(No Model.) 2 Sheets—Sheet 1.

J. D. HEEBNER.

RAKING ATTACHMENT FOR HARVESTER BINDERS.

No. 263,699. Patented Sept. 5, 1882.

Fig. 1.

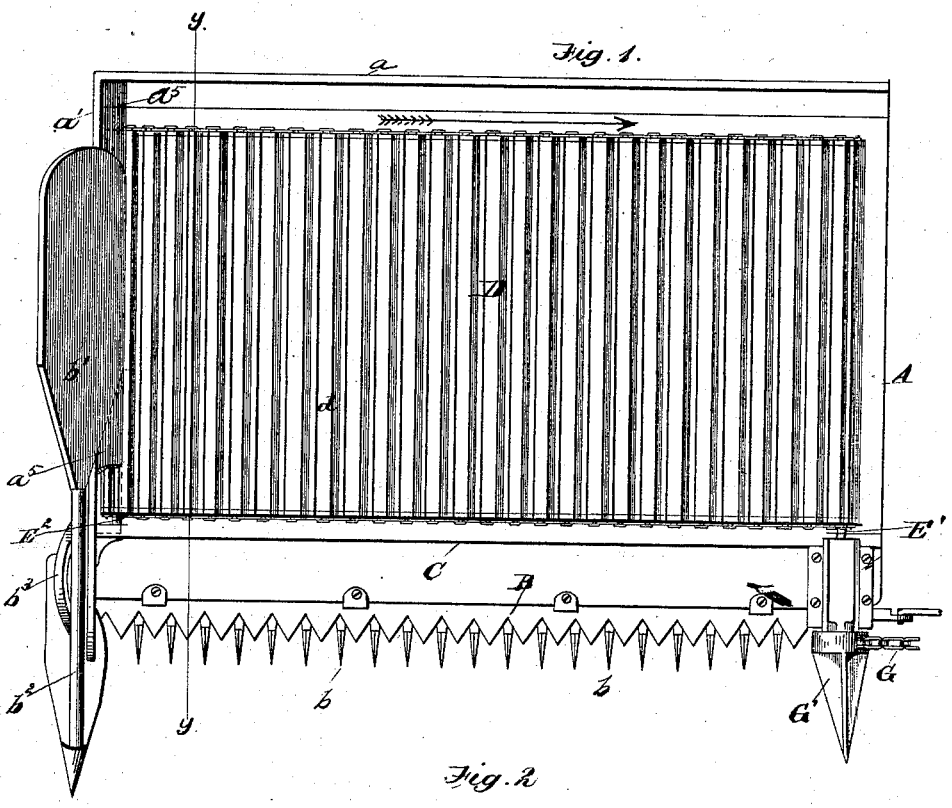


Fig. 2.

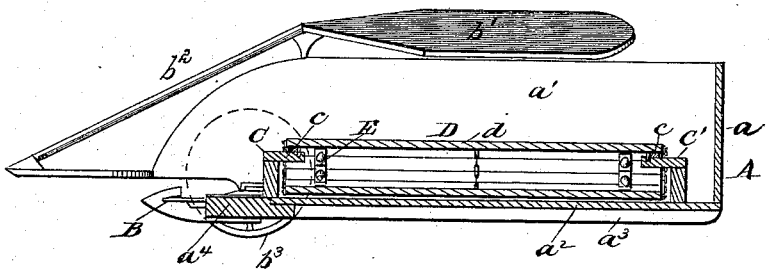
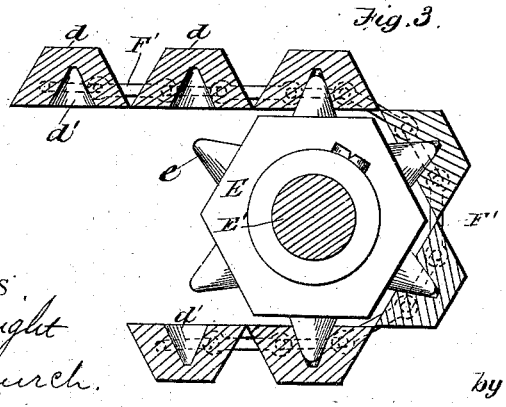


Fig. 3.



