(159.)

J. S. KELLER & I. L. STONER.

Improvement in Threshing Machines.

No. 122,726. Patented Jan. 16, 1872.

Fig. 1.

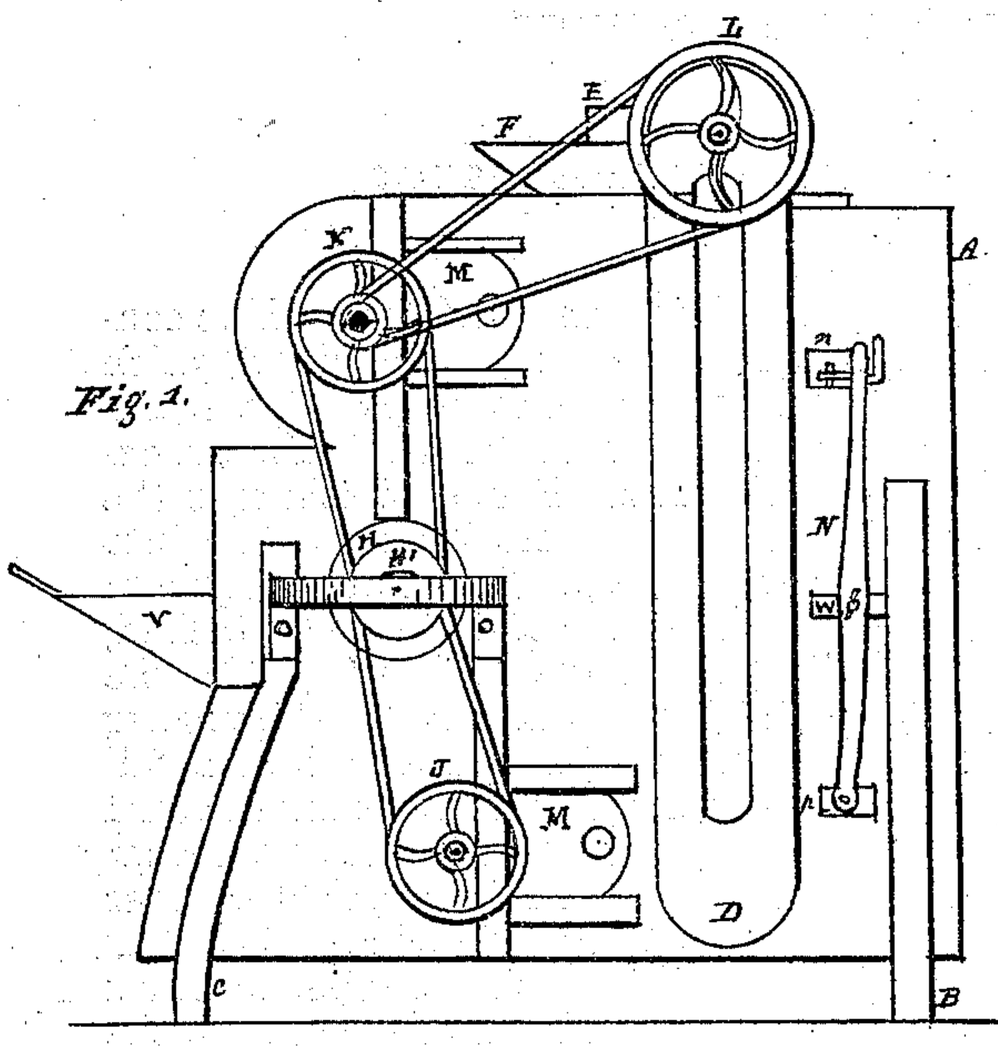


Fig. 2.

