

(No Model.)

2 Sheets—Sheet 1.

D. SNELLING.
SEPARATOR FOR GRAIN THRESHERS.

No. 568,807.

Patented Oct. 6, 1896.

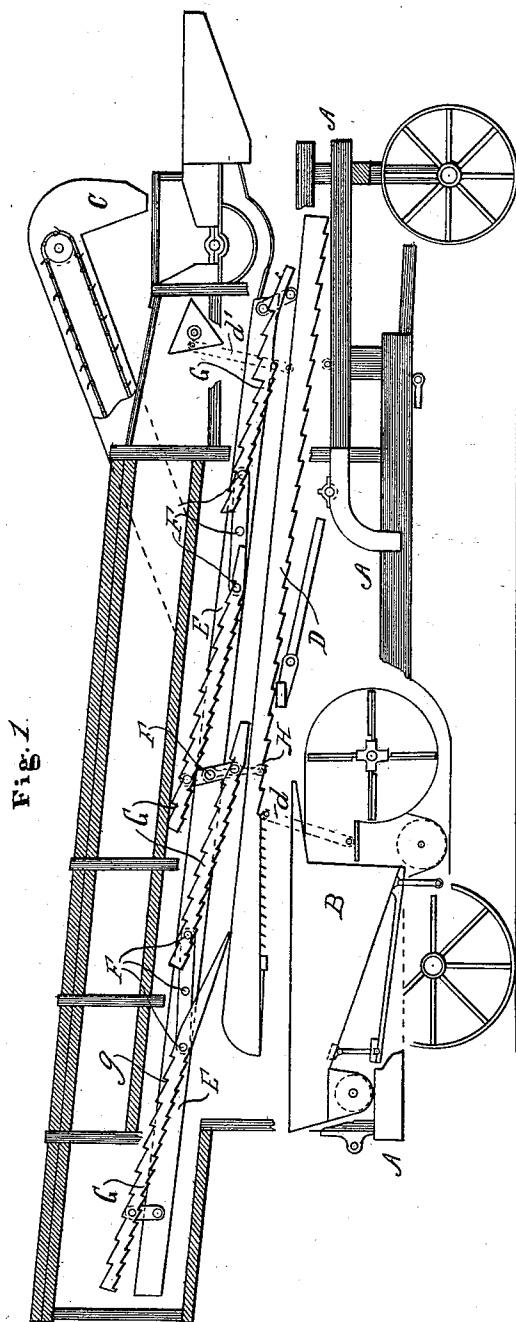


Fig. 1.

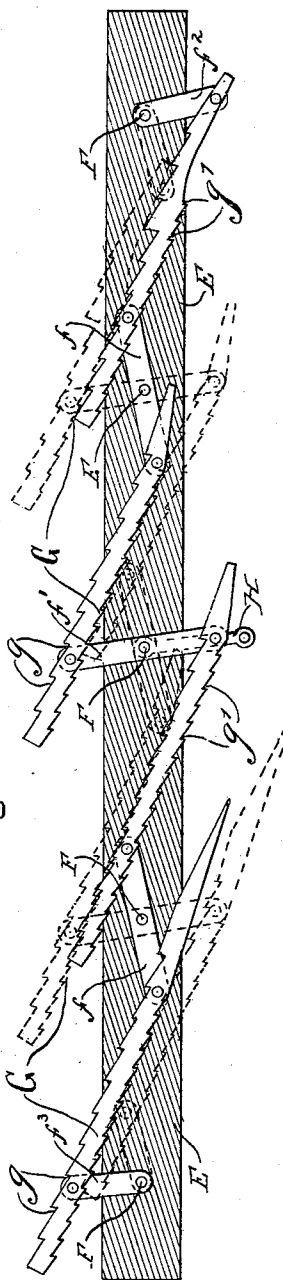


Fig. 2.

