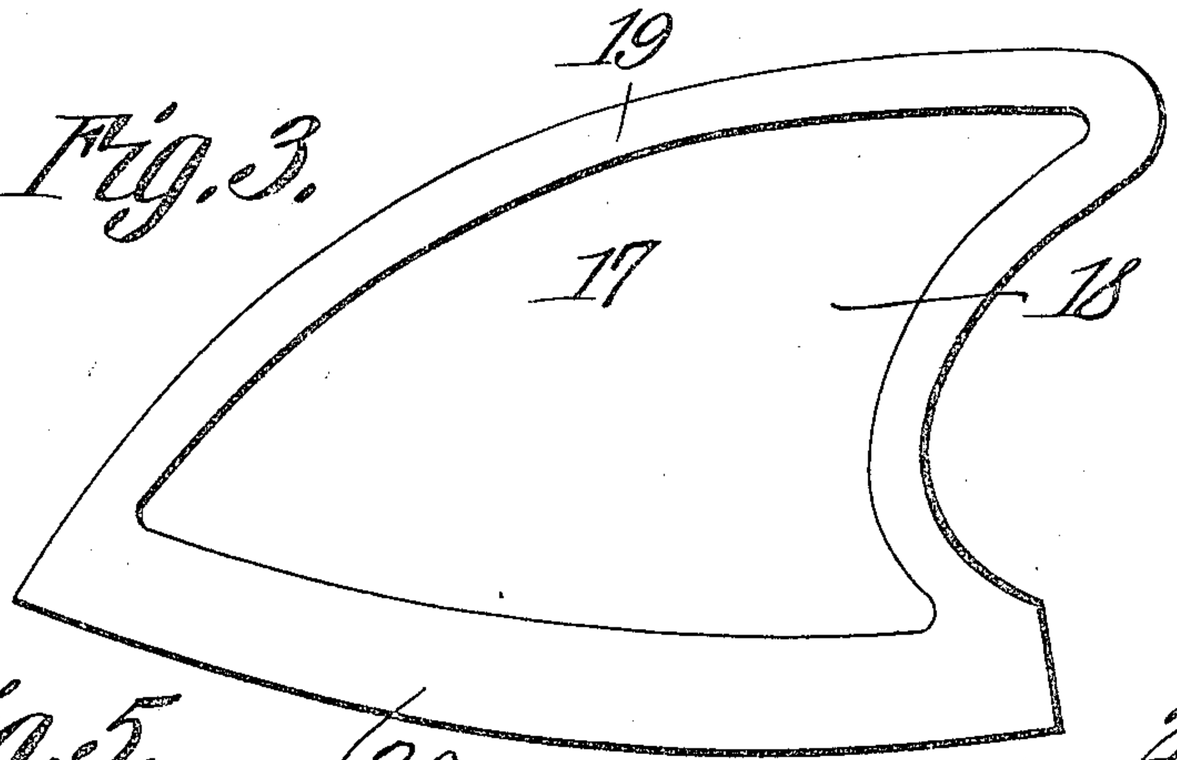


Fig. 4.

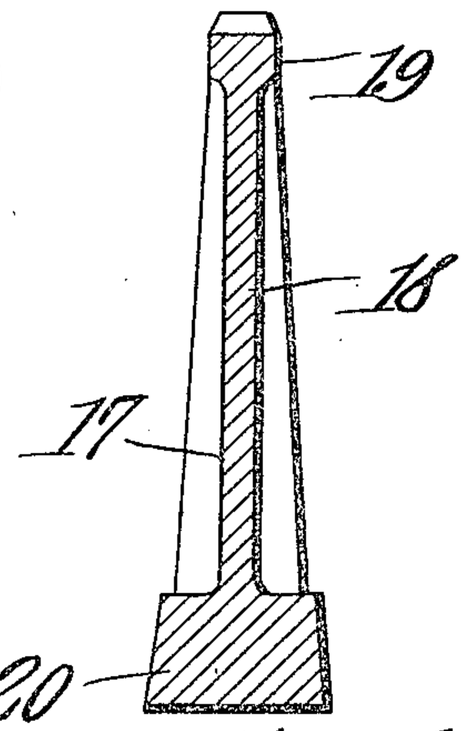


Fig. 5.

