(No Model.)

J. E. KIMBLE.

THRASHING MACHINE.

No. 326,991. Patented Sept. 29, 1885.

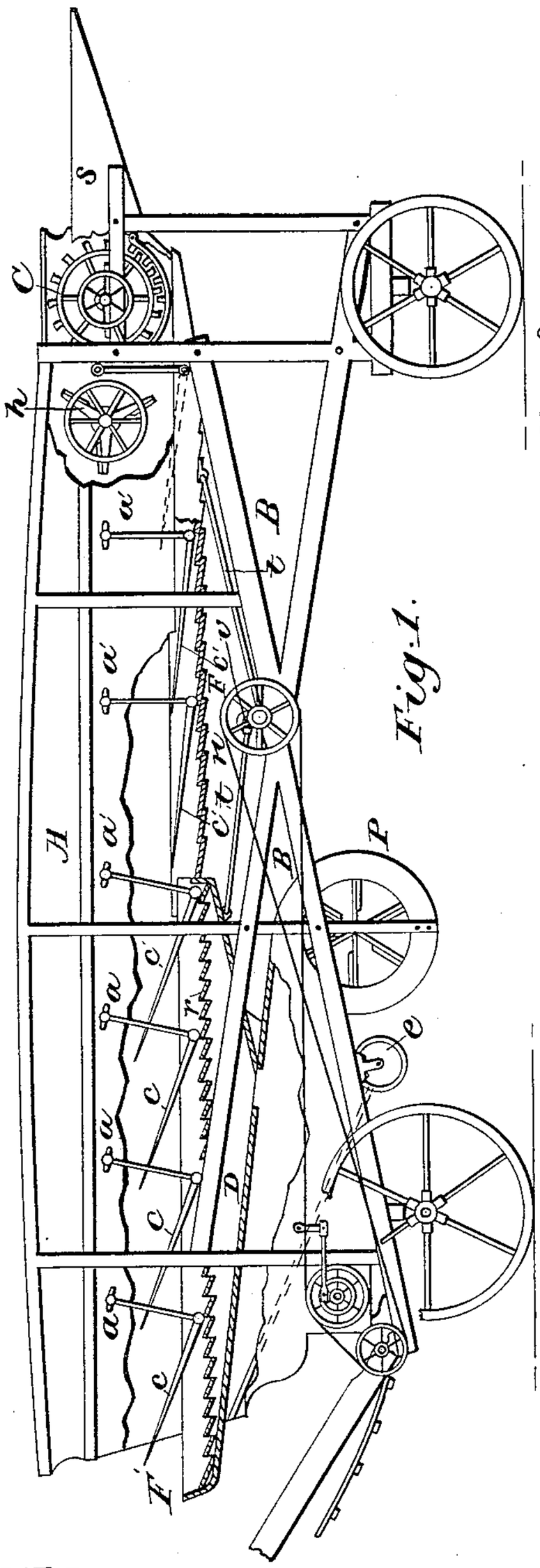

Fig. 1.

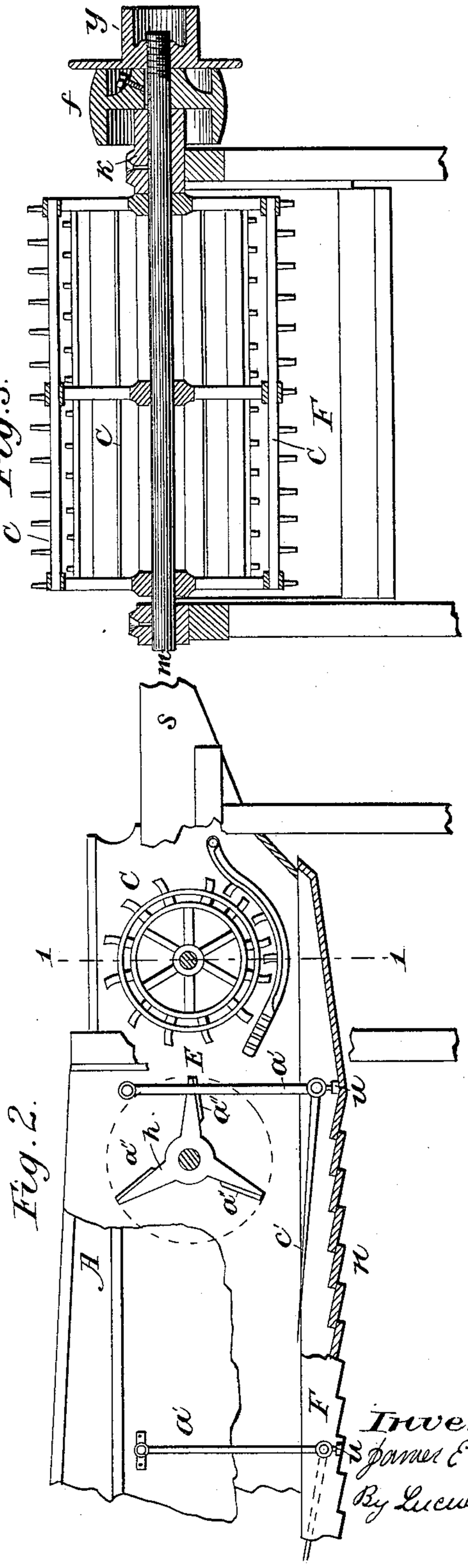

Fig. 3.

Fig. 2.

Witnesses:
Charles V. Chase.
John H. Chase

Inventor.
James E. Kimble
By Lucius C. West
Atty

UNITED STATES PATENT OFFICE.

JAMES E. KIMBLE, OF VICKSBURG, MICHIGAN.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 326,991, dated September 29, 1885.