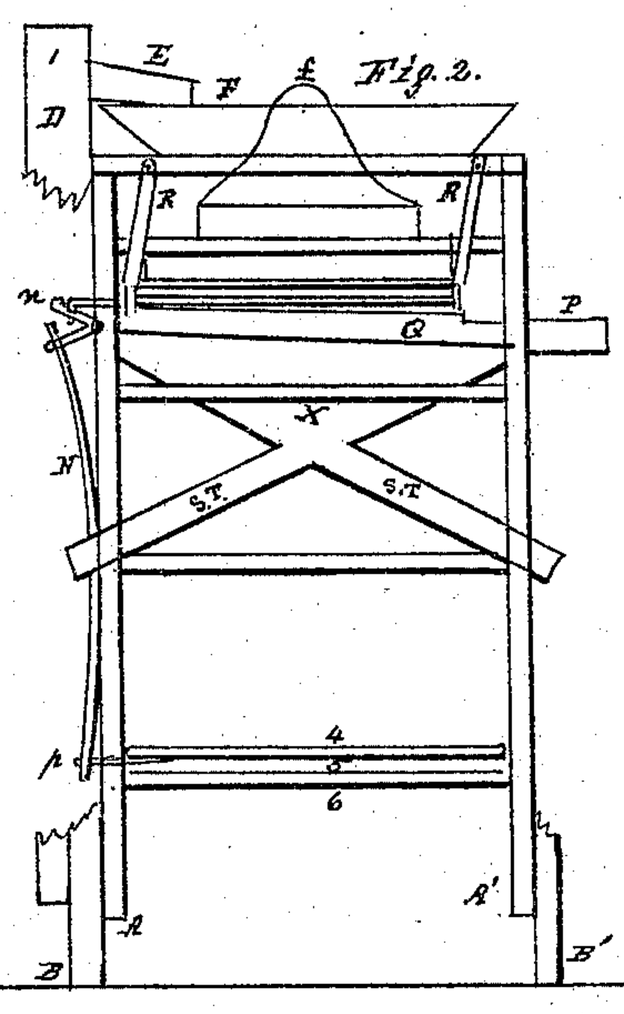


Fig. 4.