WITNESSES.
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(No Model.) 2 Sheets—Sheet 2.

J. D. HEEBNER.

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Fig. 10.

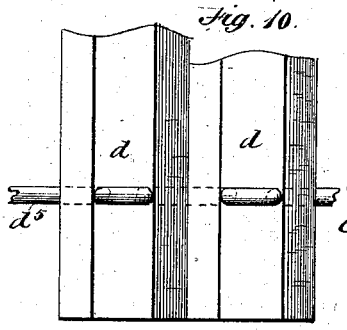


Fig. 4.

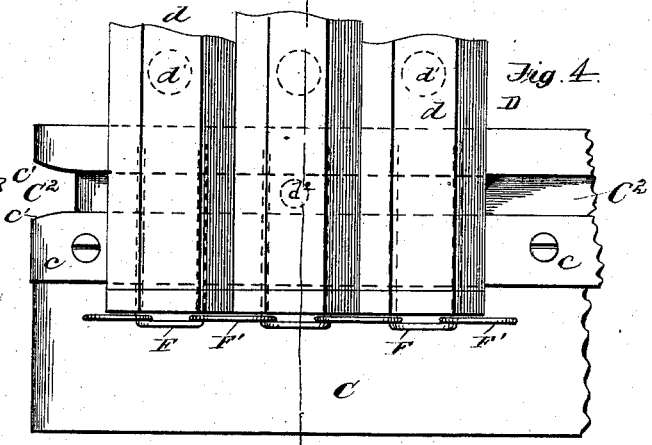


Fig. 11.

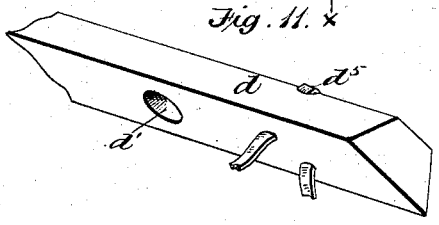


Fig. 12.

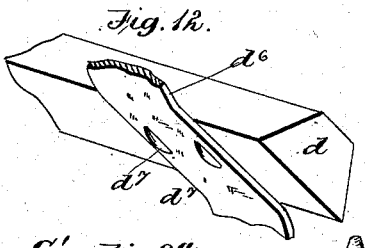
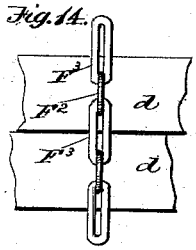


Fig. 14.



C' Fig 9a

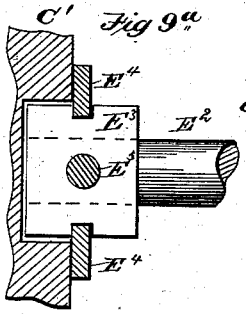


Fig. 8

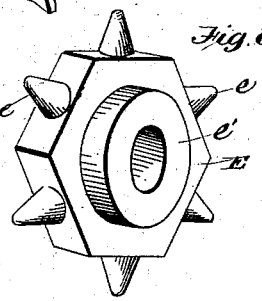


Fig. 5.

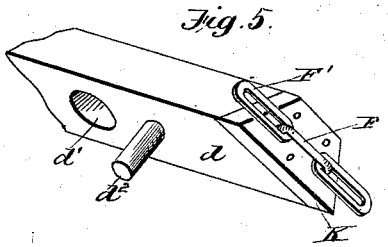
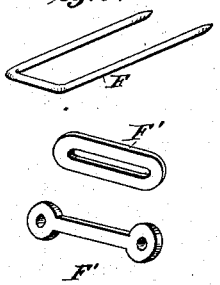
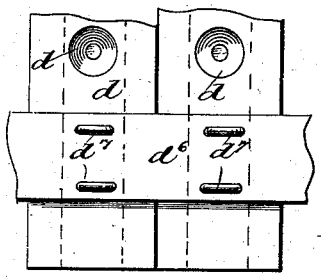


Fig. 13.

