(No Model.)

D. LIPPY & Z. S. STOCKING.

CLOVER AND GRAIN THRASHING MACHINE.

No. 287,304. Patented Oct. 23, 1883.

Fig. 1

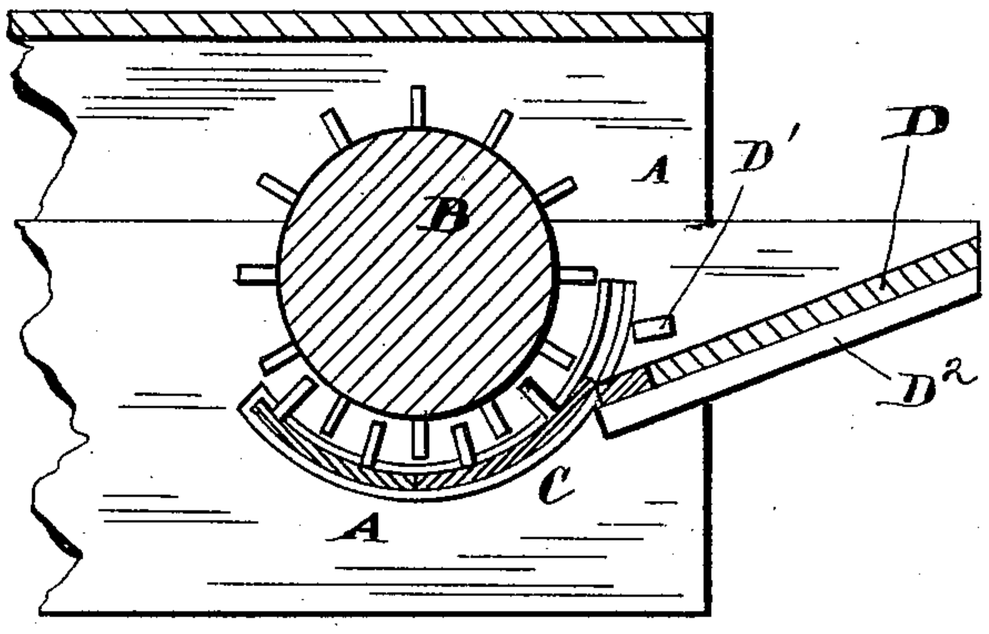


Fig. 2

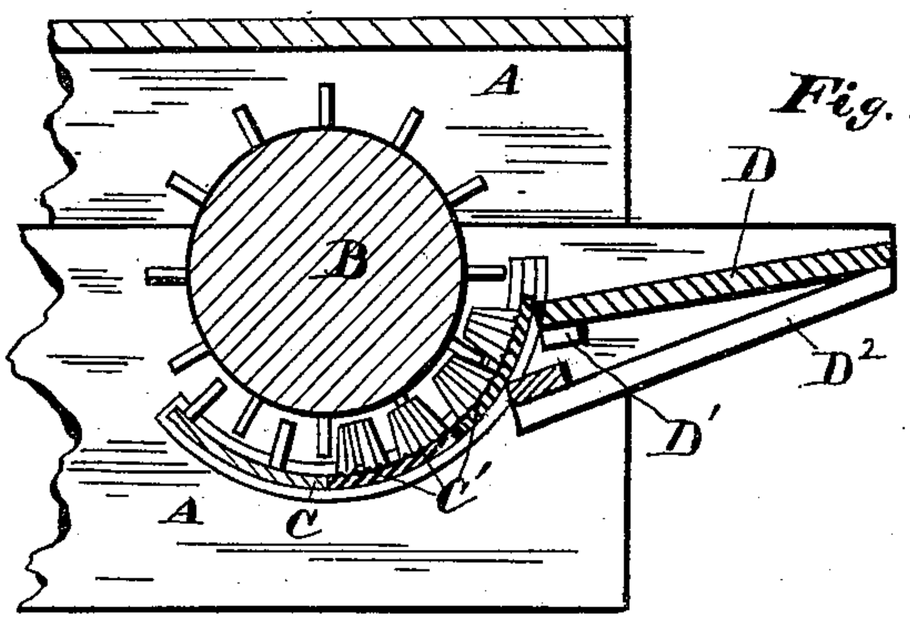
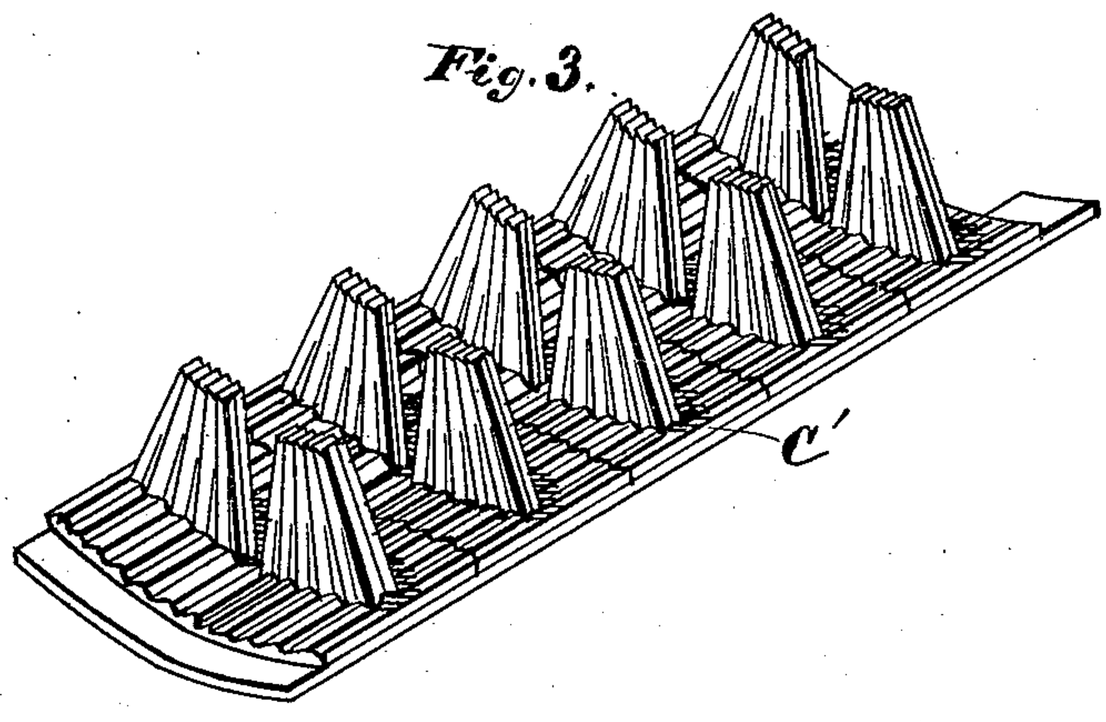


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID LIPPY, OF RICHLAND COUNTY, AND ZALMON S. STOCKING, OF CLEVELAND, OHIO; SAID LIPPY ASSIGNOR TO SAID STOCKING.

CLOVER AND GRAIN THRASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 287,304, dated October 23, 1883.

Application filed July 19, 1880. (No model.)

To all whom it may concern:

Be it known that we, DAVID LIPPY and ZALMON S. STOCKING, respectively of Richland county, Ohio, and Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Clover and Grain Thrashing Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to clover-hulling and grain-thrashing machines.

In the drawings, Figure 1 represents, in longitudinal vertical section, a device constructed according to our invention, and showing our device as adapted for thrashing grain. Fig. 2 is a similar view of the same device, showing it as arranged for hulling clover. Fig. 3 is a detached view, showing the roughened, corrugated, or fluted character of the clover-hulling concave's teeth, and the inner face of the concave itself.

A is any suitable frame for the machine, which may be varied in its proportions and specific construction at pleasure. B is the thrashing-cylinder; C, the concave; C′, the clover-hulling concave attachment; D, the feed-board.

It will be observed that the clover-hulling concave adjacent to the feed-board D rests in grooves or suitable equivalent devices attached to the sides of the frame A in such a manner that said concave-sections may be readily removed. This portion of the concave—namely, that portion which extends from the feed-board downward in front of and below the cylinder—we construct in such a manner as that both or either grain-thrashing or clover-hulling concaves may be inserted and employed.

