

J. I. & W. J. METTLER.
CORN-HARVESTER.

No. 177,738.

Patented May 23, 1876.

Fig. 1.

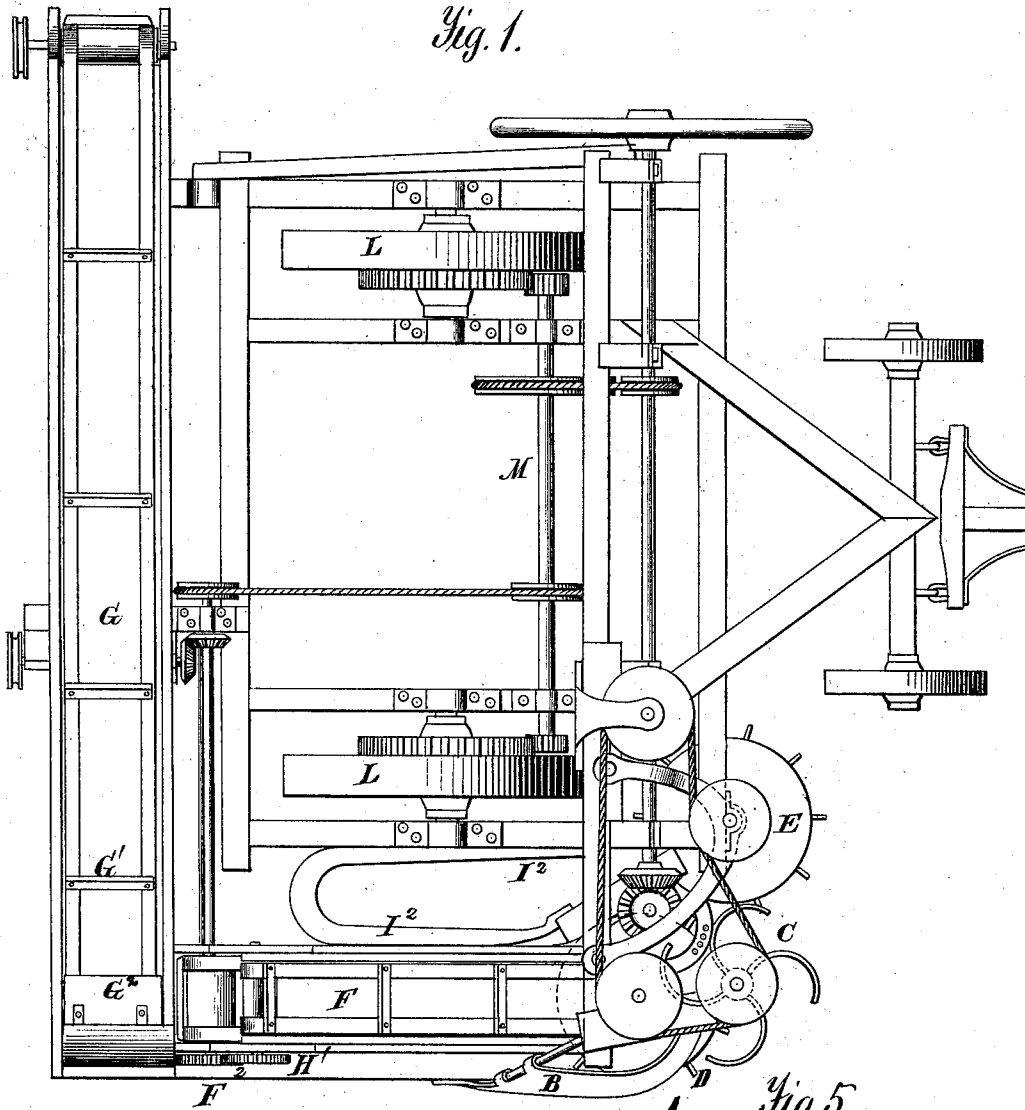


Fig. 4.

Witnesses.
A. Ruppert,
F. D. Kall

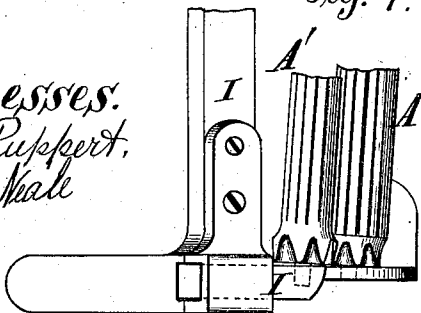
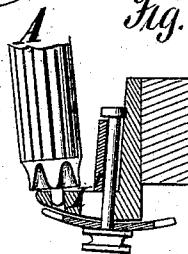


Fig. 5.

