(No Model.)

L. MILLER.

HARVESTER BUTT BOARD.

No. 352,557. Patented Nov. 16, 1886.

Fig. 1.

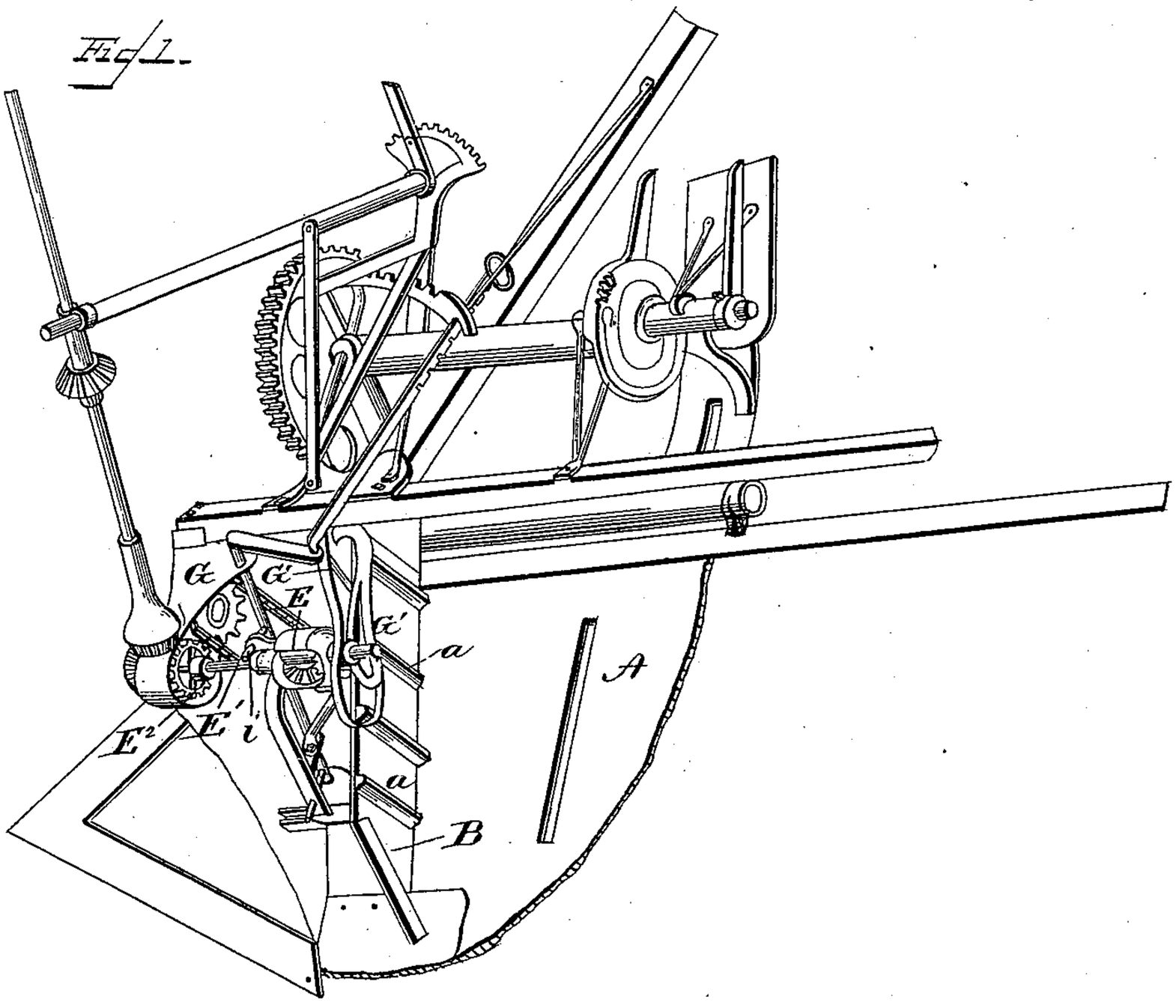
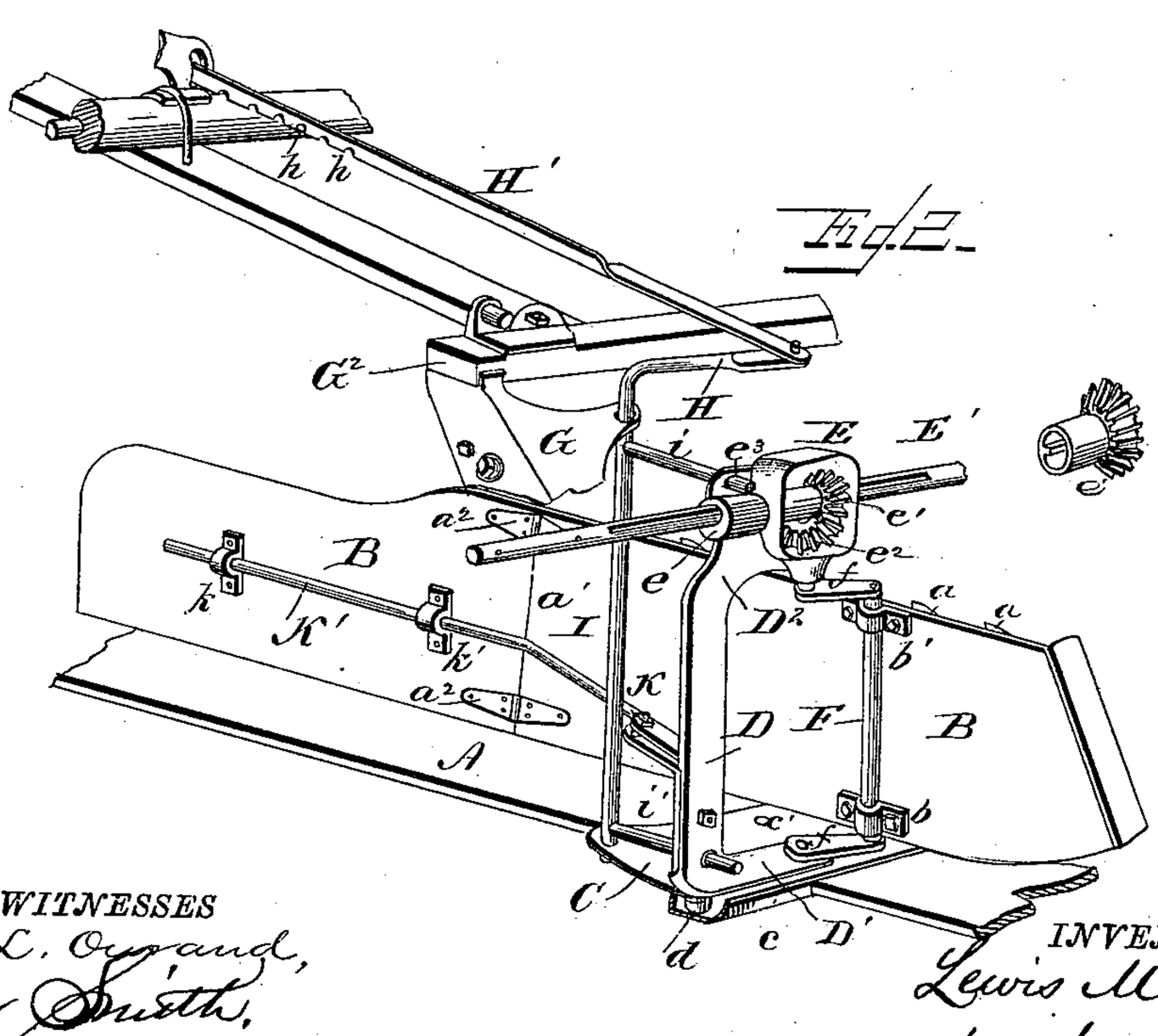


