(No Model.)

2 Sheets—Sheet 1.

H. CUTLER.

MACHINE FOR DRESSING GRAIN.

No. 308,831. Patented Dec. 2, 1884.

FIG. 2.

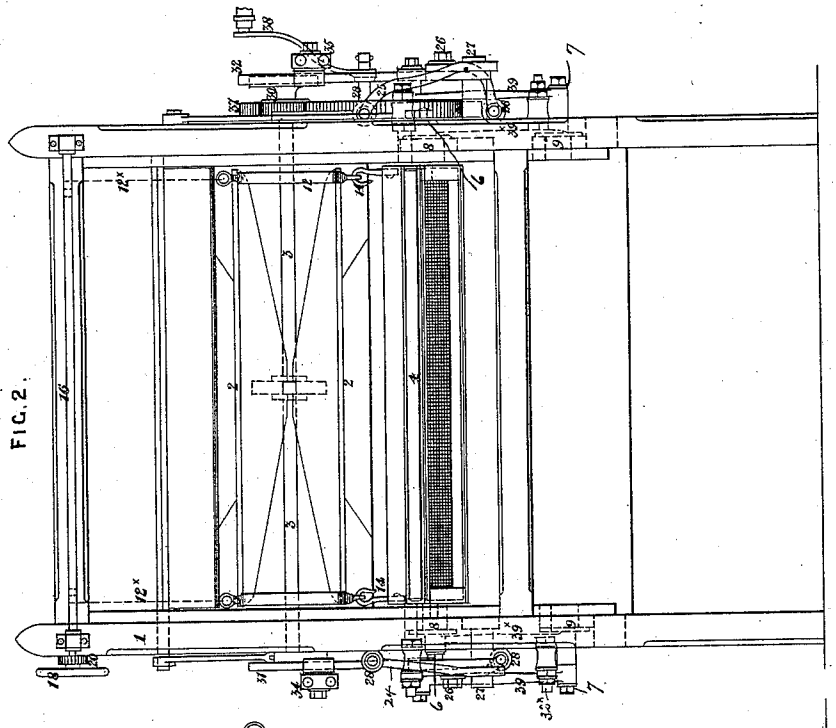
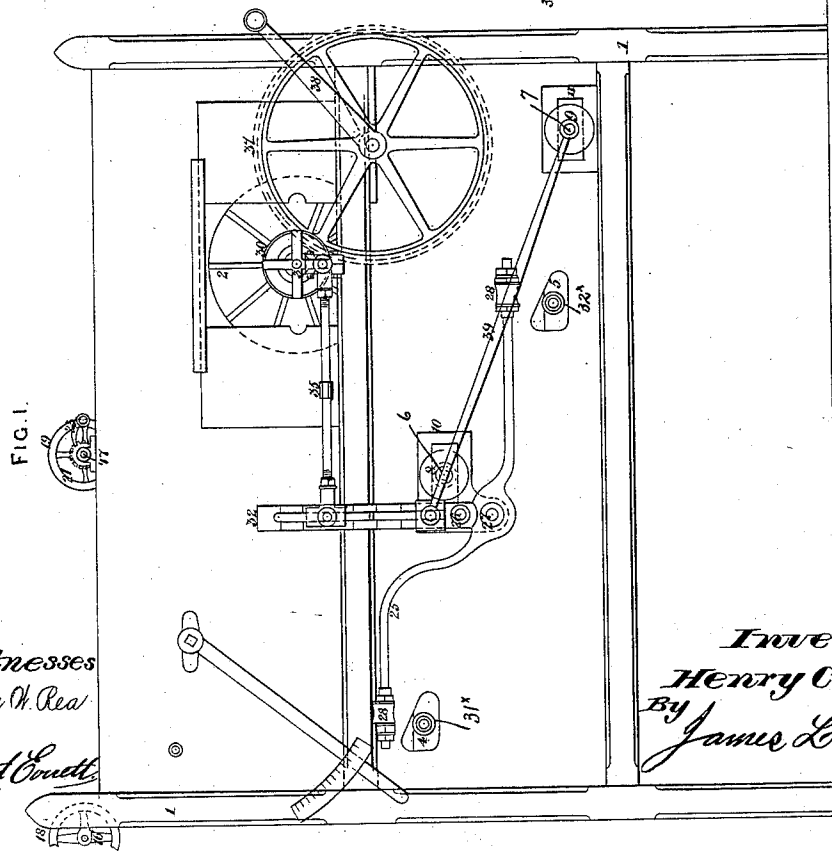