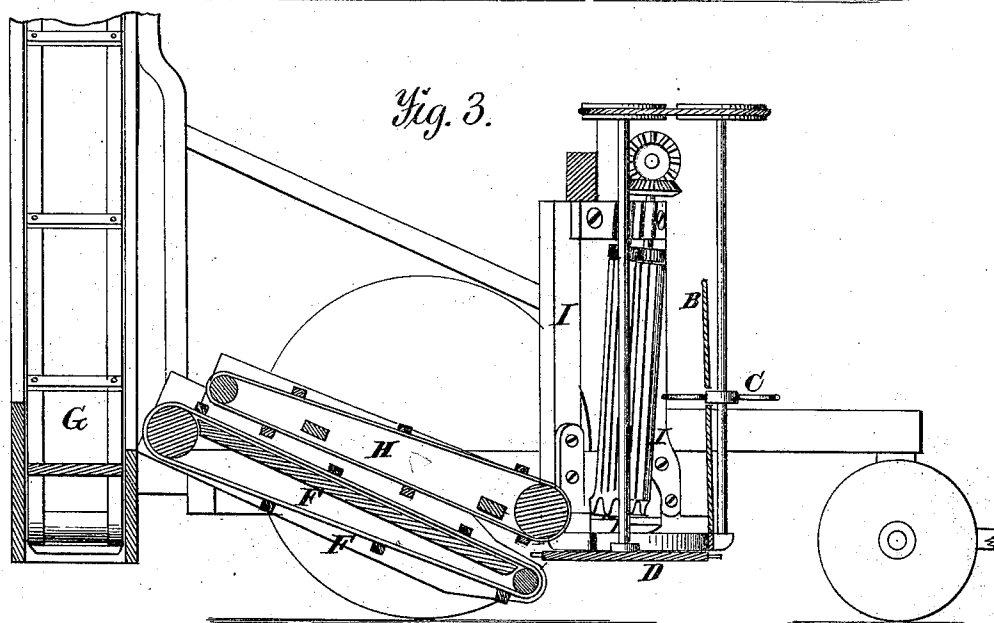
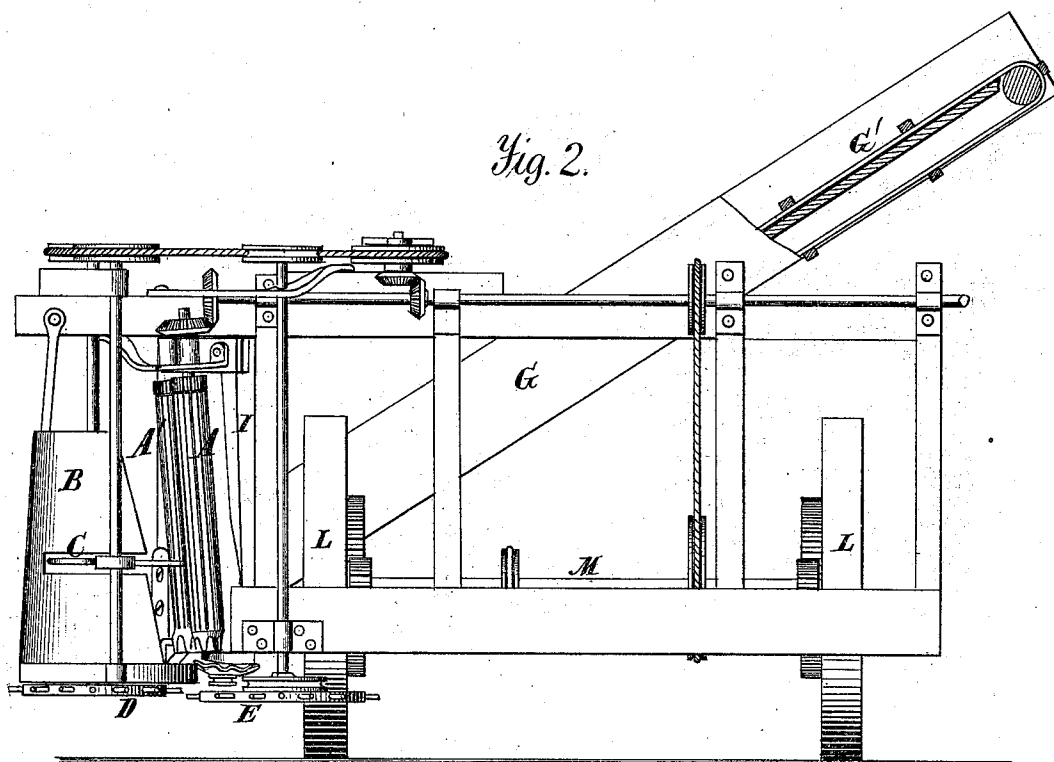


James I. Mettler
Wm. J. Mettler
Inventor.
D. P. Holloway & Co
Atty.

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CORN-HARVESTER.

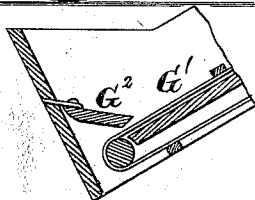
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Witnesses:
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Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES I. METTLER AND WILLIAM J. METTLER, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN CORN-HARVESTERS.

Specification forming part of Letters Patent No. **177,738**, dated May 23, 1876; application filed July 9, 1875.