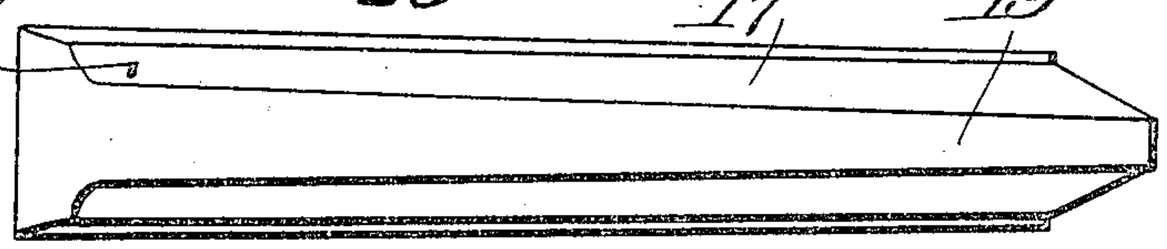


Fig. 6.

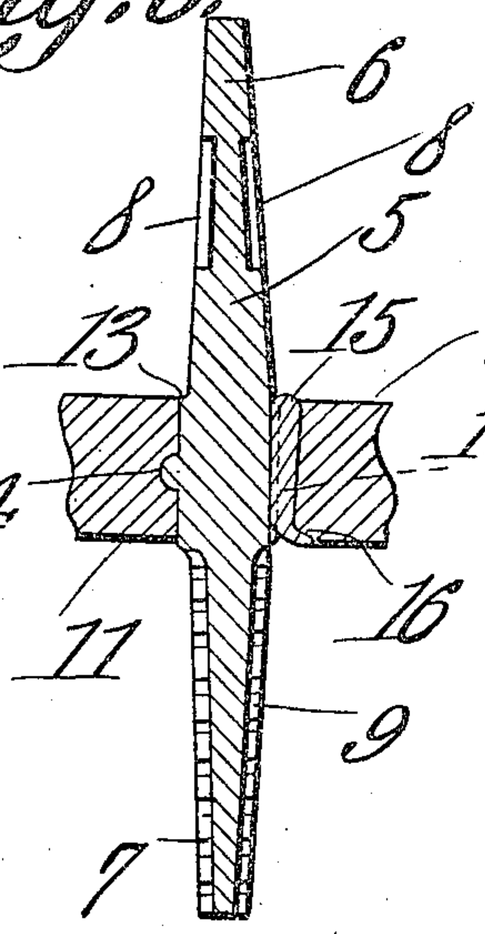


Fig. 7.