FIG. 1.



Witnesses
George H. Rea
Robert Ewett

Inventor,
Henry Cutler.
By James L. Norris,
Atty.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 3.

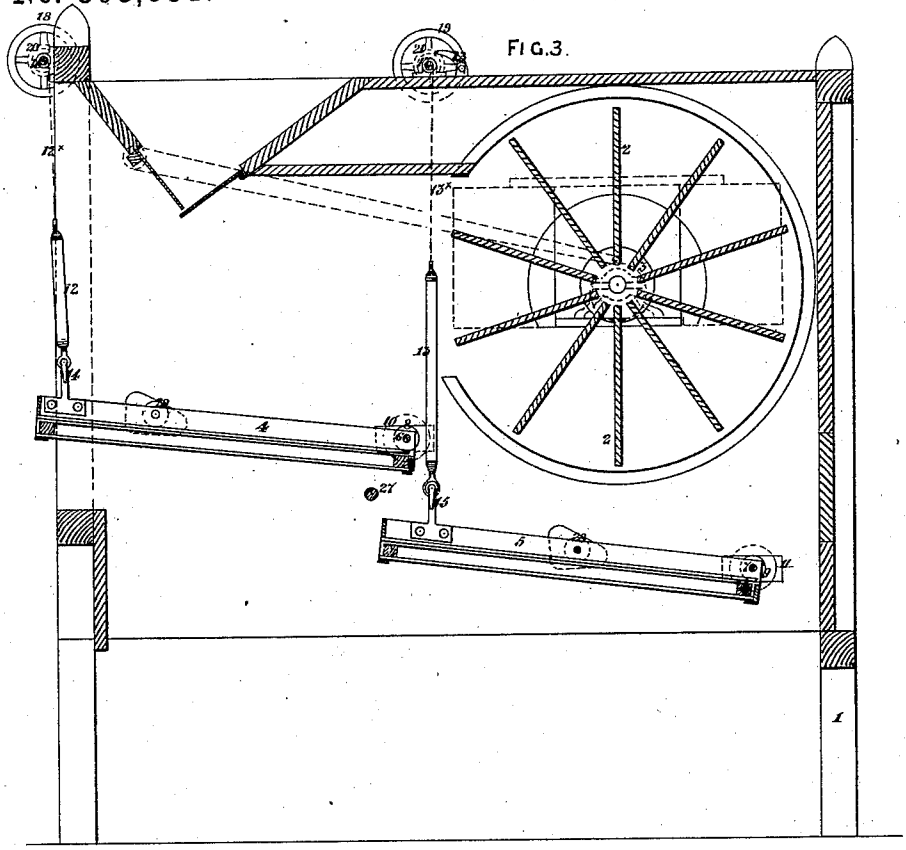
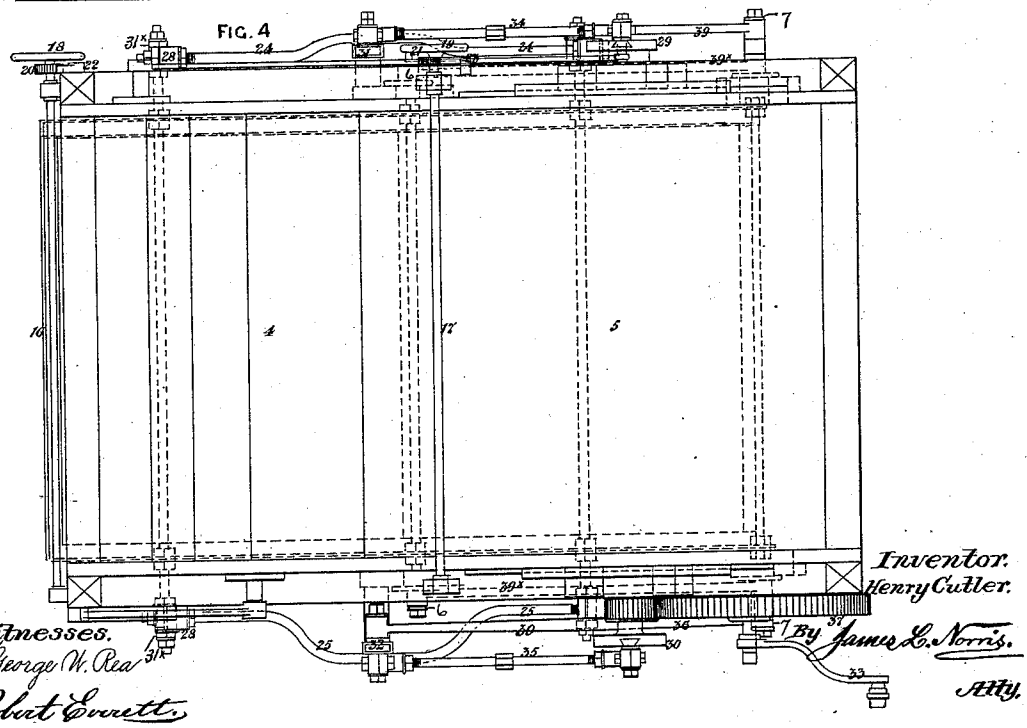