To all whom it may concern:

Be it known that we, JAMES I. METTLER and WILLIAM J. METTLER, of Mendota, in the county of La Salle and State of Illinois, have invented a new and useful Improvement in Corn-Harvesters, of which the following is a specification:

This invention relates to improvements made in the details of the corn-harvester patented by James I. Mettler on the 4th day of July, A. D. 1871, numbered 116,735, to which said Letters Patent reference is made for a full description of the parts not claimed or particularly described herein.

In the annexed drawings, making a part of this specification, Figure 1 is a plan. Fig. 2 is an elevation, showing the machine as seen from the front. Fig. 3 is a side elevation, partly in section. Fig. 4 is an elevation of part of the frame and rollers. Fig. 5 is another sectional elevation thereof. Fig. 6 is a section of the lower end of the elevator, showing the valve for holding the corn while the cleats on the elevator are not obstructed.

The same letters are employed in all the figures in the indication of identical parts.

In the machine covered by said patent the picking-rolls, instead of being in line with the rows of corn, or at right angles to the row, are placed transversely to the row. In that machine these rolls are vertical. We have found that it is better, also, to have the rolls inclined from the perpendicular, so as to lie across the plane of the standing stalks. We have shown them as inclined at the top over the carrier; but we do not limit our claim to rolls inclined in this manner, as they may be made to incline in the opposite direction. The front roll A is larger than the hind one, A', except at the bottom of the latter, where the diameter is increased for the purpose of more effectually engaging the stalks to pass them between the rolls. This construction is shown in Fig. 4. A shield, B, is placed, as shown, to catch the ears as they fall from the rolls, and direct them upon the carrying mechanism. The spider C turns with a vertical shaft, to which it is attached, and is designed to direct the stalks between the rolls. The rolls are scalloped at the bottom, so as to gather one stalk at a time and direct it between the roll-

ers. A wheel, E, revolved in a direction opposite to the motion of the spider C by means of the arrangement of the driving-belt shown in Fig. 1, assists in guiding the stalks to the rolls. A revolving platform, D, revolving in the same direction as the spider, has also pins on its periphery, to assist in giving proper direction to the stalks. The ears, thrown forward by the rolls, fall upon this platform, and are passed back from it upon an inclined board, around which travels an endless carrier, formed by two parallel belts and cross-pieces, which sweep upward along the face of the board F, and carry up the ears to deliver them upon a similarly-constructed elevator, G. The board and carrier F F' may be used alone, or in combination with another similar endless carrier turning around pulleys on the frame H, which lies over board D, to catch the ears and assist the carrier F'. The carriers receive a uniform motion from the pinions F² H', Fig. 1. The rolls A and A' are stepped upon bearings I' upon the frame I, in such manner that they shall not project through the bearings. A bracket, I², is attached to the main frame. It is U-formed, and is intended to hold securely the bearings of the rolls, so that the latter cannot spread when compressing the stalks.

Where the endless carrier G¹ passes around the lower end of the bottom board of the elevator G, there is an opening necessary to permit the slats to pass, and through this grains of corn would fall or small ears become wedged. To prevent this we place over that hole a flap-valve, G², which will rise to permit a slat to pass up, and immediately fall again to prevent the corn from falling into the opening.

To enable us to use two driving-wheels instead of one, as in said original patent, where it ran immediately behind one of the wheels of the swiveling-carriage, we place the two wheels L L, turning on short axles, having their bearings on the frame at equal distances on each side of the tongue, so as to run between the rows of corn.

What we claim as our invention, as improvements on said patented machine, and desire to secure by Letters Patent, is—

1. The upright picking-rolls, disposed substantially as specified—namely, so as to lean to one side and one in advance of the other,

so that a line passing through their axes will form an obtuse angle with the line of draft or progression of the machine.

2. In combination with the larger advanced roll A, the smaller roll A', having a base of increased diameter, substantially as set forth.

3. In combination, the rolls A A' and the shield B, arranged in relation to one another, substantially as set forth.

4. In combination, the rolls A A', shield B, and spider C, substantially as set forth.

5. In combination with the rolls A A' and spider C, the wheel E, substantially as set forth.

6. The rolls A A', constructed with scallops at the bottom, to gather the stalks singly, substantially as set forth.

7. In combination with the rolls, the revolving platform and carrier, substantially as set forth.

8. In combination with the rolls, the spider, the wheel E, and the revolving platform D, having pins on its periphery, substantially as set forth.

9. In combination with the revolving platform, the board F and endless carrier F¹, substantially as set forth.

10. In combination with the revolving platform, the compound carrier F F¹ H, substantially as set forth.

11. In combination with the rolls and frame I, the U-formed bracket I², substantially as set forth.

12. In combination with the swiveling carriage, the driving-wheels L L, placed so as to run between the rows, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES I. METTLER.
WILLIAM J. METTLER.

Witnesses:

DAVID RUDE,
DANIEL Y. LOWD.