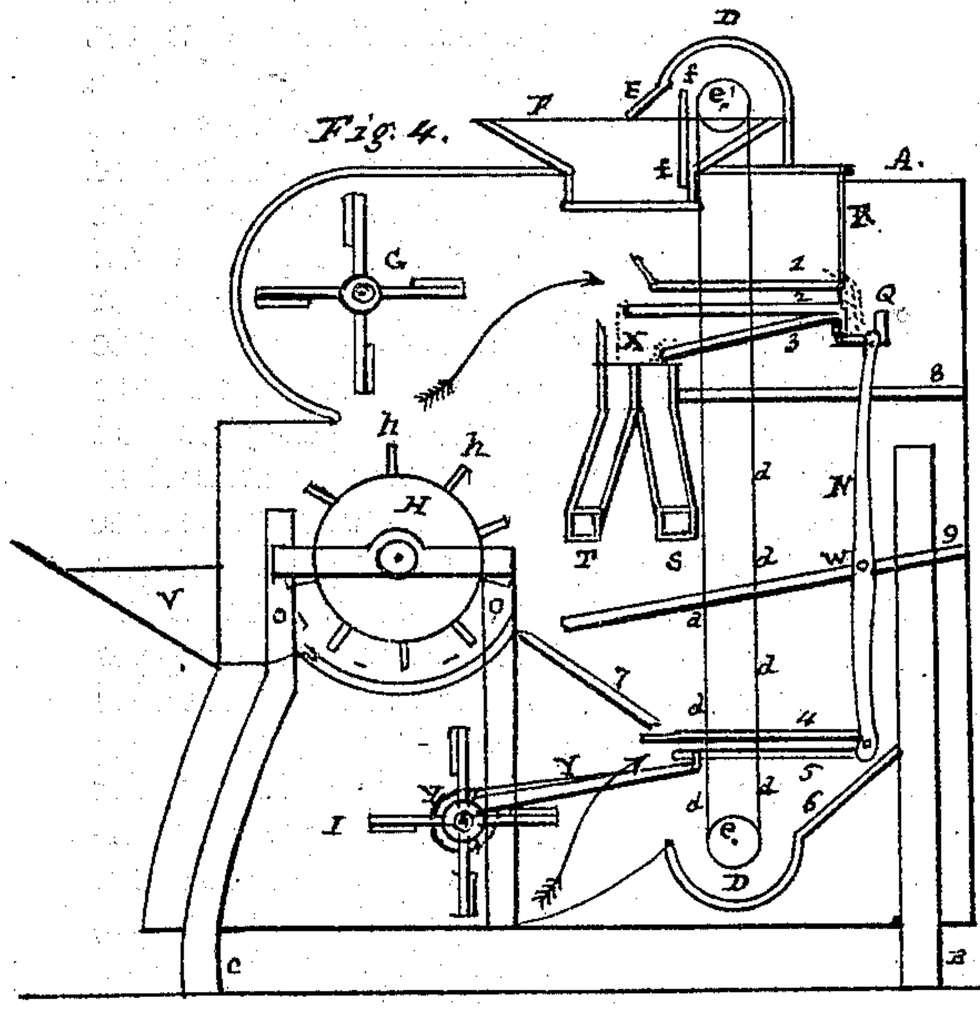
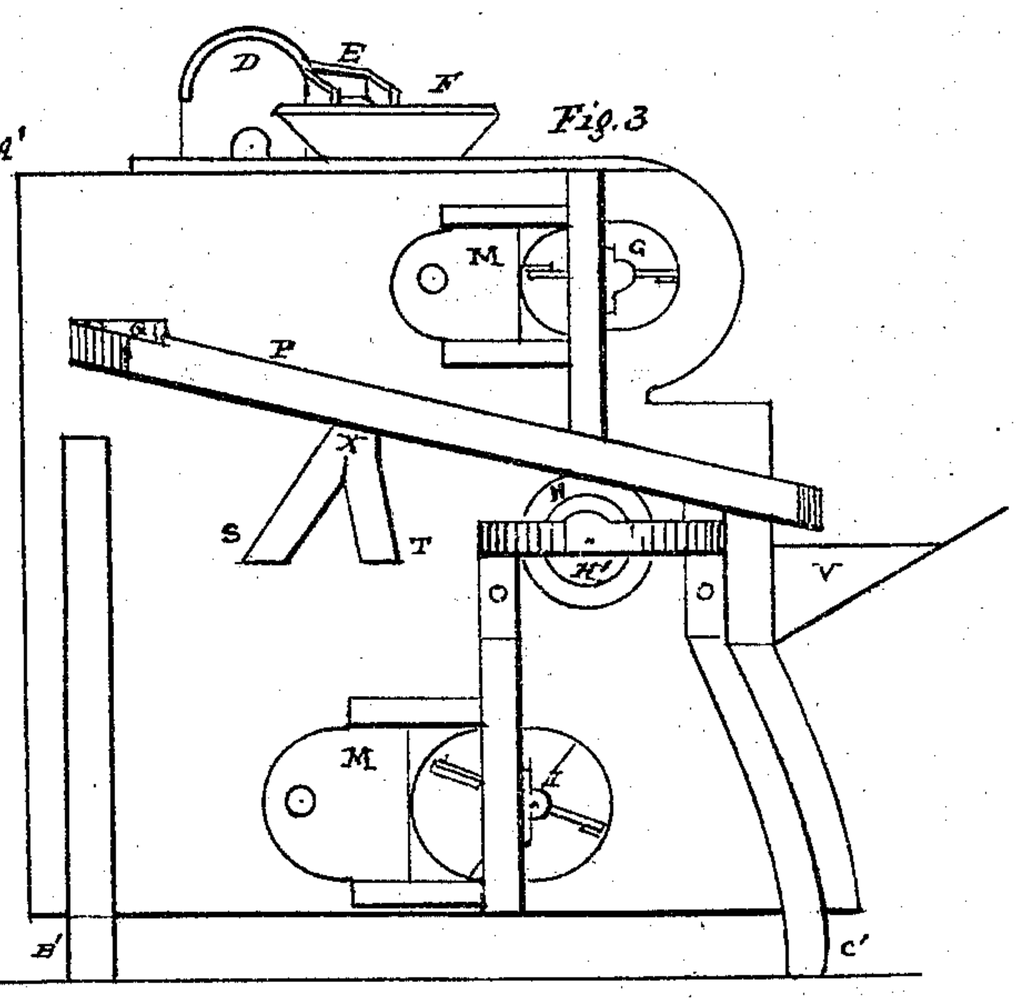


Fig. 3



Witnesses.

G. Albert Kemper

Jacob Kemper

Inventors.

Jacob S. Keller

Isaac L. Stoner

122,726

UNITED STATES PATENT OFFICE.

JACOB S. KELLER AND ISAAC L. STONER, OF EPHRATA TOWNSHIP, PA.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. 122,726, dated January 16, 1872.

WE, JACOB S. KELLER and ISAAC L. STONER, of the township of Ephrata, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Combined Thrashing-Machines and Separators, of which the following is a specification:

Our invention has for its object the arrangement of two fans so that one is directly under the spiked cylinder and the other over it to expel the chaff first, and to carry the white-heads and grain up by side elevators into a hopper, and subjected to a blast and shaking process so arranged as to separate the white-heads or unthrashed ears of grain, and by simple gravity to convey them to the thrashing-cylinder, while the broken grains and other impurities are again separated from the full grains and each kind conveyed outside of the machine directly into bags suspended to the spouts for the purpose to receive the same.