Fig. 2.



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LEWIS MILLER, OF AKRON, OHIO.

HARVESTER BUTT-BOARD.

SPECIFICATION forming part of Letters Patent No. 352,557, dated November 16, 1886.

Application filed January 4, 1886. Serial No. 187,526. (No model.)

To all whom it may concern:

Be it known that I, LEWIS MILLER, of Akron, county of Summit, and State of Ohio, have invented a new and useful Improvement in Harvester Butt-Boards, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in the means for adjusting and driving the butt-board of a harvesting-machine; and it consists in the combination, with the binding-table of a harvesting-machine, of a vibrating butt-board made in two parts or sections hinged or pivoted one to the other, one section constructed and arranged to slide or move upon a guide rail or way, and the other section adapted to be vibrated or have an oscillatory movement imparted to it from a crank-shaft mounted in an adjustable frame or standard, or one adapted to be moved longitudinally relatively to the binder-table, for the purpose of regulating the said butt-board to the different lengths of grain operated upon.

My invention further consists in the combination, with said adjustable frame or standard for regulating the butt-board, of means for effecting the adjustment thereof; also, in the manner of and means for driving the butt-board from the binder-shaft or other source, whereby the butter-shaft may receive motion from its actuating shaft and pinion, whatever may be the position occupied by the butt-board and its adjusting-frame.

In the accompanying drawings, Figure 1 is a perspective view of so much of a grain-binding harvester as is necessary to illustrate my invention, and Fig. 2 is a perspective view of the butt-board, showing, also, a portion of the binder-table and frame and the means for adjusting and driving the butt-board.

The general construction and arrangement of parts of the machine are the same as described in Letters Patent No. 276,448, granted to me April 24, 1883.

A represents the binder-table, which in the present instance is an inclined one, to which the grain is delivered from the platform-carrier, and upon which the grain is bound during the process of elevating it over the drive-wheel.

B represents the butt-board, located upon the binder-table at one side thereof and provided with suitable teeth or ribs, *a a*, for engaging the butts of the grain and assisting in their upward movement. The butt-board B may be of any preferred form. At its lower end it is curved upward slightly, or in a horizontal direction, to accommodate itself to the inner delivery end of the platform-carrier. At or near the center of its length, at a', it is divided, and the two sections thus made are united by strap-hinges a^2, thus hinging the parts one to the other, as shown.