Witnesses

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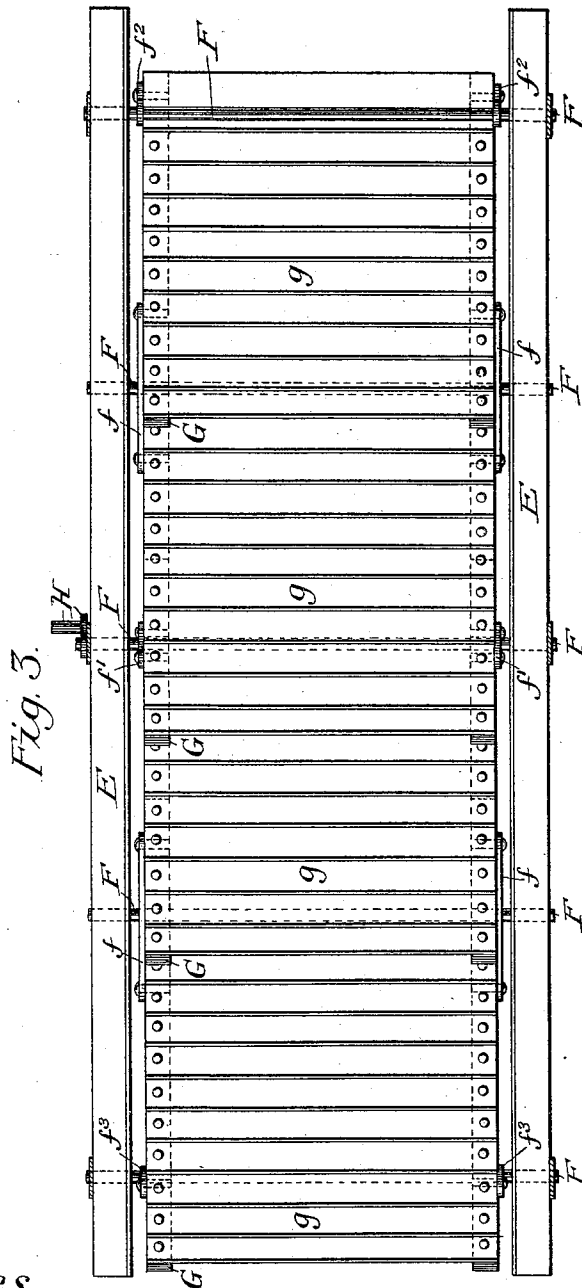
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2 Sheets—Sheet 2.

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Witnesses.

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UNITED STATES PATENT OFFICE.

DAVID SNELLING, OF BAKER, ILLINOIS.

SEPARATOR FOR GRAIN-THRESHERS.

SPECIFICATION forming part of Letters Patent No. 568,807, dated October 6, 1896.

Application filed August 30, 1895. Serial No. 561,002. (No model.)

To all whom it may concern:

Be it known that I, DAVID SNELLING, a citizen of the United States, residing at Baker, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Separators for Grain-Threshers, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of a threshing-machine embodying my invention, and Fig. 2 a similar view of a part of the separator mechanism detached. Fig. 3 is a plan view of my separator. In the drawings, Fig. 1 is upon one scale and Fig. 2 upon another and enlarged scale.

My invention relates to an improvement in machines for threshing grain.

The main features of the machine are of any ordinary construction, and the improvement relates to means for supporting and vibrating the shakers in the separator-frame.

A description in detail of that part of a threshing-machine which contains my invention, with a general reference to the main features of the machine, will now be given, and the particular improvements which are believed to be new, and which it is desired to secure by Letters Patent, will then be designated in claims.

In the drawings, A represents the main frame of the machine, of any ordinary and known construction, mounted on wheels for transportation.

The threshing mechanism B is at one end of the machine and the cleaning and grain-discharge mechanism C at the other end, the first being set above the grain-table mechanism and the second below, as seen in Fig. 1.

The reciprocating grain-table D is of ordinary construction and is mounted in the frame in a well-known way, the rear end being supported by an arm *d*, pivoted at its respective ends to the separator and to a support on the main frame, while the front end is suspended by a like pivotally-connected link *d'*. This separator is for the well-known purpose of conveying the grain and chaff to the winnower.

