

Grain Thrasher and Separator.

Patented Dec. 9, 1862.



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AND WARD & CHILD, OF SAME PLACE.

IMPROVEMENT IN GRAIN THRESHERS AND SEPARATORS.

Specification forming part of Letters Patent No. 37,127, dated December 9, 1862.

To all whom it may concern:

Be it known that I, WILLIAM F. COCHRANE, of Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Machinery for Thrashing and Separating Grain, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view in elevation of one side of a machine for thrashing and separating grain, embracing my improvements. Fig. 2 represents a plan or top view of the same with the grain-belt, the straw-carrier, and the covering of the frame removed in order more clearly to display the construction, arrangement, and operation of other portions of the mechanism. Fig. 3 represents a vertical longitudinal section through the same at the line *xx* of Fig. 2, with all the parts in their proper positions.

The improvements claimed under this patent consist, first, in mounting the blades or floats of the fan directly upon the cross-shaft or counter-shaft, from which the remainder of the mechanism is driven, and inside the pulleys which drive the thrashing-cylinder, thereby dispensing with an independent fan-shaft and much of its attendant mechanism, and obtaining other advantages in the construction, arrangement, and operation of the mechanism; secondly, in driving the thrashing-cylinder directly from the fan-pulleys, whereby the machine is rendered more simple in construction and more easy to drive; thirdly, in inclosing the main portion of the driving mechanism within the fan-case, whereby it is protected from dust and dirt and from becoming clogged by things getting caught in it; fourthly, in making a portion of the fan-case removable in order to permit free access to the gearing on the counter-shaft when desired.

In the accompanying drawings, which represent a convenient arrangement of parts for carrying out the objects of my invention, the mechanism is shown as sustained and inclosed in a stout frame, A, and in a grain-belt frame, B. A thrashing-cylinder, C, of the usual construction, is mounted in the frame A, near the rear end of which a cross-shaft, D, is mounted. This shaft forms both the fan-shaft and counter-shaft of the machine. It is driven by means of a line-shaft, E, actuated by any suit-

able prime mover, and carrying on its end a bevel-wheel, *e*, which gears into a corresponding pinion on the cross-shaft D. Upon each end of this shaft a fan, G, is mounted, which fans consist of a series of spiral floats or vanes, *g*, arranged within a short cylinder or drum, G', the outer surface of which forms a pulley from which the thrashing-cylinder C is driven by means of a cord or band, *c'*, which encircles a pulley, *c*, on each end of its shaft. The fans revolve in close contact with stationary flanges G², secured to the frame which form the heads of the fan-case H. The fans are so constructed as to draw the air into the casing from each end. The casing is divided into sections, the two lower ones of which, *h h'*, are hinged at the bottom, as shown in Fig. 3, or otherwise made removable, in order that the casing may be opened at pleasure to give access to the gearing, which, it will be perceived, is inclosed within the fan-case, which arrangement protects it from dirt, dust, and other obstructing materials. The sections can be held in place by any suitable detent. The arrows indicate the direction of the movements of the several parts.

It is deemed unnecessary here to describe in detail the construction and operation of the other parts of the mechanism, as they form no part of the subject-matter herein claimed, and are, besides, fully described in two other applications filed simultaneously with this, and marked "Division D" and "Division E."

What I claim under this patent as my invention is—

1. Mounting the blades of the fans directly upon the counter-shaft and inside the driving-pulleys, substantially in the manner described, for the purpose set forth.

2. Driving the thrashing-cylinder directly from the fan-pulleys, substantially as and for the purpose set forth.

3. Inclosing the main portion of the driving mechanism within the fan-case, for the purpose described.

4. Making a portion of the fan-case removable, as described, for the purpose of affording access to the driving mechanism.

In testimony whereof I have hereunto subscribed my name.

WILLIAM F. COCHRANE.

Witnesses:

WM. WARDER,
JOHN H. WARDER.