H. & E. KURTZ.

THRASHING-MACHINE.

No. 192,268. Patented June 19, 1877.

Fig. 1.

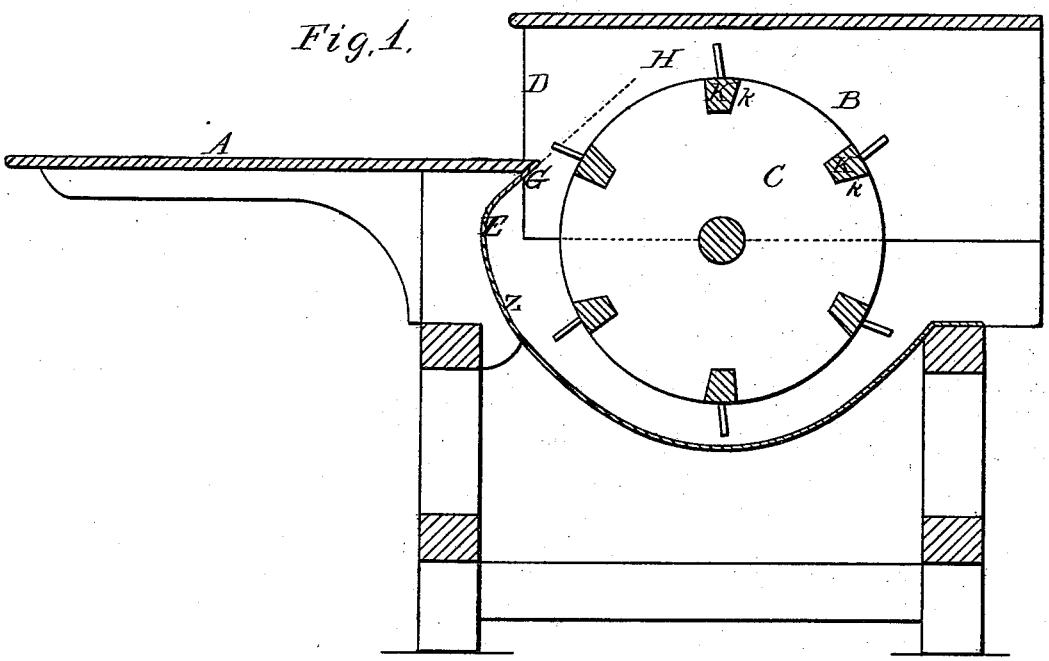
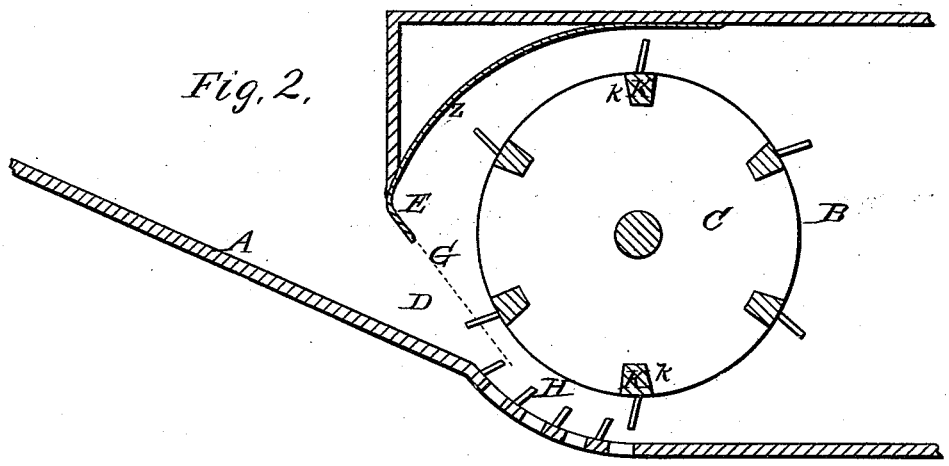


Fig. 2.



WITNESSES.

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HENRY KURTZ AND EPHRAIM KURTZ, OF RICHMOND, PENNSYLVANIA.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. **192,268**, dated June 19, 1877; application filed December 16, 1876.

