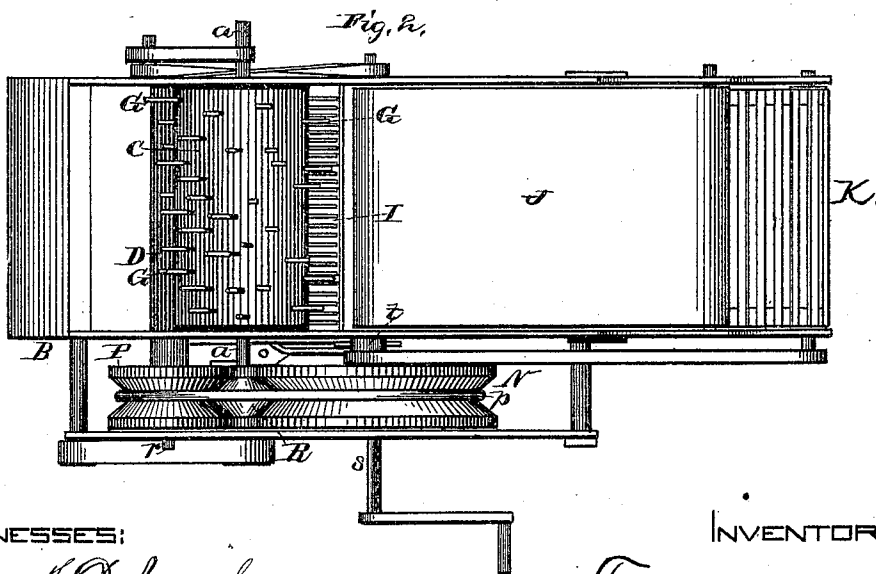
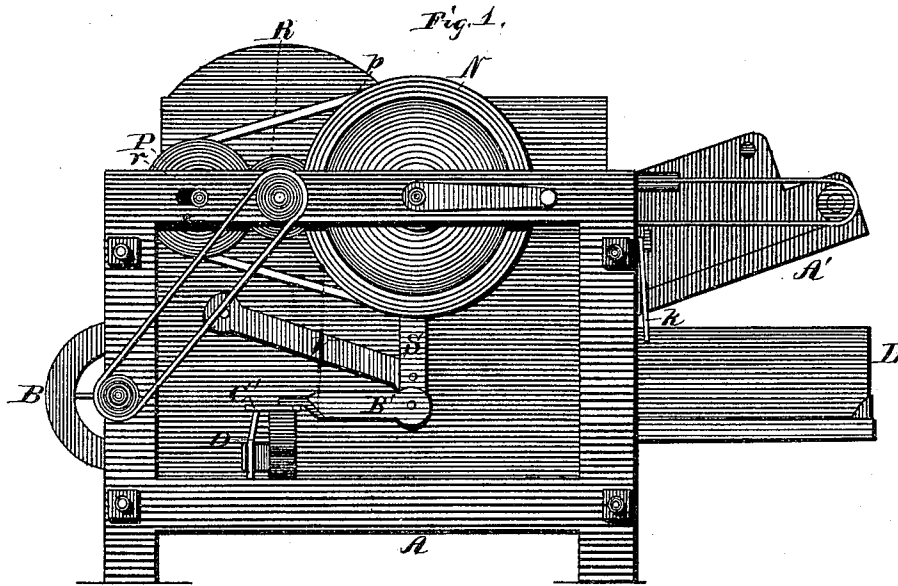


F. OSER.
THRASHING-MACHINE.

No. 174,843.

Patented March 14, 1876.



WITNESSES:

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Thomas. Byrne.

INVENTOR:

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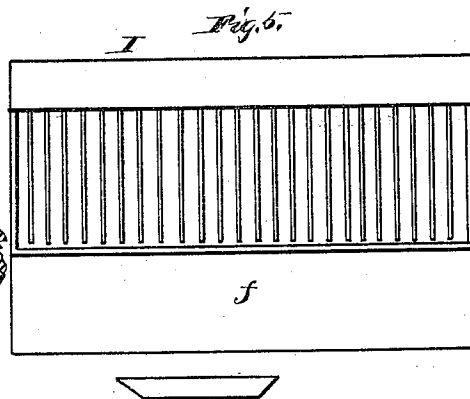
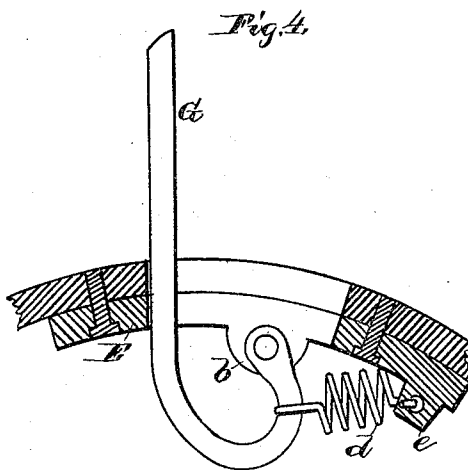
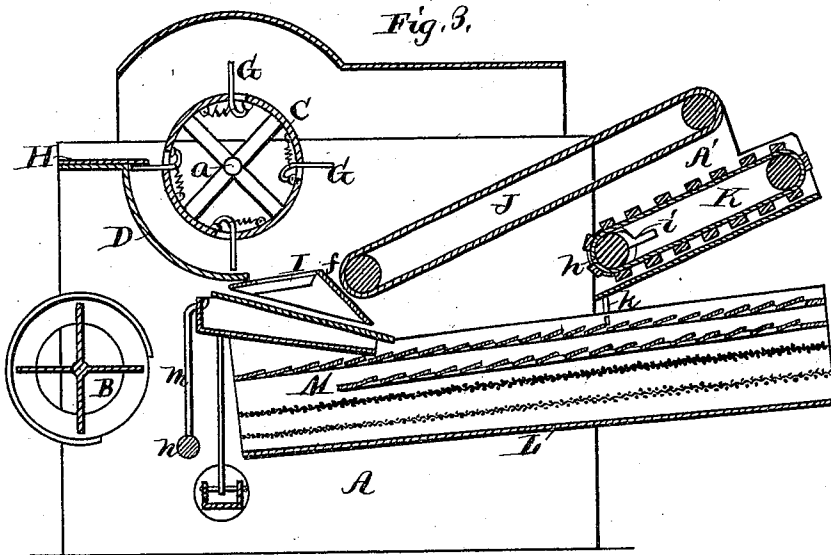
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Fig. 6.

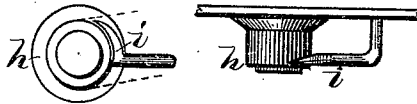
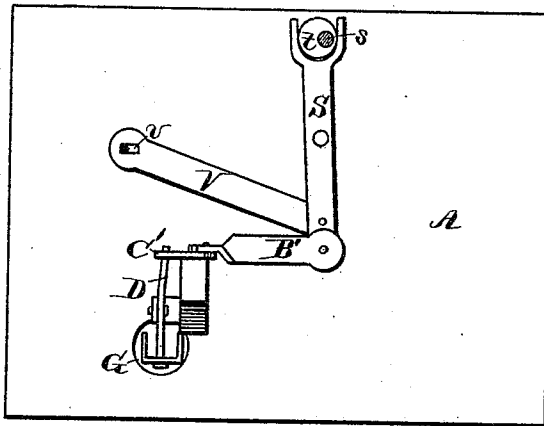


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRIDOLIN OSER, OF WHEELING, WEST VIRGINIA.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. **174,843**, dated March 14, 1876; application filed September 24, 1875.

To all whom it may concern:

Be it known that I, FRIDOLIN OSER, of Wheeling, county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Thrashing-Machines, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a thrashing-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my invention. Fig. 2 is top view. Fig. 3 is a longitudinal vertical section. Fig. 4 is a cross-section of part of the cylinder, showing a flail and its manner of attachment. Fig. 5 is a plan view of screen. Fig. 6 shows pulley and cutting-arm *i*. Fig. 7 shows reciprocating gearing.

A represents the frame of the thrashing-machine, constructed in any suitable manner to contain the working parts of the machine. At one end of the frame A is the fan B, constructed in any of the known and usual ways. C is the thrashing-cylinder, with concave D underneath. The cylinder C is hollow, and secured, by means of suitable arms, to a center shaft, *a*, and it is provided with a series of flails, G G, each projecting from the inside through slots in the cylinder, made for that purpose. The inner end of each flail G is curved, as shown, and pivoted between two ears, *b b*, projecting from a curved and slotted casting, E, attached to the inside of the cylinder; or these projections may be formed directly on the interior of the cylinder, and no additional castings used. Each flail is held down to its place by means of a spiral or other spring, *d*, connecting its inner curved end with a lug, *e*, at the upper end of the casting E. At the upper end of the concave D is attached a rubber strip, H, which extends a suitable distance inward beyond the edge of the concave; and the flails are made of such length as to strike said rubber strip during the revolution of the cylinder, but not to come in contact with the concave itself.