Fig. 9.

Fig. 6.





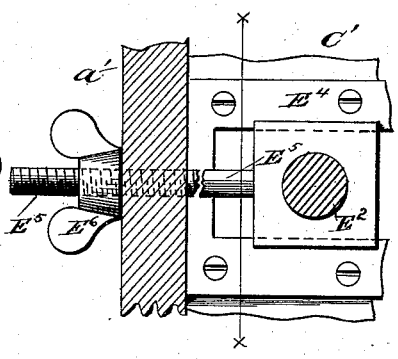
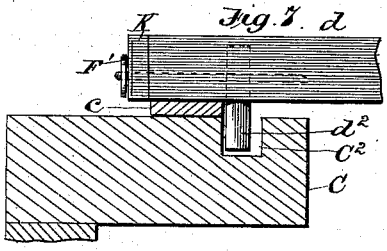


Fig. 7. d



WITNESSES

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UNITED STATES PATENT OFFICE.

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RAKING ATTACHMENT FOR HARVESTER-BINDERS.

SPECIFICATION forming part of Letters Patent No. 263,699, dated September 5, 1882.

Application filed July 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH D. HEEBNER, of Lansdale, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Raking Mechanism for Harvester-Binders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my invention. Fig. 2 is a transverse section of the same, taken on the line *y y*, Fig. 1. Fig. 3 is a sectional view, showing a portion of the endless traveling platform and one of the sprocket-wheels by which the same is given motion. Fig. 4 is an enlarged top plan view of a section of the platform. Fig. 5 is a view of a portion of one of the bars composing the platform detached. Fig. 6 shows the means for connecting the platform bars or slats together. Fig. 7 is a detail sectional view taken on the line *x x*, Fig. 4. Fig. 8 is a perspective view of one of the sprocket-wheels detached. Figs. 9 and 9^a are sectional views, showing the means for tightening the endless platform. Figs. 10, 11, 12, and 13 are views illustrating different modifications of the means for uniting the bars composing the platform. Fig. 14 shows a means for strengthening the traveling platform at the middle.

Similar letters of reference in the several figures denote the same parts.

My invention relates to that class of harvester-binders in which the cut grain falls upon an endless grain-platform and is carried by the latter direct to the binding mechanism to be bound, or else to an elevator, to be by that in turn conveyed to the binding mechanism; and it consists in certain novel improvements in construction and combinations of parts, which I will first describe at length, and then point out particularly in the claims at the end of this specification.

Referring to the drawings, A represents the main frame of the grain-platform, constructed of the general form shown, and having at its front edge the usual finger-bar, with its fingers *b*, and the cutter-bar or knife-bar B, adapted to play back and forth in said finger-bar, as shown.

G′ is the inner guard or shoe, b' b^2 the outer shoe, and b^3 the grain-wheel for supporting the platform at the outer end.

Mounted in suitable bearings at opposite ends of the platform are two transverse shafts, E′ E^2, each carrying two sprocket-wheels, E, one at the front and the other at the rear of the platform. These sprocket-wheels are preferably polygonally-shaped, and are provided with conical projections or studs *e*, located centrally, one on each face, as shown in Figs. 3 and 8. Passing around these sprocket-wheels is an endless apron or carrier, D, which, for convenience, I shall term an "endless platform." This endless platform is composed of transverse bars or slats *d*, preferably of the form in cross-section of a frustum of a pyramid, as shown in Fig. 3, and united preferably by means of staples F and links F′, as shown in Figs. 5 and 6, the bases of the bars or slats forming a close joint, as shown in Fig. 3, and the staples being driven into the end of each bar, so as to secure the opposite ends of two links, as shown in Figs. 3 and 4. Metal cap-pieces K are preferably slipped upon the ends of the bars and the staples driven through to secure them, as shown in Fig. 5. The bars *d* are each provided with a conical recess or cavity, *d′*, as shown in Figs. 3, 4, and 5, with which the correspondingly-shaped projections or studs *e* on the sprocket-wheel engage when the endless platform is in motion.