To all whom it may concern:

Be it known that we, HENRY KURTZ and EPHRAIM KURTZ, both of Richmond, in the county of Northampton and State of Pennsylvania, have invented a new and valuable Improvement in Thrashing-Machines; and we 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 vertical longitudinal section of this invention applied to an overshot-machine. Fig. 2 is a similar view of the same applied to an undershot-machine.

This invention has relation to thrashing-machines; and it consists in the construction and novel arrangement, in the front of the machine, of an air-chamber extending transversely, and having a curved guide-wall or directing-plate, whereof the marginal portion or guide-lip is directed rearwardly and obliquely either up or down, according to the character of the machine, the direction of said lip being in a plane not exactly tangent to the cylinder, but a little off from its surface, as hereinafter shown and described.

The object of this invention is to catch the wind from the cylinder with the dust and particles carried by it toward the front of the machine, and turn it to the rear into the thrashing-passage between the cylinder and its encasement, so that, instead of flying out in front into the face of the feeder, it will be directed backward through the thrashing-passage and out at the rear of the cylinder. This invention is applicable to both undershot and overshot machines, and can readily be applied to machines now in use.

In the accompanying drawings, the letter A designates the feeding-board at the front of the machine. B represents the hollow body of the machine, or thrashing-chamber, within which the cylinder C rotates. D indicates the feeding-opening in front of the machine. E represents the air-recess or concave chamber, extending transversely across the front of the cylinder-chamber B and opening into the same. This air-chamber is constructed either above or below the feed-opening D, according to the character of the machine.

In Fig. 1 of the drawings, representing an overshot-machine, the air-chamber is located below the feed-opening. In an undershot-machine it is located above said opening, as indicated in Fig. 2. In either case the air-guide is a curved concave wall or plate, *z*, gradually shelving to the wall of the encasement above or below, curving in a line concentric, or nearly so, except in front, with the cylinder, and in front bellying out to form a recess, E, and terminating in a guide-lip or marginal portion, G, bordering on the feed-opening. This guide-lip or marginal portion is directed rearwardly and obliquely, up or down, according to the character of the machine, in a plane not exactly tangent to the cylinder, but a little off from its surface, as indicated in dotted lines in the drawings, so as to escape the dead-air which is carried around by the cylinder close to its surface. The direction of this guide is, therefore, into the throat H, near the surface of the cylinder. By means of this air-guide the wind and dust from the machine, which would otherwise fly in the face of the feeder, are turned and directed backward obliquely into the throat and through the machine, to be discharged at the rear. The current of wind assists in turning the cylinder, and a suction is set up in the throat H, which causes the machine to feed with ease. It can, therefore, be run with less power, comparatively, than a similar machine constructed without the air-chamber.

We are aware that it is not new to construct an air-trap in the front of an undershot-machine, the lip of which is directed in such a manner as to intersect the cylinder. Hence we do not broadly claim an air-chamber in the front of such a machine, which, we have found, will not answer the purposes referred to in the premises, unless curved and directed into the throat of the machine a little off from the surface of the cylinder, as hereinbefore described.

Were the deflector angular in cross-section, besides the objection that dust, straw, and other matters would settle in the angles, this form would be further objectionable in offering greater resistance to the air-current, and

creating eddies, which would tend to consume the motive power and defeat the object aimed at—namely, to draw away the dust from the mouth; while, if the guide-lip G were directed too much toward the cylinder—that is, making a line which would fall within its circumference—the air-current would rebound from the cylinder and be thrown outward, carrying the dust out of the feed-opening; while, if the lip G were directed in a line falling outside the sweep of the teeth, the dust would fall beyond the control of the cylinder.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, with a thrashing-cylinder, of the curved deflector *z*, extending across the front of the machine, and having its marginal portion formed into a guide-lip, G, directed rearwardly and obliquely into the thrashing-throat, a little off from the surface of the cylinder and within the sweep of the teeth, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

HENRY KURTZ.
EPHRAIM KURTZ.

Witnesses:
L. G. EILENBERGER,
GEORGE SHOEMAKER.