FIG. 4



Witnesses.
George W. Rea
Robert Ewett

Inventor.
Henry Cutler.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

HENRY CUTLER, OF LONDON, ENGLAND, ASSIGNOR TO CHARLES DICKINSON, OF CHICAGO, ILLINOIS.

MACHINE FOR DRESSING GRAIN.

SPECIFICATION forming part of Letters Patent No. 308,831, dated December 2, 1884.

Application filed April 2, 1884. (No model.) Patented in England September 28, 1878, No. 3,829.

To all whom it may concern:

Be it known that I, HENRY CUTLER, a citizen of England, residing at No. 60 Mark Lane, in the city of London, England, seed-factor, have invented a new and useful Improvement in Machines for Dressing Grain, (for which I have obtained a patent in Great Britain, No. 3,829, dated September 28, 1878,) of which the following is a specification.

This invention relates to improvements in machines for cleaning or dressing grain, and has for its objects to provide novel means for supporting and actuating the sieves.

The invention consists in the combination of devices hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 shows in side elevation a machine embodying my improvements. Fig. 2 is an end elevation of the machine. Fig. 3 is a longitudinal vertical section of the same, and Fig. 4 is a plan thereof.

1 is the frame-work of the machine. 2 is the fan or blower; 3, its shaft. 4 and 5 are the sieves. 6 and 7 are pivots or axes provided with anti-friction rollers 8 and 9, working in guides 10 and 11, for supporting the sieves at one end and allowing of their reciprocating motion. The other ends of the sieves are supported by elastic suspenders 12 13.

In the arrangement illustrated the parts 12 and 13 are of india-rubber, like door-springs, (secured by hooks 14 15 to the sieves,) and the parts $12^{\times}$ $13^{\times}$ are of chain, having their upper ends suitably secured and passed around shafts 16 17, provided with hand-wheels 18 19, for the purpose of adjustment. The turning of the shafts 16 17 by the chains is prevented by toothed or ratchet wheels 20 21 and pawls 22 and 23.

