No. 881,292. PATENTED MAR. 10, 1908.

A. H. BERG.

THRESHING MACHINE CYLINDER.

APPLICATION FILED JULY 27, 1906.

Fig. 1.

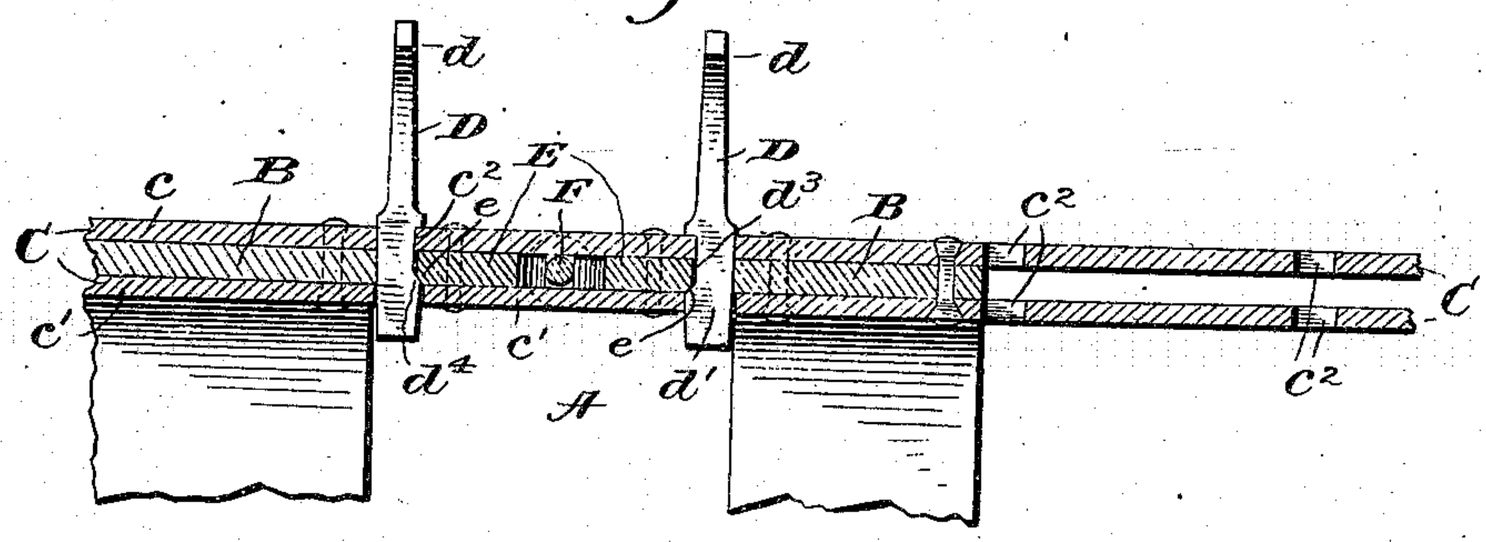


Fig. 2.