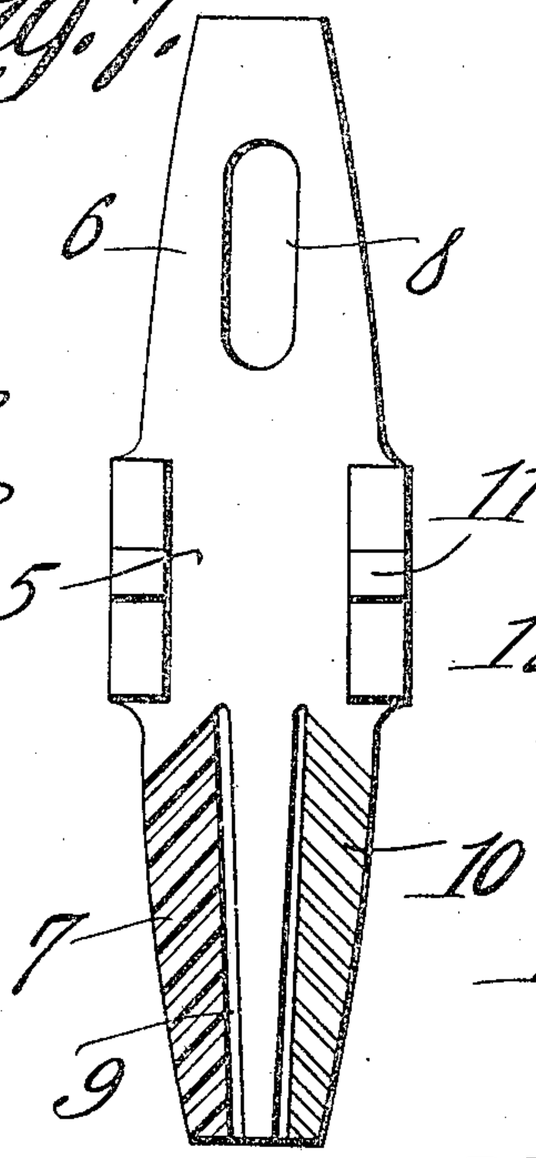
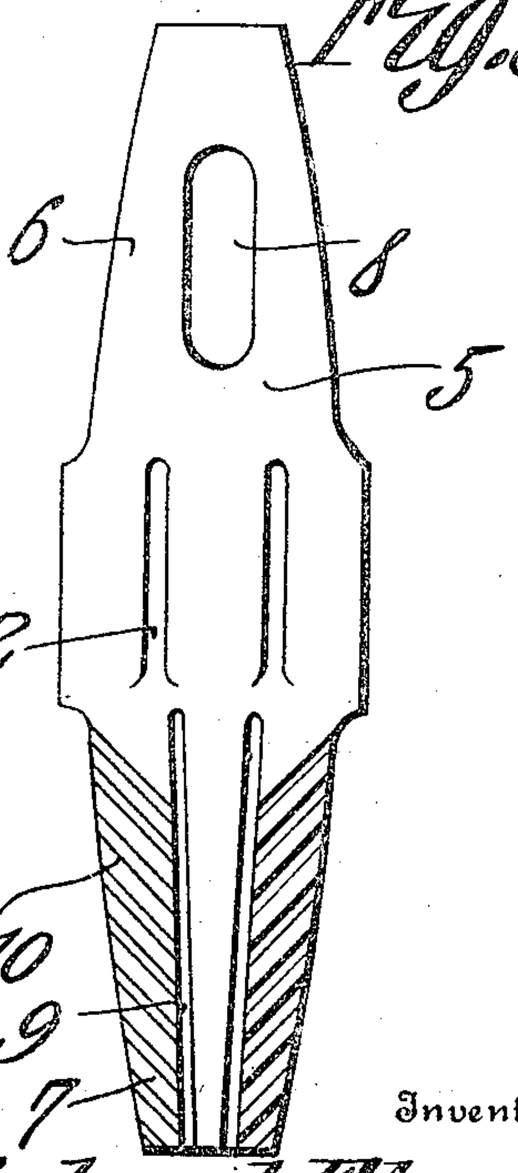


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

MICHAEL FLYNN, OF SUPERIOR, WISCONSIN.

THRESHER-CONCAVE.

952,795. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed June 14, 1909. Serial No. 502,100.

To all whom it may concern:

Be it known that I, MICHAEL FLYNN, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Thresher-Concave, of which the following is a specification.

This invention has relation to thresher concaves and it consists in the novel construction and arrangement of its parts, as hereinafter claimed.

The object of the invention is to provide, in a concave of the character stated, a series of risers of peculiar configuration and means whereby the said risers are effectually held in position upon the body of the concave.

A further object of the invention is to provide in a concave as stated a series of double ended teeth, which are adapted to be reversed in their positions upon supporting bars, whereby either of the opposite end portions of the said teeth may be positioned so as to coöperate with the threshing cylinder. The opposite end portions of the said teeth are of different configurations, and are adapted to remove or loosen lodged grain or straw from between the teeth of a threshing cylinder. One end of the concave teeth is especially adapted to dislodge the grain and straw as indicated when the said grain and straw is in one condition, and the other ends of the teeth are adapted to coöperate with the cylinder when the grain and straw is in another condition. The conditions of the grain and straw referred to may be stated as "dry" or "wet."

A further object of the invention is to provide a means for effectually securing the teeth in position upon the supporting bars of the concave, and, at the same time, have the parts so arranged that the teeth may be readily withdrawn from the supporting bars in the case of breakage, or for other reasons.

In the accompanying drawings:—Figure 1 is a longitudinal sectional view of the concave. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of one of the risers. Fig. 4 is a transverse sectional view of the riser. Fig. 5 is an edge view of one of the risers. Fig. 6 is a vertical sectional view of one of the teeth of the concave, showing a portion of the supporting bar. Fig. 7 is an elevation of one side of one of the teeth. Fig. 8 is an elevation of the opposite side of one of the teeth.

