T. M. BALES.
Fanning-Mill.

No. 217,317. Patented July 8, 1879.

Fig. 1.

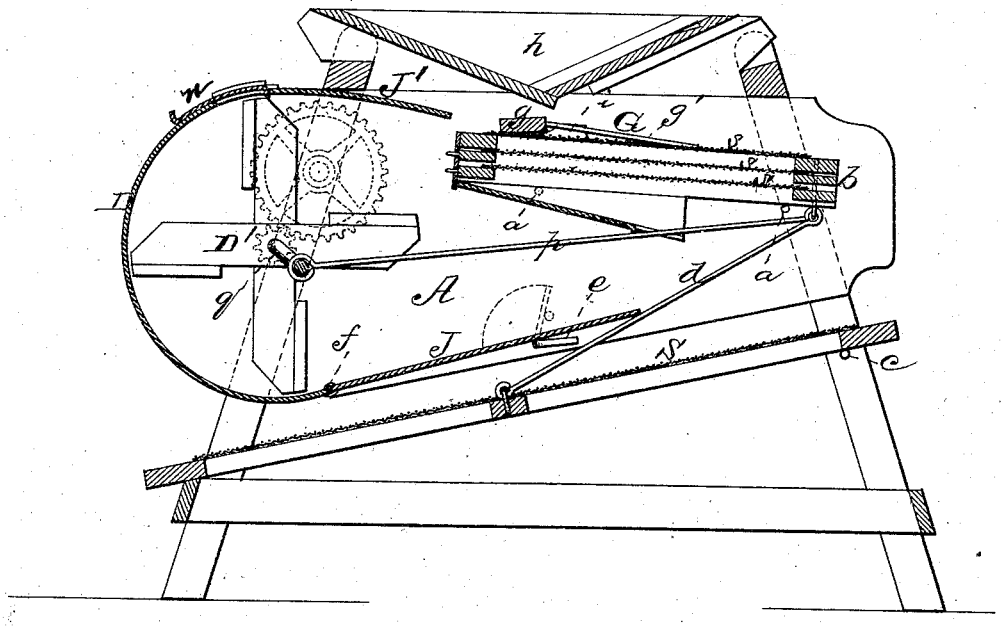
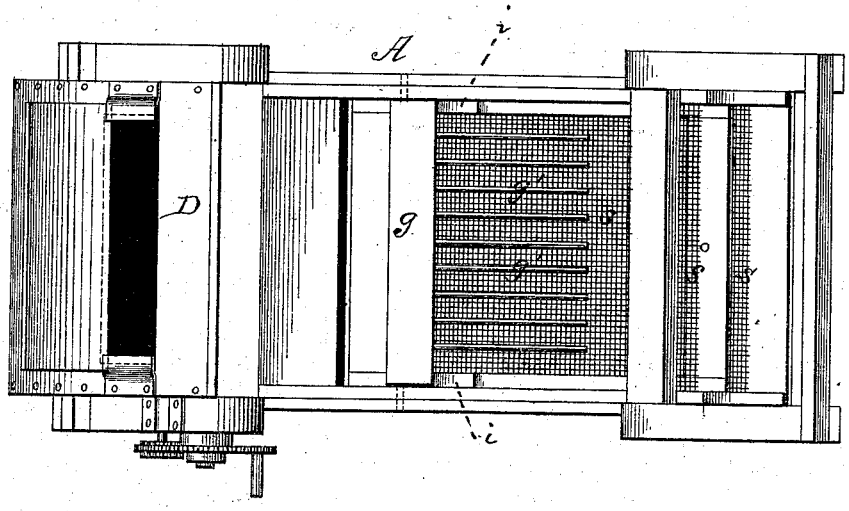


Fig. 2.



WITNESSES
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THOMAS M. BALES, OF DUBLIN, INDIANA.

IMPROVEMENT IN FANNING-MILLS.

Specification forming part of Letters Patent No. **217,317**, dated July 8, 1879; application filed March 15, 1879.

To all whom it may concern:

Be it known that I, THOMAS M. BALES, of Dublin, in the county of Wayne and State of Indiana, have invented a new and valuable Improvement in Fanning-Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section of my improved fan. Fig. 2 is a top view thereof with the hopper removed.

This invention has relation to improvements in fanning-mills; and the nature of the invention consists in the construction and novel arrangement of parts, as hereinafter shown and described.

In the annexed drawings, the letter A designates the frame or casing of my improved fanning-mill, having arranged therein upon the pins *a* a screen-shoe, *b*, carrying a number of sieves, *s*. The grain, after falling through these sieves, is delivered in a clean condition to a lower set of sieves, S, where it is divided up into various grades, according to size. The grain to be cleaned is fed to sieves *s* from a hopper, *h*. The sieves S are in an inclined position, and rest at one end upon studs *c*, and at the other upon one of the cross-braces of the frame.

d indicates a rigid metallic link, flexibly connected to the lower set of sieves, at the middle of the length thereof, and secured in like manner to the rear edge of the upper shoe, the object of which is to cause the sieves to reciprocate together, and to prevent the said lower set of sieves from binding on its supports on the frame, the traction of the said rod being exercised at the middle of the set.

D indicates a fan-case, in which is a fan, D′. The shaft of this fan is cranked at *q*, being its middle portion, and upon said crank is applied a pitman, *p*, extending to the opposite end of the machine and flexibly jointed to the shoe *b*.

The rotation of the fan imparts a reciprocating motion to both sets of sieves in unison. The top portion, J′, of the fan-case D extends under the hopper nearly to the adjacent end of the top sieve, *s*, and its lower portion is provided with an apron or extension, J, hinged or otherwise flexibly secured to the body of the case, as shown in Fig. 1. It extends considerably back into the frame, and conducts the blast under the sieve *s* in shoe *b*. The extension J rests upon a crank arm or shaft, *e*, and is thrown up or down on its hinge-joint *f* by operating the said arm when it is desired to concentrate or dissipate the blast.

G indicates a rake or stirring device, consisting, essentially, of a wooden or metallic head, *g*, into which are fixed tines or prongs *g′*. This stirrer is journaled at its ends in the sides of casing, slightly above the top sieve, *s*, of shoe *b*, so as to vibrate vertically, and is actuated by wedge-like blocks *i*, secured to the side rails of the shoe. These pass, at each reciprocation of the shoe, under the rake-head, and cause it to vibrate upward, thereby raising the teeth *g′*, and stirring or lightening up the grain on the sieve and as it falls from the hopper. As the shoe recedes, the wedges necessarily pass from under the rake-head and allow the teeth to fall.

By this means a rapid action of the stirrer is had, which, by tossing the mixed grain and chaff, allows the blast to have full effect, and prevents the meshes of the top sieve from being clogged up.

The fan derives its air-supply through the ends of the case, and there is an opening in the side of the case, the dimensions of which may be regulated at pleasure by a sliding door, *n*.

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

In a fanning-mill, the combination, with the independent shoes *b* S, and the rod *d*, flexibly connected to the latter at the middle of its length, and to the rear edge of the former in like manner, of the fan-shaft having crank *q*, and a pitman, *p*, applied to said crank and flexibly secured to the shoe *b*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS MONROE BALES.

Witnesses:

FRANK E. HOFFMAN,

HUGH L. ENGLISH.