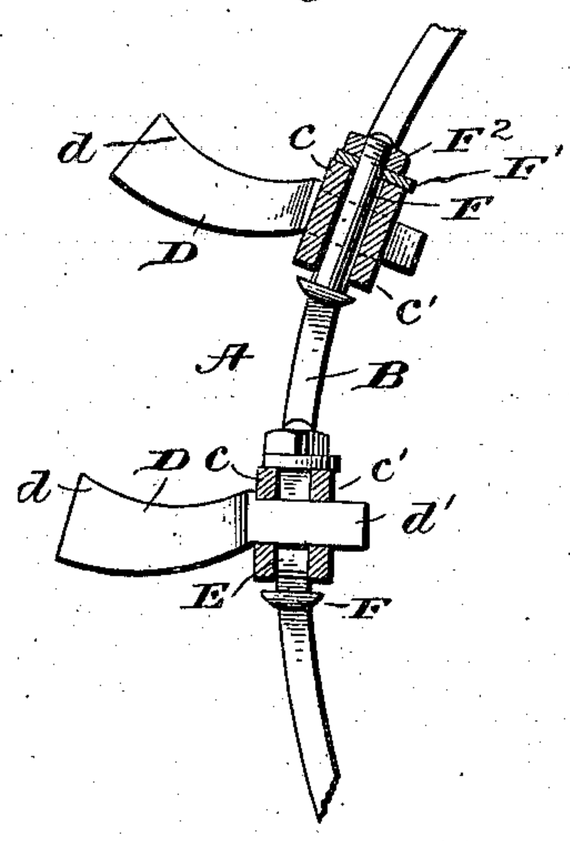
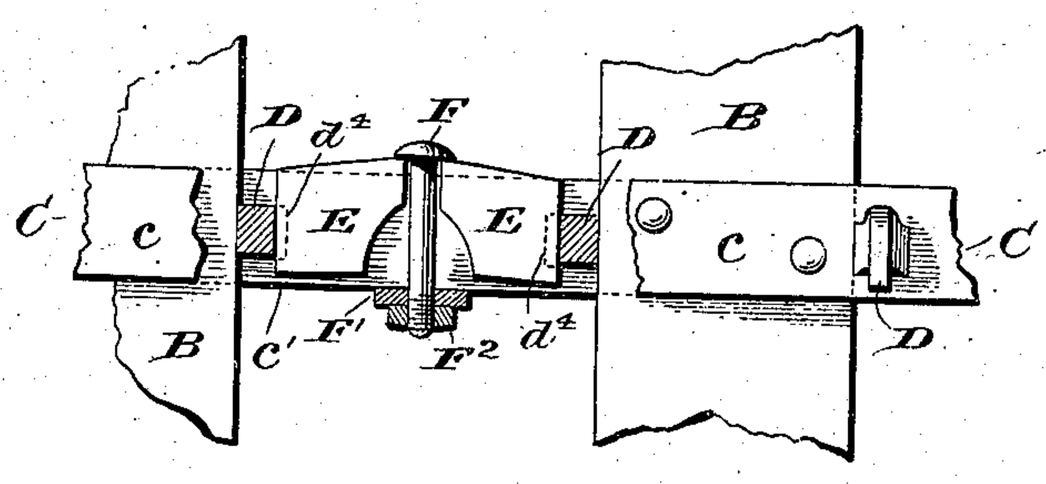


Fig. 3.



Witnesses:

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THRESHING-MACHINE CYLINDER.

No. 881,292. Specification of Letters Patent. Patented March 10, 1908.

Application filed July 27, 1906. Serial No. 328,133.

To all whom it may concern:

Be it known that I, ARNE H. BERG, a citizen of the United States, residing at Clarkfield, in the county of Yellow Medicine and State of Minnesota, have invented certain new and useful Improvements in Threshing-Machine Cylinders, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an improvement in threshing machine cylinders, and more particularly to the teeth therefor and means for securing the same thereto.

The object of the present invention is the provision of means for securing the teeth to the cylinder so that they cannot work loose when so secured and so that they may be withal readily removed therefrom when so desired.

A further object of the invention is the provision of means for clamping the teeth in pairs to the cylinder.

Other objects of the invention will be apparent from the detailed description hereinafter when read in connection with the accompanying drawings forming a part hereof, wherein a preferable embodiment of my invention is shown and wherein like reference characters refer to similar parts in the several views.

In the drawings: Figure 1 is a fragmentary longitudinal section of my improved threshing machine cylinder. Fig. 2 is a detail sectional view showing the locking bolts for securing the teeth to the tooth bars, and Fig. 3 is a detail plan view, partly in section, showing the means employed for securing the teeth in pairs to the tooth bars.

