No. 607,699. Patented July 19, 1898.

J. B. McCUTCHEON.

GRAIN SEPARATOR.

(Application filed May 27, 1897.)

(No Model.)

Fig. 1.

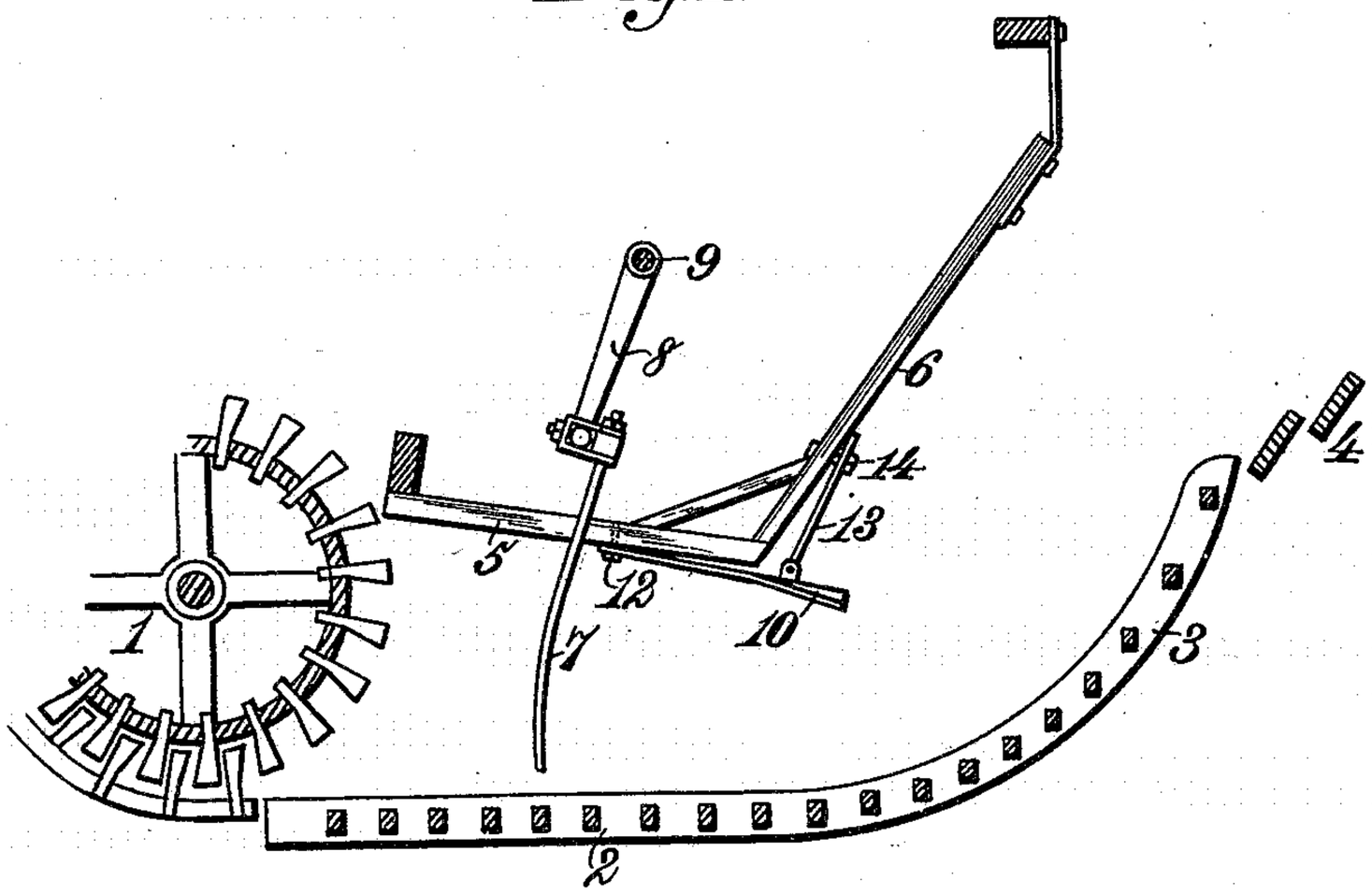
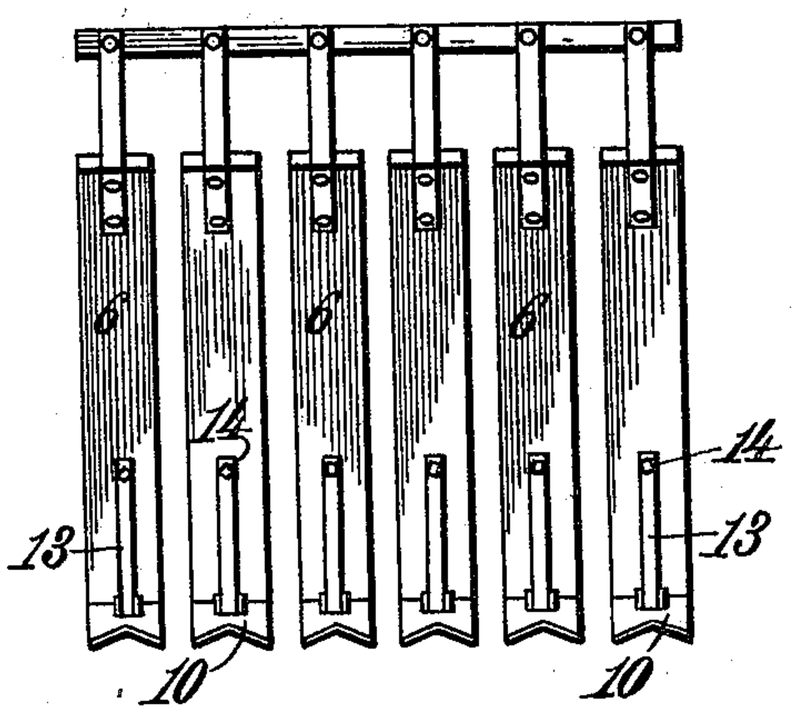


