2 Sheets--Sheet 1.

W. M. KOPPES.

Grain-Separator.

No. 160,105. Patented Feb. 23, 1875.

Fig. 1.

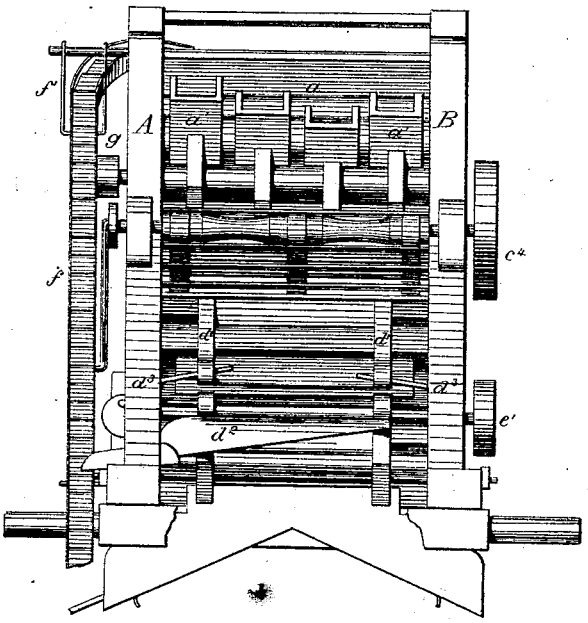
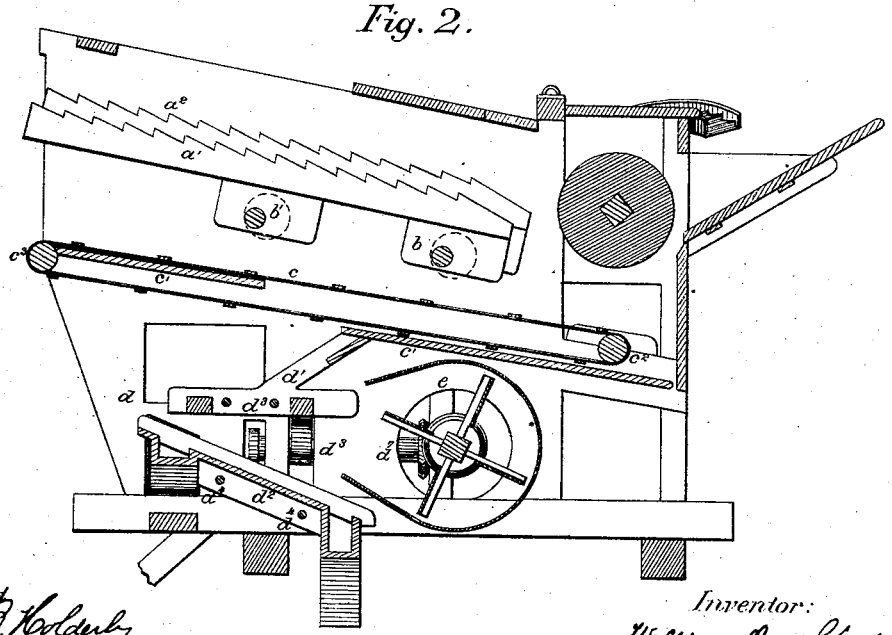


Fig. 2.



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per R. S. & A. P. Lacey
attys

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2 Sheets--Sheet 2.

W. M. KOPPES.
Grain-Separator.

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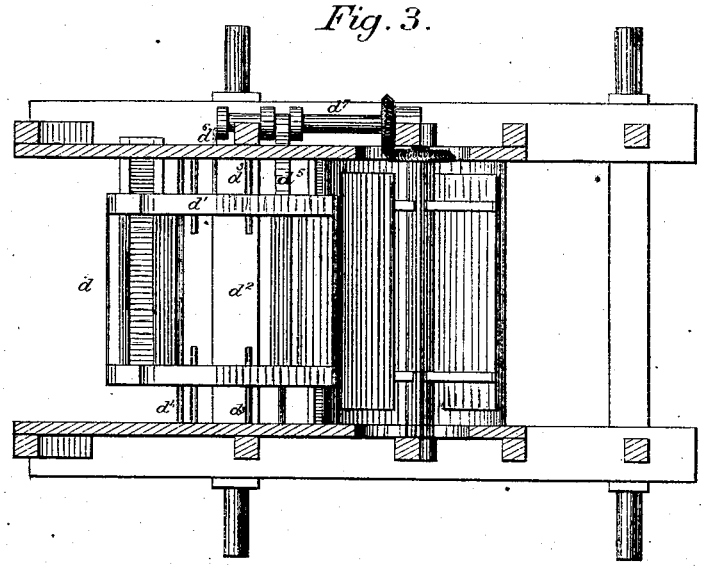
Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM M. KOPPES, OF SEVILLE, OHIO.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **160,105**, dated February 23, 1875; application filed November 9, 1874.

To all whom it may concern:

Be it known that I, WILLIAM M. KOPPES, of Seville, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in grain-separators. It consists in upwardly-inclined bearing-rods attached to the frame of the separator, and which support the sieve-box, and which are so arranged as to impart to the vibrations of said sieve-box an undulatory motion, as hereinafter fully explained.

In the drawings, Figure 1 is a rear end view, Fig. 2 a vertical longitudinal sectional view, and Fig. 3 a horizontal sectional view, of the separator with my improvements attached.

d is the sieve-box. It is constructed in two parts, d^1 d^2. The upper part or shaker, d^1, is supported by and vibrates on the bearing-rods hereinafter described. d^3 are the upwardly-inclined bearing-rods. Their outer ends are fastened to the frame or side of the separator. They incline upward from their fastenings on the frame, and pass through mortises formed in the side slats or bars of the sieve-box. They support the shaker d^1 in my separator, (but would support the entire sieve-box when constructed with the several parts united in one,) the latter being adjusted so as to slide freely back and forth on them. By reason of their upward inclination they give to the shaker d^1 (or to the entire sieve-box when constructed together) an undulatory or pitching movement, which movement greatly facilitates the process of separating of the grain from the chaff. The under part d^2 of the sieve-box is supported by and vibrates on the horizontal rods d^4, the latter being attached to the frame of the separator, and so arranged as to give a proper inclination to the box to secure the delivery of the grain into the discharge-trough. The two parts d^1 d^2 are connected to cranks on the axle or shaft d^7 by means of the shaking-rods d^6 d^5. The shaft d^7 is geared to the axle of the fan, the latter being operated by suitable pulleys and belts connecting with the operating machinery of the separator. The cranks on the shaft d^7 are so arranged that they communicate a reverse reciprocal movement to the two parts d^1 d^2 of the sieve-box.

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

The upwardly-inclined bearing-rods d^3 in combination with the shaker d^1, for the purpose set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

WILLIAM M. KOPPES.

Witnesses:

GEORGE H. BORGER,

J. TYLER POWELL.