Referring now more particularly to the drawings, A designates my improved threshing machine cylinder, which comprises a plurality of separated hoops or bands B, around the peripheries of which are secured the longitudinally disposed tooth bars C. The tooth bars C are each preferably composed of two strips c and c' of metal or other suitable material, between which the bands B are clamped. The strips c and c' constituting the tooth bars C are provided at regular intervals throughout their length with alined apertures c^2 therein which are preferably square or of irregular contour. The apertures c^2 in the lowermost strip of the tooth bars C are slightly smaller than the corresponding apertures c^2 in the upper strips of the tooth bars for a purpose to be hereinafter more particularly set forth.

D designates the teeth for the cylinder, each of which comprises a cutting portion d and a shank d'. The shanks d' of each of the teeth D is square in cross section and tapers slightly from the upper to the lower end thereof, the lower end of said shank being slightly smaller than the lower apertures c^2 in the lower strips c' of the tooth bars C and the upper portion of said shank being slightly larger than the apertures c^2 in the upper strips c of the tooth bars C. The shanks d' of the teeth D are of such a length that when they are placed in the alined apertures c^2 in the strips c and c' forming the tooth bars C, the lower ends thereof will project for a slight distance below the lowermost strip. The teeth D are designed to be rigidly secured to the tooth bars C in pairs and for this purpose the shank d' of each of said teeth is provided with an inwardly extending recess d^3 therein the lower wall of which is slightly beveled as at d^4. The recesses d^3 are formed on opposite sides of the shank d' of each adjacent tooth and are so positioned that when the teeth are secured within the alined apertures c^2 in the strips c and c' forming the tooth bars C, they will be located between the under side of the top strip and the upper side of the bottom strip.

Pivotally secured between the strips c and c' forming the tooth bars C, between each pair of teeth D, is a pair of oppositely disposed clamping members E, the inner ends of which are designed to be brought into engagement with the recessed portions d^3 and the outer ends of which extend into proximity to each other and project for a slight distance beyond the edges of the separated strips c and c' forming the tooth bars C. The portions of the clamping members E which are designed to engage the recessed portions d^3 of the shanks of the teeth are beveled at their lower edges as at e so as to coöperate with the beveled lower walls of said recessed portions. Positioned between each pair of clamping members E is a clamping bolt F, the head of which is designed to overlie the adjacent ends of the clamping members E which project beyond the edges of the separated strips c and c', and the shank of which extends between said strips and projects beyond the opposite edges thereof. The projecting ends of the clamp-

ing bolts F are provided with washers F′ loosely mounted thereon which overlie the edges of the separated strips *c* and *c′* and with clamping nuts F², which are threaded thereon.

From the above construction, it will be apparent that when the teeth are secured in the alined apertures c^2 in the separated strips *c* and *c′* forming the tooth bars, and the clamping nuts F² are tightened, the lower edges of the clamping members E will be forced inwardly and caused to engage the recessed portions d^3 in the shanks of the teeth. When the clamping members E are moved inwardly to engage the recessed portions d^3 in the shanks of the teeth, the beveled portions of said clamping members engage the beveled portions d^4 of said recesses and the shanks of the teeth are consequently drawn downwardly in the alined apertures d^2, and as said shanks taper from the tops to the bottoms thereof, it is obvious that they will be wedged tightly in said apertures and held against movement. It will also be obvious that in view of the irregular contour of the alined apertures c^2 and of the shanks *d′* of the teeth D, said teeth cannot rotate or move laterally should they from any cause become loose.

I do not desire to limit myself to the precise form and construction shown in the drawings, as it is obvious that many minor changes might be made thereto without departing from the spirit of the invention.

I claim:

1. In a threshing machine cylinder, a tooth bar having an aperture therein, a tooth provided with a shank engaging said aperture, and a pivoted individual tooth locking member carried by said tooth bar and adapted to engage said tooth.