Above the separator D there is arranged a separating mechanism, consisting of two side bars E, fastened to the inside of the main

frame, and a series of cross-shafts F, journaled therein. Each of these shafts carries a series of arms *f f'*, fixed at regular spaces thereon, the point of attachment being about midway their length. Their arrangement on the several shafts is different, the arms on one shaft being fixed about at right angles to those on the adjacent shafts, as seen in Fig. 2. These arms are hangers for supporting and operating what are called "fish-backs" G, this device being a long arm or table having notches *g* on its upper edge facing in one direction and *g'* on the lower edge facing in the opposite direction. These notched arms or tables are connected to the arms *f f'* on the cross-shafts, so that the said arms serve as hangers for them. These connections are, however, arranged in a peculiar way, what may be called the "front" end of each arm being pivoted to the lower ends of the shaft-arms, while the other end is similarly connected near the upper ends of the same arms, the lower ends being at the front of the device and the upper ones at the rear thereof.

The lower or front end of the first or front table is connected to a short arm *f²*, depending from the first shaft, while the upper or rear end of the last table is similarly connected to a rising short arm *f³*, fixed on the rear cross-shaft. The intervening connections between the tables and the arms on the shafts are also arranged in substantially the same way, the front end being pivoted to the lower portion of the arm and the rear end to the upper portion of the corresponding arm on the next shaft.

A crank-arm H is fixed on one of the cross-shafts, being secured to the outer end of the latter at one side of the frame of the machine and outside of said frame. This crank-arm is vibrated or swung back and forth by suitable connection with the threshing mechanism, and the effect is to produce the motion indicated by full and dotted lines in Fig. 2. Suppose the mechanism to be in the position shown in full lines in said Fig. 2 and the crank-arm is moved rearward, the effect upon the respective sets of tables will be as indicated in dotted lines, one set being thrust outward and upward, while the adjacent sets on each side will be thrust downward and inward, thus giving a reverse reciprocating

movement to adjacent sets with the notched faces working opposite to each other. This action is indicated by dotted lines in Fig. 2, and obviously when the crank-arm is moved 5 in the opposite direction a reverse movement of the tables is effected, they being brought into the position indicated by full lines in Fig. 2. The grain passing through the threshing mechanism is delivered upon the top of 10 the first section of tables or notched arms, and with each vibration of the latter, described above, the straw is torn and separated, thereby practically releasing all the grain therefrom, which drops to the main separator below and is carried through the machine 15 and cleaned in the usual manner. The refuse straw is discharged at the rear end of the machine, as usual.

Having thus described my invention, what 20 I claim to be new, and desire to secure by Letters Patent, is—

1. In a grain-threshing machine and in combination, a conveyer and separating mechanism located above the conveyer, said separating mechanism consisting of a series of 25 fish-backs having notched upper and lower surfaces arranged, when in operation, to overlap one another, pivoted hangers supporting the front and rear ends of the series and intermediate arms set upon rocking shafts, the 30 said arms extending above and below the

shafts and being connected at their ends pivotally to upper and lower successive fish-backs overlapping so that the under teeth of the upper act upon the straw, all substantially as 35 described.

2. In a grain-threshing machine and in combination a conveyer and separating mechanism located above the conveyer, said separating mechanism consisting of a series of 40 fish-backs having notched upper and lower surfaces arranged when in operation to overlap one another, pivoted hangers supporting the front and rear ends of the series and intermediate arms set upon rocking shafts, the 45 said arms set at different angles on the shaft, substantially as described.

3. In combination, the conveyer and the series of overlapping fish-backs located above the conveyer and notched on upper and lower 50 surfaces, rocking shafts provided with arms, said arms having pivotal connection with the overlapping ends of the fish-backs, crank mechanism fixed to one of the rocking shafts, side bars E in which the rocking shafts are 55 journaled and hangers for supporting the ends of the series, all substantially as described.

DAVID SNELLING.

Witnesses:

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