It will also be noticed that the rear end of the concave C—namely, the end opposite the feed-board—terminates at a point below the axial plane of the thrashing-cylinder B.

In thrashing clover-seed, which is generally very dusty, this feature of terminating the concave below the axial plane of the thrashing-cylinder prevents the dust and débris from being carried backward and over the thrashing-cylinder and thrown into the face of the operator.

The feed-board D has provided for it two rests or seats, D′ and D². The upper one, D′, is employed for clover-hulling, and the lower one, D², for grain-thrashing, as indicated, respectively, in Figs. 1 and 2 of the drawings.

The clover-hulling concave-sections C′ are roughened, fluted, or corrugated upon their inner faces, and the sides and crowns of the clover-hulling concave-teeth are likewise corrugated, roughened, or fluted, while the grain-thrashing teeth and their concave C have smooth surfaces. This difference is essential, as the roughened or corrugated surfaces are necessary and indispensable in operating upon clover, and smooth surfaces are necessary for thrashing grain.

By the employment of a clover-hulling concave in connection with a section of a thrashing-concave, the latter serves to agitate the straw and separate some of the grain and foreign matter therefrom. In view of the fact that it is desirable to have the hulling-concave present a greater surface to the action of the thrashing-cylinder than the section of the thrashing-concave that is removed when hulling is to be done, we provide the adjustable feed-board so as to insure a continuous inclined feedway to either the hulling or the thrashing concave.

Our machine is of course provided behind the thrashing-cylinder B with the necessary straw-tables, riddles, screens, fans, conveyers, and the general mechanism employed in machines of this class. These parts we have not shown, as they do not in themselves constitute any part of our invention. We deem it, however, important to state that the riddles, screens, &c., so far as necessary, are in our device detachably attached, so that they can be removed and replaced by others when such change is necessary in altering the machine from a grain-thrasher to a clover-huller, or vice versa. For instance, different screening apparatus is required for clover-hulling from

that used in grain-thrashing; therefore in our device any suitable grain-screen may be employed; but it should be detachably fixed, so that when it is desired to hull clover a suitable screen or screens for that purpose may be substituted.

Each of our machines we propose to supply with such concave-sections, screens, &c., as may be necessary to convert either into a clover-huller or a grain-thrashing machine.

What we claim is—

1. The combination, with the feed-board, the toothed cylinder, and the concave of a grain-thrashing machine, of a clover-hulling attachment consisting of a removable clover-hulling concave, arranged to extend downward around the lower front portion of said cylinder from a point adjacent to the feed-board, substantially as set forth.

2. The combination, with a feed-board, a toothed grain-thrashing cylinder and concave, of a removable clover-hulling concave provided with corrugated inner surface, and hulling-teeth formed with corrugated sides and crowns, said clover-hulling concave extending down around the lower front portion of said cylinder from a point adjacent to the feed-board, substantially as set forth.

3. In a combined grain-thrasher and clover-huller, the combination, with the thrashing or hulling cylinder and means for supporting interchangeable concaves, of the removable thrashing and clover-hulling concaves, the latter arranged to extend upwardly in front of the cylinder a greater distance than the thrashing-concave, and a feed-board adapted to be secured in different vertical adjustments for the thrashing and hulling concaves, substantially as set forth.

4. The combination of a thrashing-cylinder, a removable hulling-concave, and an adjustable feed-board, substantially as set forth.

5. The combination of a toothed cylinder, a removable hulling-concave, a thrashing-concave, and an adjustable feed-board, substantially as set forth.

6. The combination of a toothed cylinder and a concave, one portion of which is provided with thrashing-teeth, and another portion of which is provided with hulling-teeth, substantially as and for the purpose set forth.

7. The combination, with a thrashing-cylinder, of a sectional concave, one section thereof being a thrashing-concave, and the other section thereof being a hulling-concave, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

DAVID LIPPY.
Z. S. STOCKING.

Witnesses:
S. M. SHULTZ,
LE ROY PARSONS.