C represents a metal plate provided with a depression, *c*, and securely bolted to the inclined binder-table at c'.

D represents a standard made of metal, and provided with two arms, D′ and D^2, one at the lower and one at the upper extremity thereof. The lower arm, D′, is provided on its under side with two or more rollers, like the one shown at *d*, which travel in the depression *c*, before referred to, said rollers serving to steady the connection of the standard D and mechanism carried thereby with the binder-table. The upper arm, D^2, is of different form, having cast with it, formed upon or secured to it, a casing, E, preferably open at one side, as shown, to receive, inclose, and protect the gears actuating the butter-shaft and board. At one side of this casing a journal-box, *e*, is formed upon the upper arm, D^2, of the standard or frame D, and passing through it and two sides of the casing E is a horizontal shaft, E′, having upon or near one end a gear wheel or pinion, E^2, by means of which, and other wheels gearing therewith, motion is communicated to said horizontal shaft E′. The shaft E′ is mounted loosely in the casing E and box *e*, and has feathered to it within the casing E a bevel-pinion, e'. In this way the frame or standard D, and with it casing E, box *e*, and the pinion e', may be moved lengthwise of the shaft E′, without disengaging the said pinion from its shaft or stopping the operation of the machine. Within the casing E is also another bevel-pinion, e^2, gearing with e' at right angles thereto, and mounted upon the upper end of the butter-shaft passing through the lower side of casing E, and having secured to it a double crank, F, as shown, which carries with it in its movements the butt-board B, which is secured to the crank-arm by means of bear-

ing-blocks or metal straps *b b'*. The lower end of the butter-shaft is mounted in the lower arm, D', of the standard D.

The shaft E' is supported by and mounted in bearings formed in pendent brackets G G', pendent from the picker-bar G^2, or other suitable support of the machine, and is driven by means of the pinion E^2, mounted thereon, which is in turn driven from the binder gear-shaft by gear-wheels or endless chain interposed.

The standard or frame D is moved or adjusted by means of a lever, H, acted upon by a draw-rod, H', pivoted thereto, and extending upward over the knotter-actuating shaft of the machine, where it is provided with a suitable handle within reach of the driver in his seat. Said draw-rod is provided with suitable notches at *h h* on its edge, which are engaged by a spur on the upper sleeve of the binder-gear standard, for setting and holding the lever at the desired adjustment. The lever H is formed upon a rock-shaft, I, which moves with it when it is vibrated, and said rock-shaft is provided with two or more arms, *i i'*, the upper one extending through and sliding in a perforated ear, e^3, of the gearing-inclosing case E, and the lower one extending and sliding through the standard D.

Secured rigidly to the standard D on the drive-wheel side is a bracket, K, and rod K', which serve as a guide and steady-rod to regulate and control the position and operation of the butt-board. The rod K' passes through bearing-blocks or metal straps *k k'*, secured to the butt-board, and thus the latter is free to slide upon rod K' and be controlled and kept in proper position thereby.

From the foregoing description it will be seen that the attendant by operating the draw-rod H' will vibrate the lever H, thereby rocking the shaft I, with its arms *i i'*, and moving the standard or frame D longitudinally of the binder-table. The butt-board B, being secured to the butter-shaft crank, will travel with the standard D and be adjusted for long or short grain, as may be desired, without interfering with the butter-driving mechanism, which also moves with the standard or frame D.

Having now described my invention, I claim as new—

1. The combination, with the binder-table, of an oscillating butt-board, the crank-shaft for actuating said butt-board, and an adjustable frame or standard carrying said crank-shaft, and having bearings therefor both above and below the crank which actuates the butt-board, substantially as described.

2. The butt-board and its actuating-crank, in combination with an adjustable frame having bearings for the crank-shaft both above and below said crank, and a bearing for the shaft actuating said crank-shaft, and gears connecting said shafts and made adjustable with said frame, substantially as described.

3. In a harvesting-machine, the binder-table, in combination with the oscillating butt-board, the longitudinally-adjustable standard or frame carrying the butter-shaft, and provided with bearings for the latter both above and below the actuating-crank, the crank and its driving mechanism for actuating said butt-board, and means, substantially as described, for adjusting said standard or frame and butt-board and its actuating devices longitudinally.

4. In a harvesting-machine, the butt-board and its actuating crank-shaft carried by a longitudinally-adjustable frame or standard, in combination with the rock-shaft having arms engaging said standard both above and below the butt-board-actuating crank, and means for effecting the adjustment of said rock-shaft and frame or standard, substantially as described.

5. In a harvesting-machine, the butt-board and its actuating-shaft carried by an adjustable frame or standard, in combination with a guide-rod connected with said standard, upon which the butt-board slides for directing the movements of said board, substantially as described.

In testimony whereof I have hereunto set my hand this 2d day of January, A. D. 1886.

LEWIS MILLER.

Witnesses:
O. L. SADLER,
W. K. MEANS.