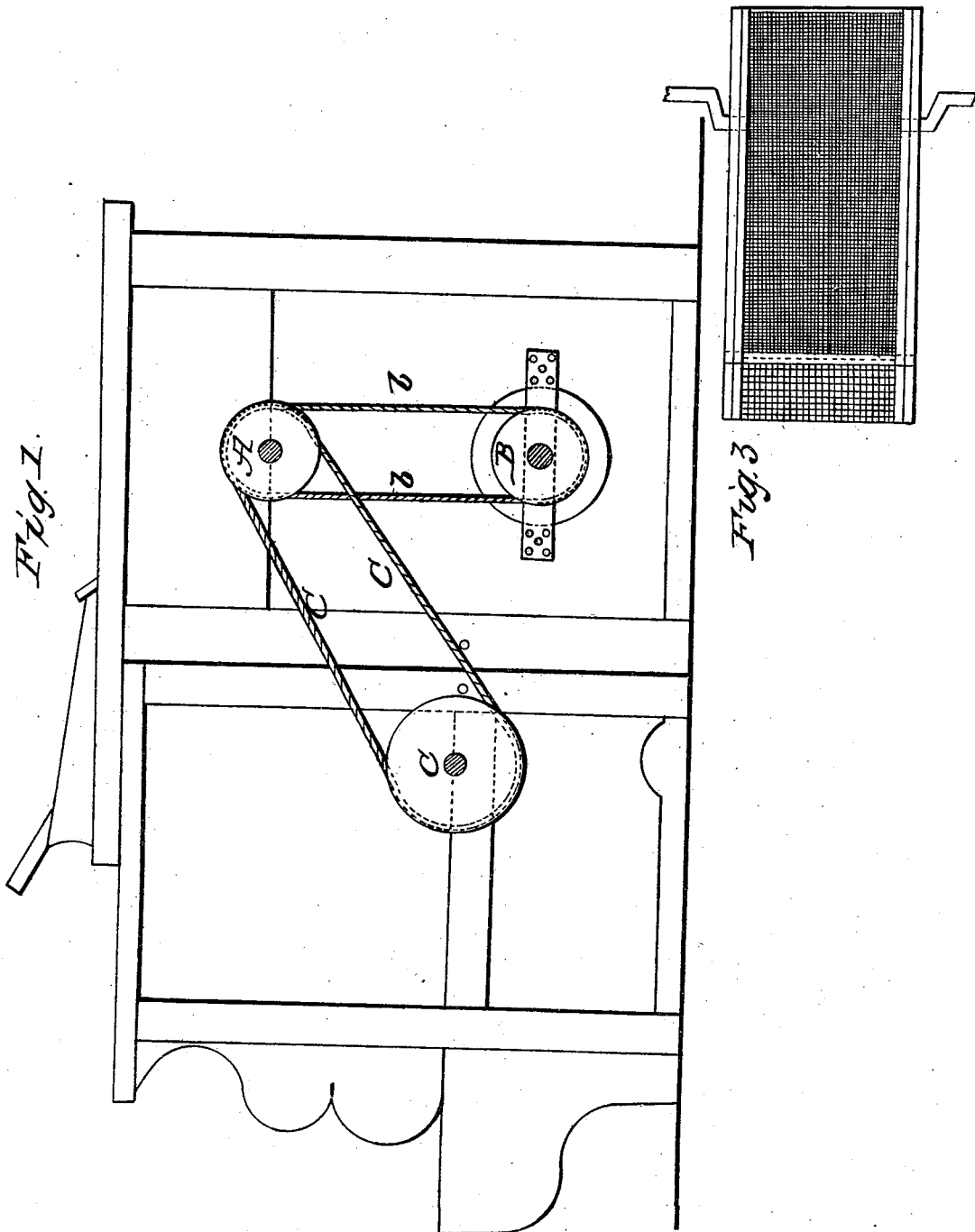


GROVER & GILLIFORD.
Thrashing Machine.

2 Sheets—Sheet 1.

No. 5,411.

Patented Jan. 12, 1848.