The concave consists of a frame 1, which is provided in the inner surfaces of its side pieces with grooves 2. Bars 3 and 4 are supported at their ends in the said grooves 2. The said bars 3 and 4 are provided with openings, as is usual in such structures, and the bars 3 are adapted to support teeth, while the bars 4 are adapted to support risers. The teeth 5 are provided with oppositely disposed working end portions 6 and 7. The said teeth 5 are thickest and broadest at their middles, and taper gradually toward their ends, which are blunt. Each tooth 5 is provided in the opposite sides of its portion 6 with elongated recesses 8, disposed in alinement with the median long dimension of the tooth. Each tooth 5 is provided at its end portion 7 with longitudinally disposed grooves 9, which converge toward each other from the middle of the tooth toward the outer end of the portion 7 thereof. Inclined grooves 10 communicate with the grooves 9 at their inner ends, and with the edges of the portion 7 of the tooth 9 at their outer ends. The grooves 9, upon one side of the tooth 5 are inclined in the opposite direction from the groove 10 upon the opposite side thereof. Each tooth 5 is provided upon one side, and at a point intermediate of its ends with laterally projecting lugs 11. The said lugs are spaced one from the other and are located in the vicinity of the edges of the tooth. Upon the opposite side of the intermediate portion of the tooth is located vertically disposed parallel spaced webs 12. The bar 3 which supports the teeth 5 is provided at intervals throughout its length with slots 13. The said slots 13 receive the intermediate portions of the teeth 5, and each slot is provided in one of its side walls with a groove or a series of grooves 14, which are adapted to receive the lugs 11 of that tooth which is inserted in the said slot. As illustrated in Fig. 6 of the drawings it will be seen that the slots 13 have greater breadth than the intermediate portion of the teeth, and when the teeth 5 are positioned in the slots 13 so that the lugs 11 are inserted in the groove 14, space is provided for the insertion of a wedge 15 between the side wall of the slot 13 and that side of the tooth 5 upon which

the webs 12 are located. The wedge 15 lies between the said webs 12, and the reduced end of the wedge 15 is bent laterally into a recess 16, provided in the under side of the bar 3, for its reception.

From the above description it will be seen that the teeth are securely held in position upon the bars 3, and that when conditions arise which require it necessary to be done, the said bars 3 may be removed from the frame 1 of the concave, so that the grooved or recessed ends of the teeth may be positioned under the cylinder of the thresher.

The risers 17 are of the usual segment configuration in side elevation. Each riser is in the form of an integral casting having a relatively thin vertical web 18 bounded about its periphery with a continuous flange 19, which projects beyond the planes of the opposite sides of the said web 18. The lower portion 20 of the flange 19 is provided with side surfaces inclined at an angle to each other longitudinally and vertically, and thus the portion 20 of the flange 19 has the general configuration of a wedge. The portion 20 of the flange 19 of the riser 17 is adapted to fit snugly a groove having side walls pitched in a similar manner to the disposition of the side surfaces of the said portion 20, said groove being located in the bar 4 of the concave. Thus it will be seen that the risers are of peculiar configuration and are adapted to be firmly seated in their respective grooves, and that the overhanging edges of the flanges 19 will assist in withdrawing the grain and straw from between the teeth of the cylinder.

Having described my invention, what I claim as new, and desire to secure, by Letters Patent, is:—

1. In a thresher concave a bar having a slot provided in one wall with a groove, a double-ended tooth located in the slot and having upon one side a lug adapted to enter the groove, and upon its opposite side spaced ribs, a wedge inserted between one wall of the slot and between the ribs and the side of the tooth, said tooth having grain-engaging grooves and recesses located at the opposite end portions thereof.

2. In a thresher concave a supporting bar having a slot provided in one wall with a groove, a double-ended tooth having upon one side a lug adapted to enter the groove in the wall of the slot, and provided upon its other side with spaced flanges, a wedge fitting in the slot between the flanges, said tooth having at the opposite sides of the end portion elongated recesses disposed in alinement with the long median dimension of the tooth, and, at its other end portion a series of inclined grooves.

3. In a thresher concave a double ended tooth having upon one side at a point intermediate of its ends a laterally disposed lug, and upon its other side spaced flanges, said tooth having at the opposite sides of one end portion elongated recesses disposed in alinement with the median longitudinal dimension of the tooth, and at its other end portion converging longitudinally disposed grooves with grooves extending from the said converging grooves to the edges of the tooth.

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

MICHAEL FLYNN.

Witnesses:
F. J. WILDNER,
B. C. COOK.