W. GARDNER.

GRAIN CLEANER AND SEPARATOR.

No. 104,728. Patented June 28, 1870.

Fig. 1.

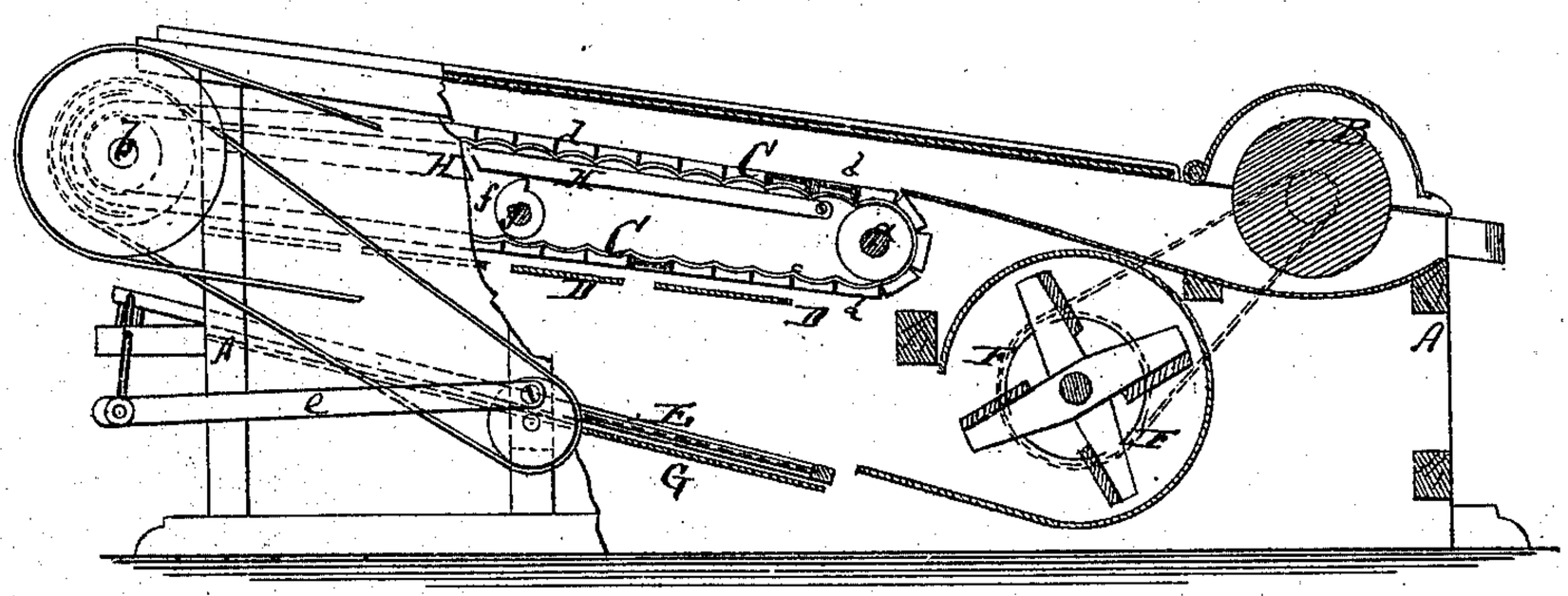
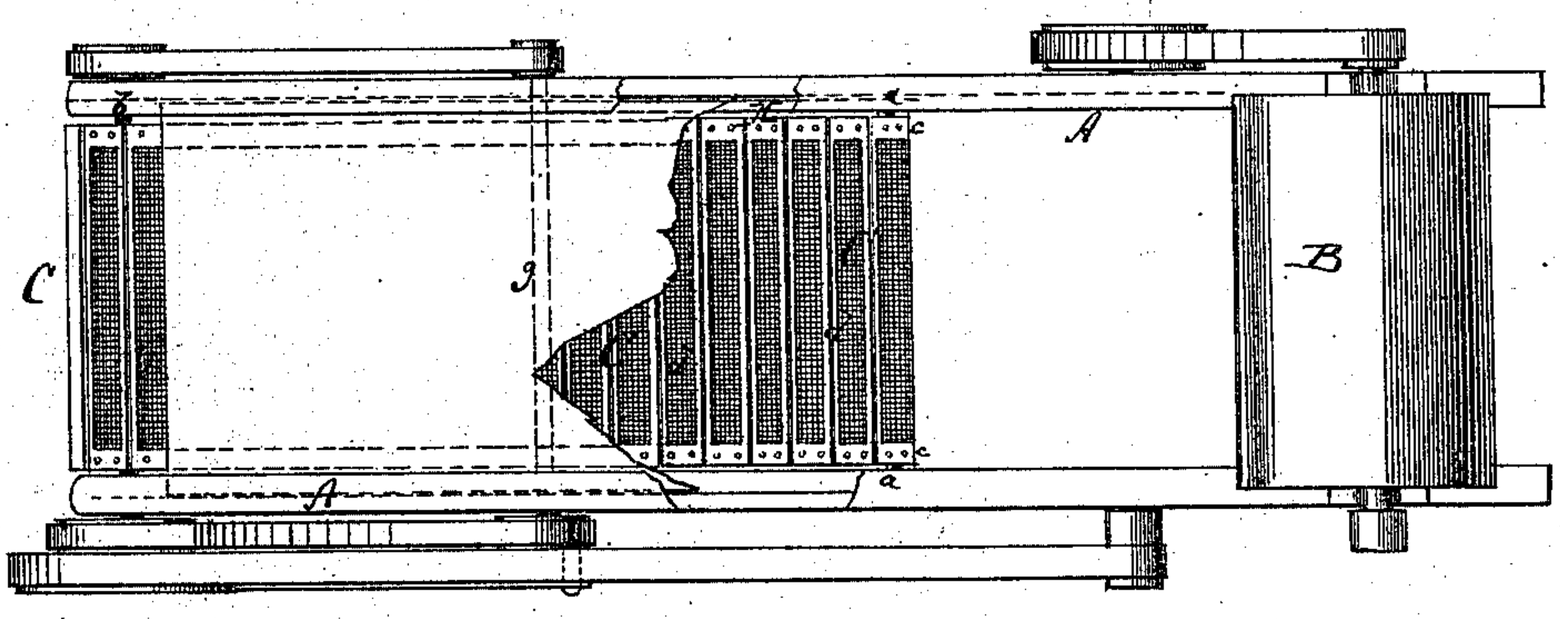