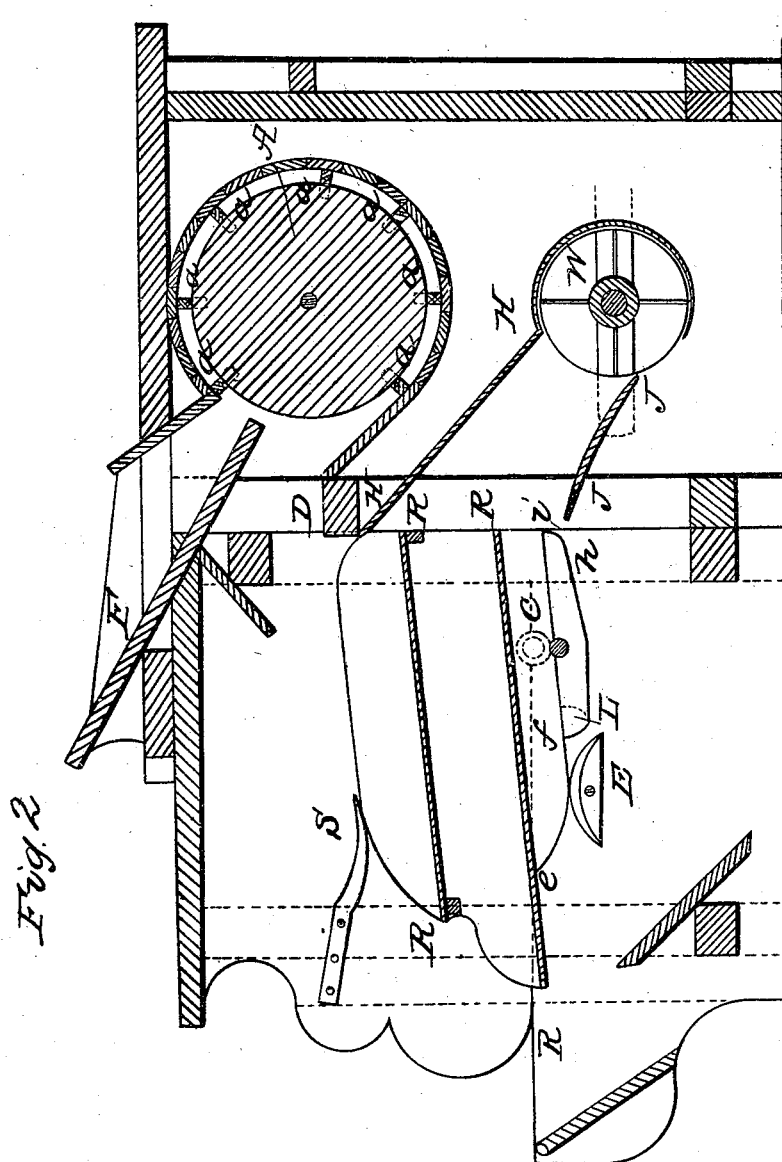


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Patented Jan. 12, 1848.



UNITED STATES PATENT OFFICE.

ELIAS GRUVER AND JOHN GILLIFORD, OF JUNIATA COUNTY, PENNSYLVANIA.

MACHINE FOR THRESHING AND CLEANING CLOVER-SEED.

Specification of Letters Patent No. 5,411, dated January 12, 1848.

To all whom it may concern:

Be it known that we, ELIAS GRUVER and JOHN GILLIFORD, of Juniata county, State of Pennsylvania, have invented a new and useful Improvement on Machines for Threshing and Cleaning Clover-Seed, Wheat, Rye, Oats, and other Grain; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents an exterior view of the machine. Fig. 2 a longitudinal section, and Fig. 3 a top view of the riddles of the cleaner, with the crank, by which they are worked.

The arrangement and relative position of the general parts of the machine are represented by Fig. 2, in which A is the huller, made in the ordinary form as in other machines now in common use; F being the feeding and D the discharging mouth of the huller, and *a* the teeth of the huller set in rows. R R R R are the riddles of the cleaner, set in a frame, which is placed, as in the diagram, just under the discharging mouth of the huller, D, to receive the grain or seed as it is discharged from the huller. W is a fan wheel placed under the huller, with guide boards, H H and I I, to conduct the current of air to the riddles.

In Fig. 1 A is a drum attached to the shaft of the huller; B is a drum attached to the shaft of the fan; and C is a drum attached to the crank of the cleaner; *b b* and *c c* are bands by which the motive power is communicated from A to B and C, respectively.

The riddles, two or more, of which Fig. 3 is a top view, are set in a frame as at R R R R, in Fig. 2. A double crank, such as is represented in Fig. 3, passes under the riddles, nearer the receiving than the discharging end of the riddle frame, as at C in Fig.

2. The under side of the riddle frame is represented by the irregular line *e f g h*, or it may be made as represented by the line *e f i*, with an iron strap passing under the crank C, holding it in place, and a knob, or projection, made of durable wood or metal, placed as at L.

S is an elastic spring made of durable wood, or metal, fastened one to each side of the frame of the machine above the discharging end of the riddle frame. E is a block, made of durable wood or metal, rounded on the upper side, and fastened one to each side of the frame of the machine, so that the discharging end of the riddle frame, when not in motion, rests upon them, as in the diagram. As the crank C, revolves, the knob L strikes against the block E with such force as to throw the discharging end of the riddle frame upward, with a sudden jar, upon the spring S, which reacts and throws the riddle frame back upon the block E. The effect is to produce, besides the reciprocal horizontal and perpendicular motion of the crank, a vibratory motion of the riddle frame between the block E and the spring S, aided by a jar, which shakes the grain, or seed, and chaff within the riddles, giving greater power to the wind from the fan, in separating the chaff from the seed or grain, and promoting, in a very great degree, the efficacy of the process of cleaning.

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

The combination and arrangement of the crank, *c*, the knob, L, the blocks, E, and the springs, S, in the cleaner, as hereinbefore described.

ELIAS GRUVER.
JOHN GILLIFORD.

Witnesses:

JAMES B. HOWELL,
JOHN D. HOWELL.