Fig. 2.



Witnesses.
Robert Ewell.
[illegible]

Inventor.
John B. McCutcheon.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

JOHN B. McCUTCHEON, OF BATTLE CREEK, MICHIGAN, ASSIGNOR TO THE ADVANCE THRESHER COMPANY, OF SAME PLACE.

GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 607,699, dated July 19, 1898.

Application filed May 27, 1897. Serial No. 638,449. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. McCUTCHEON, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented new and useful Improvements in Grain-Separators, of which the following is a specification.

This invention relates to grain-separators or threshing-machines having a grating arranged in rear of the threshing-cylinder and curved upward at a suitable distance from an overhanging slotted guard through which movable forks or similar devices operate to carry the straw along and discharge it from the rear upper end of the grating, as described and shown in Letters Patent No. 526,610, issued September 25, 1894, to W. W. Briggs, assignor to the Advance Thresher Company.

In the practicable operation of the threshing-cylinder and the forks more or less grain is thrown through the space between the rear of the slotted guard and the upper end of the grating and falls upon the ordinary beaters, which is objectionable and therefore desirable to avoid.

The chief object of my present invention is to avoid the objection stated, to prevent the loss of grain incident to the operation of the prior construction referred to, and to deflect the flying grain thrown rearward by the threshing-cylinder onto the curved portion of the grating.

To accomplish this object, my invention consists in the features of construction and in the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a detail longitudinal sectional view of sufficient of a grain-separator or threshing-machine to illustrate my invention, and Fig. 2 is a detail rear end elevation of the slotted guard to clearly show the preferred construction of the deflector-shield.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein the numeral 1 indicates the threshing-cylinder of a grain-separator, and 2 the horizontal portion of a grating which is constructed with an upwardly-curved portion 3, terminating at its upper end in juxtaposition to ordinary beaters 4. The grating is arranged in rear of the threshing-cylinder, and at a suitable distance above the grating is supported a slotted guard comprising suitably separated or spaced bars 5 and 6. The bars 5 constitute the base of the slotted guard, and they incline in a downward direction from the threshing-cylinder. The bars 6 rise from the rear ends of the bars 5 and incline in a rearward direction, and all the bars are spaced for the passage of the straw-moving forks 7.

