No. 704,241. Patented July 8, 1902.

F. CUTLER.

SEPARATOR.

(Application filed Nov. 8, 1901.)

(No Model.)

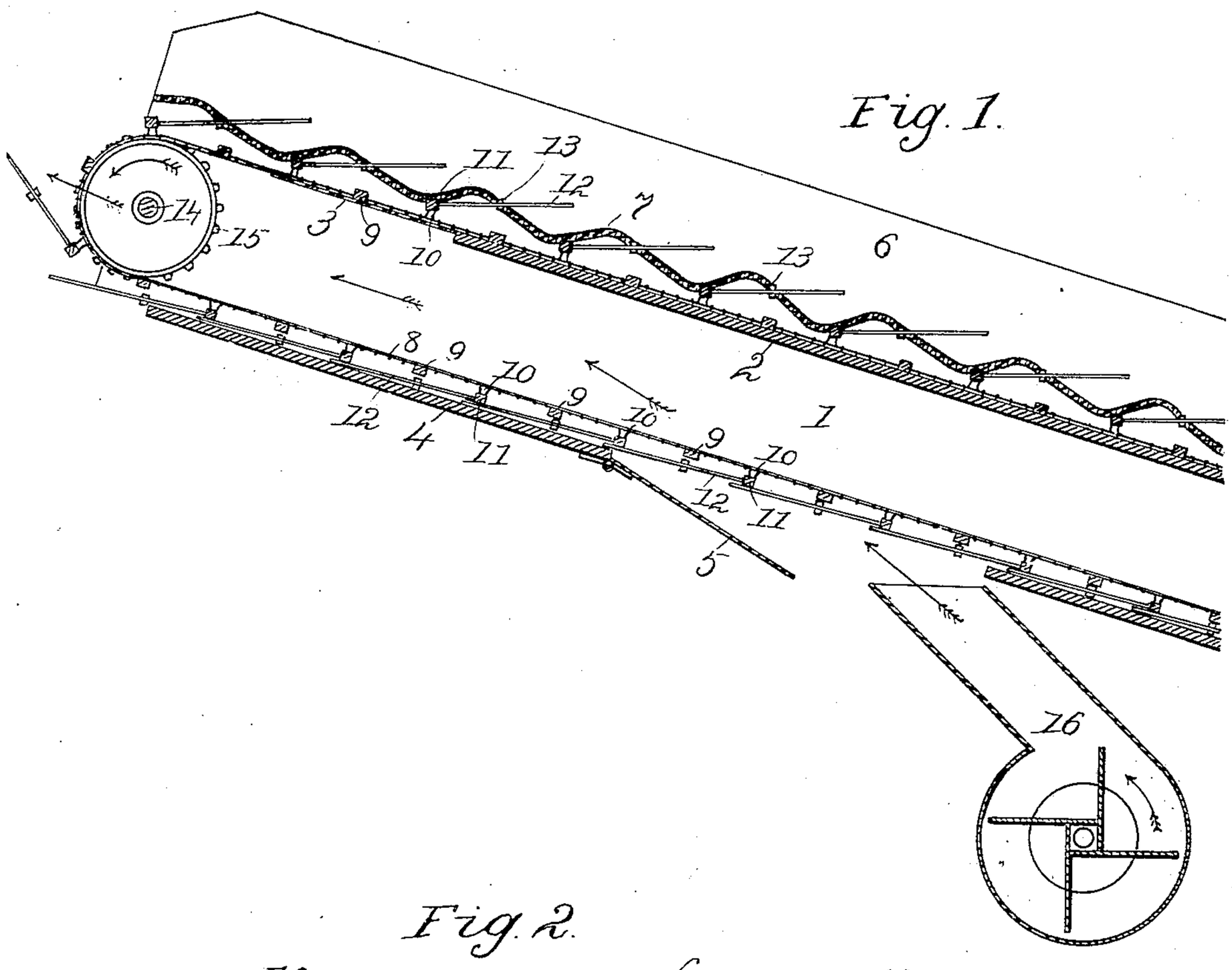
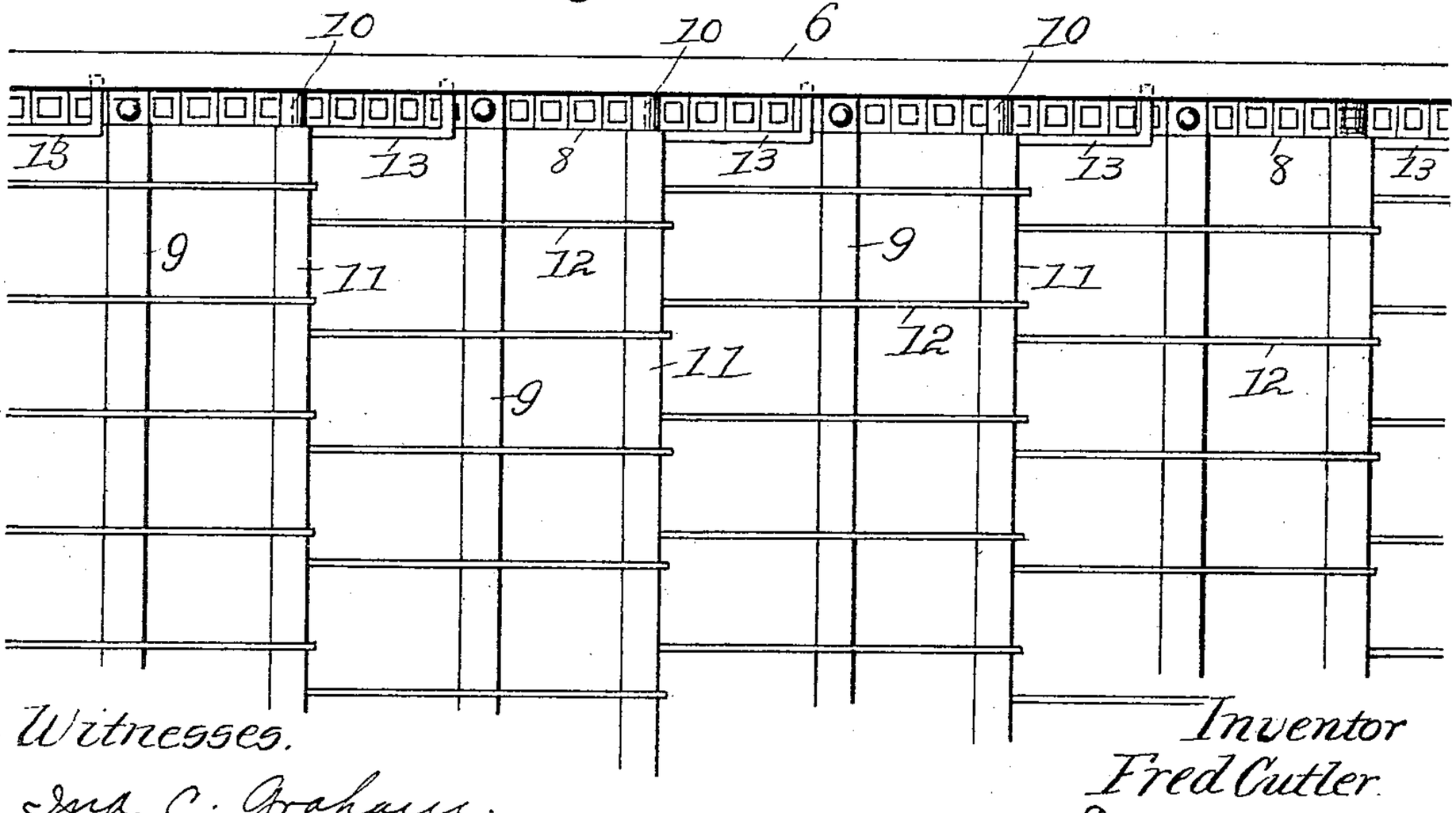


Fig. 1.

Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRED CUTLER, OF BRADFORDTON, ILLINOIS.

SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 704,241, dated July 8, 1902.

Application filed November 8, 1901. Serial No. 81,626. (No model.)

To all whom it may concern:

Be it known that I, FRED CUTLER, of the town of Bradfordton, county of Sangamon, and State of Illinois, have invented certain new and useful Improvements in Separators, of which the following is a specification.

This invention is designed for use in threshing-machines to separate the straw from the grain and chaff; and the object is to provide a simplified and superior substitute for the shakers and grain-pan commonly used in such machines.

The invention is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a longitudinal vertical section through so much of a separator as is needed to explain my invention. Fig. 2 is a plan, on an enlarged scale, of a fragment of the separator.

At 1 is shown one of the side boards, which, with the upper board 2 and the lower board 4, form a hollow passage-way for a blast of wind. The lower board 4 is cut away between its ends to admit air from a fan, as 16, and a hinged flap 5 may be used to enlarge or contract the opening through which the wind passes. Side boards, as 6, rise above top board 2, and in one or both of the side boards is formed a serpentine or zigzag groove, as 7. A shaft 14 crosses the discharge end of the separator, and sprocket-wheels, as 15, are fixed on opposite ends of the shaft inside side boards 1. Chains, as 8, run on the sprocket-wheels, traveling upward above board 2 and returning above board 4. Drag-slats 9 are fastened to the chain at intervals, and such slats travel upward and rearward in contact with the board 2. Brackets, as 10, rise from the chain between slats 9, and ends of slats 11 are pivoted in the brackets. Each of the pivoted slats has a guide-finger, as 13, that engages the slot 7 of side board 6, and fingers 12 are fastened in the rocking slats and extend rearward therefrom. The upper end of top board 2 is perforated or slotted for some distance along its upper end, as shown at 3 in Fig. 1.

In operation the shaft 14 is turned in the direction indicated by the adjacent arrow, threshed straw, with the grain therein, is supplied to the lower end of the upper run of the drag, and a blast of wind is sent through the opening in the lower board. As the chains travel along the fingers 13 follow groove 7, alternately raising and lowering the straw-sustaining fingers 12, and the vibratory motion imparted to the straw causes the grain to separate therefrom and settle onto board 2. The drag-slats 9 engage the separated grain and carry it up to the perforations in part 3 of the upper board, while the fingers 12 carry the straw beyond the discharge end of the separator. As the grain falls from the upper board 2 to the lower board 4 it is subjected to the blast from fan 16, the chaff is separated from the grain and blown out through the open space between the ends of the boards, and the cleaned grain travels down board 4 and off the hinged plate 5.

The mechanism herein described may be built into a threshing-machine in any desirable manner and may be driven in any way capable of giving good results.

The form of groove 7 may be varied to give more or less severe vibration to the straw-carrying fingers.

I claim—

1. In a separator, the combination of a board, endless chains running over the board, cross-slats attached to the chain in contact with the board, other cross-slats pivotally connected with the chains out of contact with the board, straw-carrying fingers extending rearward from the pivoted slats, a side board having a sinuous groove extending lengthwise thereof and guide-fingers for the pivoted slats engaging the groove.

2. In a separator, the combination of a hollow frame consisting of an upper board, a lower board and side boards, a fan to force air through the hollow frame, a shaft in the open discharge end of the hollow frame, sprocket-wheels on the shaft, endless chains running around the sprocket-wheels with their upper runs above the upper board, cross-slats attached to the chains in position to

move in contact with the upper board, other slats pivotally connected with the chains, out of contact with the upper board, straw-carrying fingers extending rearward from the pivoted slats, a side board having a sinuous groove and guide-fingers for the slats engaging the groove.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

FRED CUTLER.

Witnesses:
J. T. GARRETSON,
CHARLES E. GARD.