The accompanying drawing illustrates our arrangement, in which Figure 1 is a side view of the machine, showing the straps, pulleys, elevators, and appliances. Fig. 2 is a rear view of the same. Fig. 3 shows the side opposite to that shown by Fig. 1, to show the trough and outside spouts. Fig. 4 is an elevation or plan of the interior arrangement of the machine.

The same letters refer to the same parts in the drawing.

The arrangement of the fans G and I in relation to the spiked cylinder H centrally between them is shown. The straw is conveyed up by a carrier, not shown in the drawing, passing through the partition 8 and 9, Fig. 4, the grain, chaff, and white-heads passing down over 7 onto the sieve, and screen 4 5 subjected to a blast from the fan I. The chaff is blown out under 9 and the straw-carrier. The white-heads and grains find their way to the bottom of the elevators D by means of an inclined trough or ordinary conveyer. The ordinary elevator-cups carry them up to the top of the machine by a spout, E. The grain and heads are discharged into a hopper, F, from which they fall, through a trap opening to the rear, onto a sieve or shoe, 1, which receives a horizontal shaking motion crosswise, by means of an elbowed connection, *n*, with the shaking-rod N, which latter is held by a pivot, centrally in W. The lower end of this rod N is connected with the lower shoe or sieves 4 5, which are actuated lengthwise by means of an eccentric (around the shaft of the fan I) and its extended arm Y. This shaking discharges the unthrashed ears over the hind end of 1 into an inclined trough, Q. This trough leads to the side trough or spout P, being detached, however, so as to have the swing with the shoe, with which it is connected. The smaller or broken grain and the cockle or the like fall through sieve or screen 2 on the inclined board 3, from which it falls into the rear of chamber X or spout S, while the full grains drop over the sieve 2 into the front of said chamber X or spout T, while at the same time the materials are being separated they are subjected to the blast of the upper fan G to blow off all chaff or dust that may have become detached or not thoroughly removed by the lower fan I. The separated ears or white-heads pass down the inclined plane or trough P, and are returned to the cylinder H for being again subjected to the thrashing process. Thus all the grains will be thoroughly thrashed out. The double or partitioned spout from X may be carried to one side of the machine and branched off into separate spouts S T, or from the center carried to both sides of the machine and branched in like mannner. To the mouth of these branches bags may be suspended to receive the full and perfect grains of wheat, and the broken or impure portions in separate bags. The upper shoe is suspended on hangers R R attached to top cross-piece, so as to allow it to swing from side to side. There is a slide-door, *f*, for closing the trap-opening in the hopper, in order to stop off in time to prevent the material passing through after the blast is slackened, when about stopping the machine. The slides M are to regulate the amount of draught to the fans in the ordinary manner.

The straw-conveyer experimented with was one of the ordinary kind. We contemplate an improvement not yet thoroughly tested, but it forms no part of this application.

We are aware that there is no novelty in the use of two fans and double shoes, nor in elevators independently considered; nor do we claim such apart from our arrangement of the combined action or process. We are not aware

of elevators being used to convey the grain and white-heads into a hopper for the purpose of making three distinct separations in such a manner as to return the unthrashed ears to the action of the spiked cylinder by means of a simple trough-connection, and to collect in bags the separation of grain in the manner shown.

What we deem to be novel is the trough Q on the rear of the upper shoe, in combination with the side trough P, as also the partitioned chamber X or double-spout connection S T; the arrangement of the eccentric and connection Y with the lower shoe and rocking-shaft or lever N to the upper shoe and elbowed lever N, to produce a twofold motion in the respective shoes, so that one is moved from side to side crosswise and the other lengthwise. Therefore,

What we claim as our invention is—

1. In a machine for thrashing grain, constructed substantially as described, the double chamber X and spouts S and T, combined and arranged as and for the purpose set forth.

2. The thrashing-machine herein described, consisting substantially of the cylinder H, fans G I, shoes 1 2 and 4 5, troughs P and Q, elevator D, chamber X, spouts S T, and rock-shaft N, and the actuating devices, all arranged as and for the purpose described and set forth.

JACOB S. KELLER.
ISAAC L. STONER.

Witnesses:
G. ALBERT KEMPER,
JACOB KEMPER.

(159)