24 25 are the strikers whereby downward movement is given to the sieves, whose return or upward movement is produced by the elastic suspenders. The strikers consist of levers mounted at or near the middle of their length on the projecting ends of a transverse shaft, 27, and provided in the present case with india-rubber rollers or tubes 28, able to turn on the lever ends, (to prevent undue wear,) so as not always to strike with the same parts of their surfaces.

The reciprocating motion is given to the sieves and up-and-down motion to the strikers, in the present instance as follows: Upon the ends of the shaft 3 are fixed grooved or slotted crank-disks 29 30, connected to slotted arms 31 32 by means of adjustable connecting-rods 34 35, said slotted arms being mounted on the projecting end portions of the shaft 27, so as to swing back and forth on the shaft, and rigidly attached or otherwise secured to the strikers directly above the shaft 27, as at 26. The crank-pins are adjustable in the grooves of the crank-disks 29 30, for altering the lengths of stroke of the slotted arms, equidistant circles being marked on each of the crank-disks, so that the pins may be easily set to agree with one another on each side of the machine. The slotted arms are also equally divided, so that the connecting-rod pins may be likewise set to agree in each for altering the angle of the arms 31 32, and consequently giving a more or less downward and upward movement to either of the sieves. Upon the shaft 3 is also fixed a pinion, 36, driven by a spur-wheel, 37, having a handle, 38, which drives the fan or blower 2, whereby the slotted arms are swung back and forth on the shaft 27, thereby rocking the strikers on said shaft, the strikers and arms moving together on the shaft. The reciprocating motion of the sieve 4 is effected through the medium of the connecting-rods 34 and 35 and the slotted arms 31 and 32, the said arms being connected with the pivots 6 of said sieve, thereby moving the pivots back and forth in the guides 10; and the sieve 5 is caused to partake of the reciprocating movement of the sieve 4 by means of rods $39^{\times}$, (see dotted lines, Figs. 2 and 4,) connecting the pivots 7 with the pivots 6, and rods 39, connecting the pivots 7 with the slotted arms. The striker ends, as they descend, come in contact with the projecting ends $31^{\times}$ $32^{\times}$ of the rods or bars fixed to the sieves and provided with elastic rollers or tubes, like those on the striker ends. The blows thus given cause the ends of the sieves to descend rapidly, and they are rapidly returned by the action of the elastic suspenders. Thus constant up-and-down movement or vibration is given to the sieves, so as to keep the contents in constant motion, besides the longitudinal to-and-fro reciprocat-

ing motion given through the connecting-rods 39 39×.

It will be observed that each striker on each side of the machine acts successively on two sieves in their reciprocating movement, one end of the striker acting on one sieve to swing its free end downward against the tension of its spring-support, while the other end of the striker is elevated to permit the quick rising motion of the other sieve.

Having thus described the nature of my invention and in what manner the same may be carried into practical effect, I claim—

1. The combination, with the reciprocating and swinging sieve pivoted at one end, and spring-suspenders at the other end of said sieve, of strikers for swinging the spring-suspended end of the sieve downward, substantially as described.

2. The combination of two reciprocating sieves, each supported to swing in a vertical plane, with rocking strikers acting successively on the two sieves to swing the same on their supports, substantially as described.

3. The combination of a series of reciprocating sieves, pivots at one end of each sieve, spring-suspenders at the other ends thereof, and rocking strikers acting successively on the sieves to swing them on their end pivots against the tension of the spring-suspenders, substantially as described.

4. The combination, with the reciprocating sieves, pivots at one end of each sieve, elastic suspenders at the other ends of the sieves, projections at the sides of the sieves, and rocking strikers for imparting blows on the projections to swing the sieves on their pivots against the tension of their spring-suspenders, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 13th day of March, A. D. 1884.

HENRY CUTLER.

Witnesses:
JOHN CARTER, Jr.,
JNO. P. M. MILLARD.