2. In a threshing machine cylinder, a tooth bar having an aperture therein, a tooth provided with a shank tapering throughout its entire length and engaging said aperture, and a laterally movable clamping member pivoted to the tooth bar and adapted to engage the tooth and draw the tapered shank thereof downwardly in said aperture.

3. In a threshing machine cylinder, a tooth bar having a polygonal shaped aperture therein, a tooth provided with polygonal shaped shank tapering throughout its entire length, and a laterally movable clamping member carried by the tooth bar and adapted to engage the tooth and to simultaneously draw the tapered portion thereof downwardly in said aperture.

4. In a threshing machine cylinder, a tooth bar having an aperture therein, a tooth provided with a shank engaging said aperture and with an inwardly extending recess in one side thereof, an individual tooth clamping member pivotally secured to the tooth bar, and means for causing the clamping member to engage the inwardly extending recess in the tooth.

5. In a threshing machine cylinder, a tooth bar having an irregular shaped aperture therein, a tooth provided with a shank tapering throughout its entire length irregular in cross section engaging said aperture, said tooth having an inwardly extending recess in one side thereof having its lower wall beveled, and a laterally movable clamping member carried by the tooth bar and adapted to engage the recess in the tooth and contact with the beveled lower wall thereof.

6. In a threshing machine cylinder, a tooth bar comprising spaced strips having alined apertures therein, a tooth having a shank engaging said apertures, an individual tooth clamping member pivotally mounted between the strips forming the tooth bar, and means for causing the clamping member to engage the shank of the tooth.

7. In a threshing machine cylinder, a tooth bar comprising spaced strips having alined apertures therein, a tooth having a shank engaging said apertures, said shank being provided in one side thereof with a recessed portion, an individual tooth clamping member pivotally secured between the strips forming the tooth bar, and means for causing said clamping member to engage the recessed portion in the shank of the tooth.

8. In a threshing machine cylinder, a tooth bar comprising spaced strips having alined apertures therein, a tooth having a tapered shank engaging said apertures, said shank being provided in one side with an inwardly extending recess having its lower wall beveled, an individual tooth clamping member secured between the strips forming the tooth bar, and means for causing said clamping member to engage the lower beveled wall of the recess in the shank of the tooth.

9. In a threshing machine cylinder, a tooth bar provided with spaced apertures, a pair of teeth having shanks engaging said apertures, a pair of oppositely disposed clamping members secured to said tooth bar and adapted to engage said teeth, and a single means for actuating said clamping members.

10. In a threshing machine cylinder, a tooth bar provided with separated apertures therein, a pair of teeth having shanks engaging said apertures and provided on their inner sides with inwardly extending recesses, a pair of oppositely disposed clamping members pivotally secured to said tooth bar between said pair of teeth, and a single means for causing said clamping members to engage the recessed portions in the teeth.

11. In a threshing machine cylinder, a tooth bar comprising spaced strips having separated alined apertures therein, a pair of teeth provided with shanks engaging said

apertures, clamping members pivotally secured between the strips forming said tooth bar, and a single means for causing said clamping members to engage the shanks of said pair of teeth.

12. In a threshing machine cylinder, a tooth bar comprising separated strips having a pair of separated alined apertures therein, a pair of teeth provided with shanks engaging said apertures, a pair of oppositely disposed laterally movable clamping members pivotally secured between the strips forming the tooth bar and provided with portions projecting beyond the edges of said strip, a clamping bolt positioned between said clamping members and having a head overlying the projecting ends thereof, and a clamping nut threaded on the opposite end of said clamping bolt.

13. In a threshing machine cylinder, a tooth bar, a plurality of teeth supported therein, a plurality of independent tooth clamping members pivotally mounted upon said bar, and means for actuating said members.

14. In a threshing machine cylinder, a tooth bar, a plurality of teeth supported therein, a plurality of independent tooth clamping members pivotally mounted upon said bar, and means for actuating said members in pairs.

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

ARNE H. BERG.

Witnesses:
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T. HALVORSON.