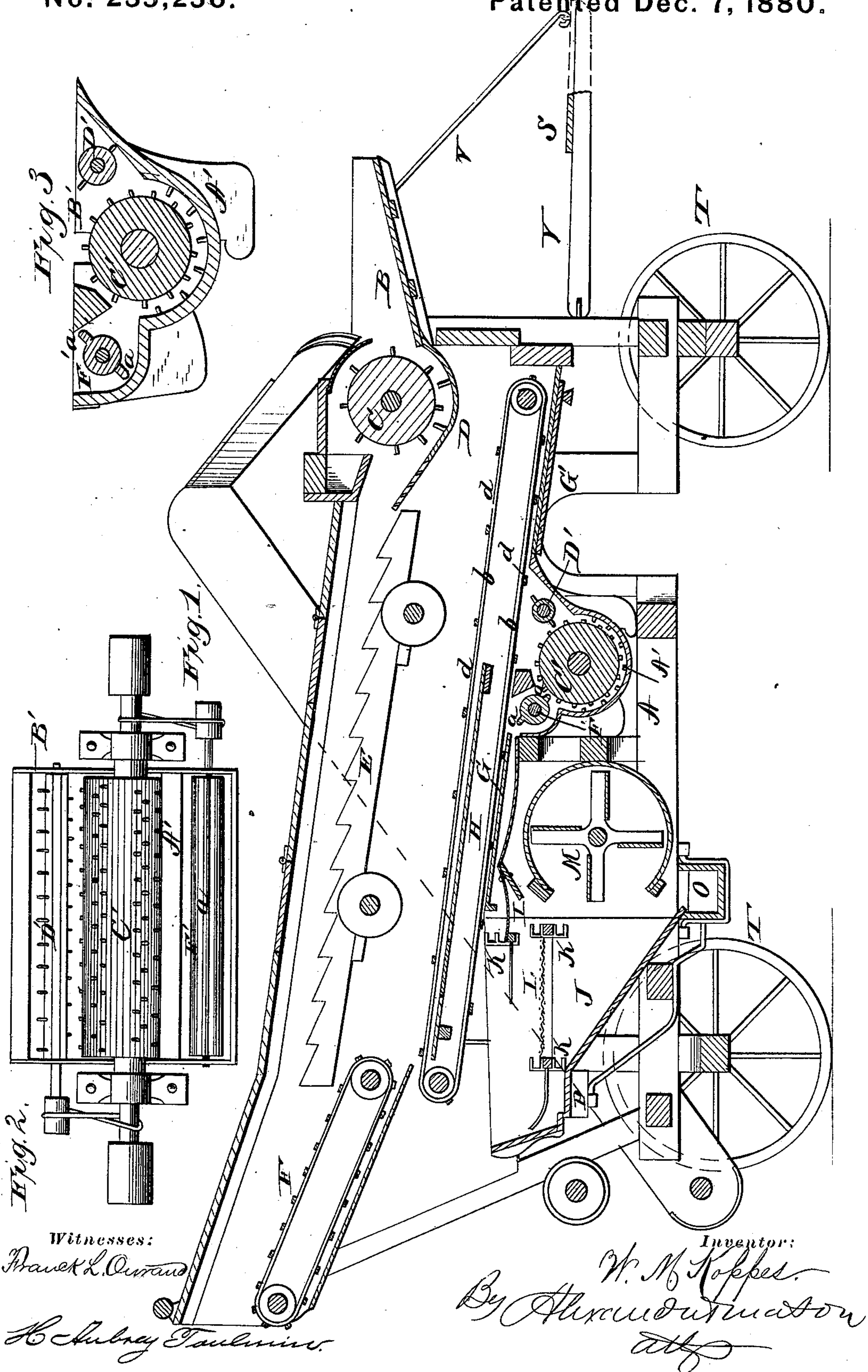


W. M. KOPPES.
 Thrashing Machine and Clover Huller.
 No. 235,256. Patented Dec. 7, 1880.



Witnesses:
 Frank L. Ostrum
 H. Aubrey Taylor.

Inventor:
 W. M. Koppes.
 By *Thurmond Watson*
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UNITED STATES PATENT OFFICE.

WILLIAM M. KOPPES, OF ORRVILLE, OHIO.

THRASHING-MACHINE AND CLOVER-HULLER.

SPECIFICATION forming part of Letters Patent No. 235,256, dated December 7, 1880.

Application filed January 30, 1880.

To all whom it may concern:

Be it known that I, WILLIAM M. KOPPES, of Orrville, in the county of Wayne, and in the State of Ohio, have invented certain new and useful Improvements in Combined Thrashing-Machine and Clover-Huller; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a clover-hulling attachment for thrashing-machines, 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, in which—

Figure 1 is a longitudinal vertical section of a thrashing-machine embodying my invention. Fig. 2 is an enlarged plan view, and Fig. 3 an enlarged cross-section, of the clover-hulling attachment.

The thrashing-machine is the same as described in a separate application for patent made by me; and it consists of a frame, A, mounted on wheels T, feed-table B, cylinder C, concave D, rakes E, straw-carrier F, grain-carrier *b d*, inclined boards H G, fan M, separator-frame J, with conductor I, screen L, racks K, spouts O P, elevator R, platform S, arms V, and rods W.

The inclined board G is provided with a slide, G', behind the fan M, and directly over a space in the main frame A, where the clover-hulling attachment is to be inserted. This attachment consists of a spiked or toothed concave, A', attached to suitable end pieces, B', and adapted to be inserted from one side in the space behind the fan in the thrashing-machine frame A.

Within the concave A' is a revolving toothed or spiked cylinder, C', having its journal-bearings in suitable boxes attached to the side pieces, B'.

On one side of the cylinder is a roller, D', with two or more rows of teeth or spikes, and on the other side is another roller, F', provided with two or more longitudinal flanges, *a a*. Both the rollers are rotated by means of cords or belts from the journals of the cylinder.

After the clover-heads have fallen down on the lower portion of the inclined board G the carrier *b d* conveys them to the concave A', where they are hulled by the action of the roller D' and cylinder C' in connection with the concave. As the hulls and seed emerge on the other side of the cylinder the flanged roller or flipper F *a* throws them onto the upper portion of the board G, and the carrier *b d* conveys them to the separator, where the wind-blast blows out the empty hulls, chaff, &c., the seed passing through and are discharged at one side of the machine, while the full heads are returned by the elevator to the machine to go through the same again.

I place importance upon the construction of the board G and slide G', allowing the clover-huller to be used or not as required, and to the clover-huller consisting of the main toothed roll, the smaller toothed roll, and the longitudinally-flanged roll, arranged as shown in relation to the board G, slide G', carrier *b d*, and concave A'.

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

In a combined clover-huller and thrashing-machine, the inclined board G and slide G' and carrier *b d*, the concave A', the toothed roller D', main toothed roller C', the roller F, having longitudinal flanges, and operating mechanism, as herein specified, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of January, 1880.

WILLIAM M. KOPPES.

Witnesses:

C. L. EVERT,
H. J. ENNIS.