The threshing-cylinder, the grating, and the slotted guard may be constructed substantially as described and shown in the Letters Patent hereinbefore mentioned, or they may be of any other construction suitable for the purpose in hand.

I prefer to employ forks 7, mounted on cranks 8 of a crank-shaft 9, for the purpose of moving the straw along the grating, but do not wish to be understood as limiting myself thereto.

In the operation of a grain-separator possessing the grating and slotted guard above referred to more or less grain is ordinarily thrown through the space between the rear of the slotted guard and the upper end of the grating and falls upon the beaters. This I desire to avoid, and for this purpose I provide the rear portion of the slotted guard with a deflector-shield which projects rearwardly from the base portion of the guard and overhangs the grating in such manner that the flying grain will be intercepted and deflected onto the upwardly-curved portion of the grating, through which such grain will pass instead of being thrown over the rear end of the grating. The deflector-shield, as here shown, is composed of a plurality of plates 10, each secured at one end to the under side of one of the bars 5 through the medium of a set-bolt 12 or any other proper attaching device. The plates 10 extend considerably beyond the rear end of the bars 5, and their rear portions are each supported through the medium of a link or strap 13, connected at its lower end with the deflector-plates and adjustably held at the upper end in connection with the inclined

bar 6 through the medium of a bolt 14 or other suitable fastening device. The bolts or fastening devices 14 render it possible to vary the distance of the rear ends of the deflector-plates with relation to the grating to suit the conditions required. The deflector-plates are preferably composed of sheet metal formed angularly or approximately V-shaped at their rear extremities, as best seen in Fig. 2, so that the side portions of each plate diverge and operate to deflect the flying grain onto the upwardly-curved portion of the grating. The deflector-plates are separated from each other a suitable distance apart to permit the necessary movements of the forks 7, by which the straw is carried along the grating.

My present invention provides novel, simple, efficient, and economical means for deflecting the flying grain onto the grating, and thus preventing such flying grain from passing upward and over the rear end of the grating, as heretofore.

Having thus described my invention, what I claim is—

1. The combination with a threshing-cylinder, a grating arranged in rear thereof, a slotted guard located above the grating in rear of the cylinder and having its base portion composed of spaced bars provided at their rear ends with upwardly-extending spaced bars, and devices operating through said slotted guard to carry the straw along said grating, of a deflector-shield, constituting a rearward extension of the base of the slotted guard below the upwardly-extending spaced bars thereof, and devices suspending the deflector-shield from the slotted guard, said deflector-shield serving to deflect flying grain onto the curved portion of the grating in rear of the base of the slotted guard and below said upwardly-extending spaced bars thereof, substantially as described.

2. The combination with a threshing-cylinder, a grating arranged in rear thereof and having an upwardly-curved portion, a slotted guard located above a part of the grating in rear of the cylinder, and devices operating through the guard to carry the straw along the grating, of a deflector-shield secured to and projecting rearwardly from the base portion of the slotted guard for deflecting flying grain onto the curved portion of the grating, and means for vertically adjusting the rear end portions of the deflector-shield, substantially as and for the purposes described.

3. The combination with a threshing-cylinder, a grating arranged in rear thereof, a slotted guard located above the grating in rear of the cylinder and having its base portion composed of spaced bars provided at their rear ends with upwardly-extending spaced bars, and devices operating through said slotted guard to carry the straw along said grating, of a plurality of deflector-plates attached to the spaced bars, which constitute the base of said slotted guard, below the upwardly-extending spaced bars thereof, for deflecting flying grain at a point in rear of the base portion of the slotted guard and below the upwardly-extending spaced bars thereof, substantially as described.

4. The combination with a threshing-cylinder, a grating arranged in rear thereof and having an upwardly-curved portion, a slotted guard located above a part of the grating in rear of the cylinder, and straw-moving forks operating through the guard to move the straw along the grating, of a plurality of deflector-plates spaced apart for the passage of the said straw-moving forks and projecting rearwardly from the slotted guard to deflect flying grain onto the curved portion of the grating, and devices for vertically adjusting the rear end portions of the said deflector-plates, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN B. McCUTCHEON.

Witnesses:
A. G. HIGHAM,
L. B. ANDERSON.