Application filed July 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. KIMBLE, a citizen of the United States, residing at Vicksburg, county of Kalamazoo, State of Michigan, have invented a new and useful Improvement in Thrashing-Machines, of which the following is a specification.

My invention consists in certain improvements in thrashing-machines, hereinafter described and claimed.

In the drawings forming a part of this specification, Figure 1 is a side elevation, parts being broken away; Fig. 2, an enlarged broken portion of Fig. 1; and Fig. 3 is a cross-section on line 1 1 in Fig. 2, enlarged.

The frame of the machine is composed of the upper beams, A, and the lower truss composed of the beams B B, oppositely inclined, crossing each other approximately at a point midway of their length, and taking the place of the usual sills at each lower side of thrashing-machine frames, and to said upper beams and lower truss the vertical beams are bolted, Fig. 1. The construction on the opposite side of the frame (not here shown) is the same as just described. By the use of these trusses the frame is stronger and less complicated, forming convenient supports for shaft-bearings at a proper location, and affords more room beneath the frame than in prior constructions. Further, the truss-beams may be of lighter material than the base-beams of machines otherwise formed, and yet, owing to the peculiar form of the truss and its connection with the vertical beams of the frame, it constitutes a complete supporting-brace to the entire frame-work, preventing the tension-strain of the belts, &c., and the jolting of the machine while in transit from springing, warping, or racking the frame in any manner. It also facilitates turning the forward trucks, as they cannot conflict with the inclined truss-beams, but readily pass under in the act of turning around.

The bottom of the straw-shaker F is composed of slats *n*, the rear edge of one resting on the forward edge of another, thus forming a tight bottom, which throws the straw and grain along onto the riddle F′ when the shaker oscillates endwise. The riddle F′ has a bottom composed of slats *r r*, set at like angles to the slats *n*, with an opening between the overlapping edges, to allow the grain to pass through and the straw to pass on out of the machine onto the straw-elevator, as in such machines.

The grain-board and cleaner beneath the riddle are to be considered in other applications; hence no detailed description is herein given.

The straw-shaker and riddle are pivotally suspended in a manner to oscillate in opposite directions toward each other by means of the hangers *a a′*. These hangers are pivoted at the upper end to the frame on both sides of the machine, and are connected at the lower ends by the fork-rods, which pass through the side walls of the shaker and riddle in a manner to turn therein. The connection of the fork-rods and hangers is made adjustably secure by means of set-screws.

It is desirable to intercept the straw and grain after it passes from the cylinder C through the mouth E of the cylinder-chamber in a manner that they will fall on the forward portion of the shaker F, and without letting any of the grain and straw fly through the machine. Beaters heretofore used have been so constructed and located that the straw and grain either fell in the wrong place, or some flew through unagitated, as the passages from the cylinder-chamber became clogged up.

The beater in this machine is provided with only three wings, *a″*, radiating from an axis at equal distances from each other. The beater is located immediately in the rear of the discharge-opening E of the cylinder-chamber. The beater-axis is on a horizontal plane with the cylinder-axis. In connection with this location of parts, the beater-wings *a″* are of such a width as to fill the space in the machine-trunk above the axis of the beater. In the operation two of the wings, during the revolution of the beater, will always be presented flatwise to the discharge-opening E, intercepting the straw and grain, thoroughly beating the same and causing them to fall on the shaker F a little in the rear of the beater. When more than the two wings are presented in the path of the discharge, the third one is presented edgewise, as in Fig. 1, thus forming no substantial obstacle to the discharge. These results can only be accomplished by the use of a beater when said beater is provided with only three wings and proportioned and located in relation to the discharge-opening E and the space in the machine-trunk, as shown. The reason

that a less number than three wings will not fill the space of the cylinder-discharge, and hence will not intercept all of the grain and straw, and a greater number than three wings will choke up the cylinder-discharge, retarding the passage of the grain and straw, and hence necessitate running the machine at a lower rate of speed.

The axle of the cylinder extends laterally beyond the bearing *h* at one side, and is provided with a band-wheel, *f*, having a central surface abutting against the end of the bearing *h*. This wheel *f* is detachably keyed to the axle *m* by means of a set-screw, Fig. 3. Thus by moving the cylinder to the right, leaving a little space between the left-hand end and its bearing, and keying the wheel *f* snugly against the bearing *h*, as in said figure, the cylinder is prevented from pounding against its axle-bearings when being drawn from one location to another by the jolting of the machine, and thus getting out of true, so that some of the cylinder-teeth will play too near some of the cylinder-chamber teeth, and too far away from others.

The end of the axle *m* is threaded, and an internally-threaded band-wheel, *y*, is screwed thereon snugly against the band-wheel *f*, to obviate danger of the set-screw giving way. In machines where the belt-wheel *y* is not needed a large disk or nut may be used in lieu thereof, secured to the end of the axle.

Having thus described my invention, what I claim as new is—

1. A thrashing-machine frame composed of side beams at the top, vertical frame-beams connecting therewith, and inclined crossed truss-beams at the lower sides connecting with and supporting and bracing said vertical beams, substantially as set forth.

2. In a thrashing-machine frame, the combination of vertical frame-beams and inclined crossed truss-beams connecting with and supporting and bracing said frame-beams, substantially as set forth.

3. The combination of a thrashing-machine cylinder having an extended axle end, the cylinder-bearings, and a band-wheel secured on said axle end, having a central portion abutting against a cylinder-bearing, substantially as set forth.

4. The combination of a thrashing-machine cylinder having the extended axle end, the cylinder-bearing, a band-wheel having a central portion abutting against the cylinder-bearing, and a set-screw securing the band-wheel to said axle end, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in the presence of two witnesses.

JAMES E. KIMBLE.

Witnesses:

JOHN H. CHASE,

J. S. DUER.