For the purpose of supporting the endless platform throughout its entire extent and preventing it from sagging under its own weight and that of the grain upon it, I provide an elevated track, consisting preferably of metal bars *c c*, arranged underneath the lateral edges of the endless platform and resting upon timbers C C′, located respectively at the front and rear of the platform-frame, as shown in Figs. 1 and 2.

To prevent lateral movement of the endless platform while in motion, I provide every third, fourth, or fifth bar *d* with inwardly-projecting pins d^2, Figs. 2, 4, 5, and 7, and form longitudinal channels or grooves C^2 in the timbers

C C′, as shown in Figs. 4 and 7, for accommodating and guiding said pins. The pins, by bearing against the walls of the channels, cause a steadiness and evenness of movement of the platform.

The peculiar form of the slats or bars composing the endless platform causes V-shaped spaces to be left between them, into which the cut grain falls and is conveyed away with positiveness, while the bases of said bars or slats are so close together as to prevent any grain from falling through and clogging the action of the mechanism.

As the endless platform passes around the polygonally-faced sprocket-wheels at the delivery end, the proximate sides of the bars, instead of forming an acute angle, as in the greater part of their course, form a very obtuse angle, as shown in Fig. 3, thereby rendering the ejection of the grain easier, and also preventing any grain from being carried around and under, as will be readily understood.

While I prefer to use the links and staples shown in Fig. 6 as the means for fastening the bars of the platform together, yet I may use any equivalent thereof—such, for instance, as a continuous flexible strap, d^5, threaded through the bars, as shown in Fig. 11, or a plain flexible strap, d^6, secured to the bottoms of the bars by staples or other equivalent fastenings, as shown in Figs. 12 and 13.

When necessary or desirable the endless platform may be further strengthened by the application of an additional series of links, F^3, and staples F^2, located at or near the middle, as shown in Figs. 2 and 14, one staple serving in this instance also to secure the opposite ends of two links.

The transverse sprocket-wheel shaft E′ has secured to its forward extremity an additional sprocket-wheel, which is driven by means of an endless chain, G, geared to the main drive-wheel of the machine. (Not shown.) The movement of the endless platform is in the direction indicated by the arrow.

I preferably mount the outer transverse sprocket-wheel shaft, E^2, in bearing-blocks E^3, rendered adjustable back and forth in guides E^4 by means of the screw-bolts E^5 and nuts E^6, as shown in Figs. 9 and 9^a. By this provision the tension of the endless platform can be regulated at pleasure by simply tightening or loosening the nuts E^6.

While I have described my improved form of endless raking-platform as applied to harvester-binders, it is evident that it may be applied to the grain-platforms of ordinary harvesters and elsewhere where applicable.

Having thus described my invention, I claim as new—

1. The endless platform, constructed of bars or slats of pyramidal shape in cross-section and forming close joints with each other at their bases, and means for articulating said bars together, substantially as described.

2. In the herein-described endless platform, the combination, with the transverse bars or slats pyramidal shaped in cross-section, of the connecting-links and the staples driven in the ends of the bars, and each operating to secure the opposite ends of two links, substantially as described.

3. The combination, with the endless platform and the sprocket-wheels, constructed as described, of the elevated trackway, the longitudinal guiding-grooves C^2 in the supports C C′ of the trackway, and the pins d^2, secured to the bars of the endless platform and working in said longitudinal grooves, substantially as described.

JOSIAH D. HEEBNER.

Witnesses:
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JOS. W. MOYER.