It will thus be seen that the yielding flails strike a yielding surface, thereby preventing all liability of crushing any grain between them. The strip or apron H may be of any suitable elastic material, and the parts should be so arranged that the flails will barely clear it, striking it only through the medium of the grain fed over it to the machine. At the inner end of the concave is a screen, I, with an inclined plate, *f*, at its forward edge. The screen I is composed of a series of parallel bars, having their ends beveled, as shown, and leaving a small space between them and the plate *f*, thereby permitting the straw to pass freely off the ends of the bars of the screen and not gather and clog. The straw passes onto an endless cloth carrier, J, below the outer end of which is another endless carrier, K, composed of slats and extending beyond the cloth carrier J. The carrier K, as well as the roller at the outer end of the carrier J, is placed in a frame, A', hinged to the main frame A, so that the proper inclination may be given to the carriers. In a full-sized machine the roller of the carrier J in the hinged frame A' is to be adjusted by set-screws or other suitable means so as to give the proper tension to the carrier J at whatever inclination it may be placed. The hinged frame A' may be thrown up on top of the main frame A for transportation, and when not in use, so as to take up less room. The lower or inner end of the carrier K passes around flanged pulleys *h h*. Each of these pulleys has at its inner end an arm, *i*, attached to the frame, the end of said arm being formed with a sharp or cutting edge, close to the pulley, so as to cut any straw that might fall down through the carrier, and thus prevent it from clogging the machine. The loose grain passes down onto screens M, arranged in any of the known and usual ways in the shoe L, which is suspended near the outer end by hooks *k k*, and supported at the inner end by arms or rods *m m*, from a rocking shaft, *n*. One of the hooks *k* is made longer than the other. Both are attached to the frame A at the same elevation, thus causing one side of the after end of the shoe to hang lower than the other. This causes a slight side or shaking motion consequent up-

on the forward and backward movement of the shoe.

The various parts of the machine are operated by the following means: N represents a driving-wheel, mounted upon a shaft having a crank, O, upon its outer end for turning the same. This wheel N is formed with a circumferential V-shaped groove, in which is placed a belt, *p*, connecting the same with a similar pulley, P, mounted upon a shaft, *r*, placed in slots in the frame, so that the belt *p* will draw the pulley P toward the wheel N, and wind the two on a V-shaped pulley, R, placed on the shaft *a* of the thrashing-cylinder. This end of the shaft *a* is also placed in slots in the frame so as to be drawn toward the main wheel N, and thus insure proper friction for operating the cylinder. On the shaft *s* of the driving-wheel N is an eccentric, *t*, which works in the crotched end of a lever, S, pivoted to the side of the main frame A. The lower end of the lever S is, by a bar, V, connected with an arm, *v*, projecting from the inner end of the shoe L through a slot in the side of the frame, whereby said shoe obtains a forward and backward motion. The lower end of the lever R is also, by means of a bar, B', elbow-lever C', and pivoted bar or lever D', connected with a spout, G', into which the grain falls from the screens M, and by means of the devices just described said spout obtains a shaking motion, so as to discharge the grain through the side of the machine.

The fan and straw-carriers are run by means of belts passing around suitable pulleys on

the various shafts and obtaining their motion from the cylinder-shaft.

During the operation of the machine, the straw, chaff, &c., are blown out of the machine by the blast from the fan B.

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

1. In combination with a thrashing-machine cylinder, the slotted casting E, attached to the inside of the cylinder, having the lugs *e* and *b*, spring *d*, and curved flail G, substantially as shown and described.

2. In a thrashing-machine, the combination of a revolving cylinder, provided with a series of yielding flails, and an elastic apron, over which the grain is fed to the cylinder, substantially as and for the purposes herein set forth.

3. The arms *i*, formed with cutting-edges, in combination with the pulleys *k k* and endless-slat carrier K, substantially as and for the purposes herein set forth.

4. The combination of the driving shaft *s*, with eccentric *t*, the crotched lever S, bar V, shoe L, connections B' C' D', and spout G', all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 22d day of September, 1875.

FRIDOLIN OSER.

Witnesses:

H. B. BROWN,
THOMAS BYRNE.