Fig. 2.



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WILLIAM GARDNER, OF CATALPA, KENTUCKY.

Letters Patent No. 104,728, *dated June* 28, 1870.

IMPROVEMENT IN GRAIN-CLEANER AND SEPARATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM GARDNER, of Catalpa, in the county of Green and State of Kentucky, have invented a new and improved Grain-Cleaner and Separator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a vertical longitudinal section of my improved grain-separator.

Figure 2 is a plan or top view, partly in section, of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new grain-separator, which is to be attached to thrashing-machines, or used in barns for separating the wheat, or other grain, from the chaff.

The invention consists, chiefly, in the combination of a peculiar screen-belt with a series of perforated plates, as hereinafter more fully described.

A, in the drawing, represents the frame of my improved grain-separator. It is shown to be also the frame of thrashing-machine B, which is of suitable construction. The separator may, however, if desired, be set up independent of the thrasher.

In the frame are the bearings of two horizontal shafts *a b*, which support and hold an endless belt, C. This belt is composed of two straps *c c*, to which a series of boxes, *d d*, is secured, the said boxes being provided with perforated bottoms, as shown in fig. 2.

The belt C is loose on its drums *a b*. It receives motion from the same, only when it is stretched, by means of a lever, or set of levers, H H, that are forced up by an eccentric, *f*, on a revolving shaft, *g*. When the eccentric forces the free end of the pivoted lever H against the belt, the latter will be so stretched as to be carried along by the drums *a b* until again slackened by the dropping of the lever.

The wheat from the thrasher falls upon the apron C, into the several boxes of the same, and passes through the meshes of the wire bottoms of the same, while the straw and coarse chaff is carried off by said belt.

The wheat, falling through the belt, drops upon a fixed plate, D, which has a series of transverse slots, through which the wheat falls down, while the chaff, to a great extent, works outward on said plate.

During its passage from the plate D to the shaking bottom E the wheat is exposed to a current of air from a fan, F, and is thereby entirely freed from all chaff.

Passing through the perforated shaking bottom E, the wheat or grain falls upon an inclined plate, G, on which it rolls down to be collected.

Reciprocating motion is imparted to the shaker E by means of a connecting-rod, *e*, or other mechanism.

By the aforesaid arrangement the wheat is cleaned so well before it enters the air-current, that but a slight current is required; consequently, less power is needed for operating the apparatus.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The grain-separator, consisting of the belt C, fixed slotted plate D, and reciprocating perforated plate E, the belt carrying a series of boxes, *d*, with perforated bottoms, as set forth.

2. The lever H and cam *f*, combined with the belt C, for the purpose of imparting intermittent rotary motion to the same, as set forth.

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