(No Model.)

M. SULLIVAN.

THRASHING MACHINE.

No. 259,990. Patented June 20, 1882.

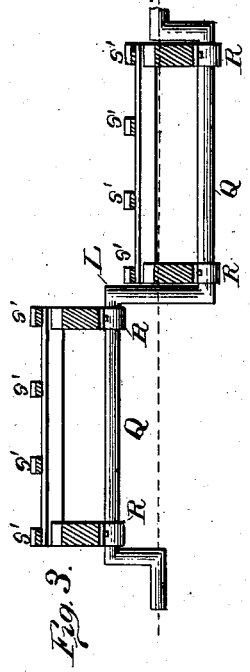

Fig. 3.

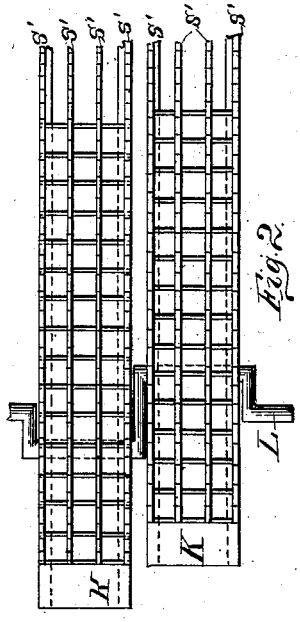

Fig. 2.

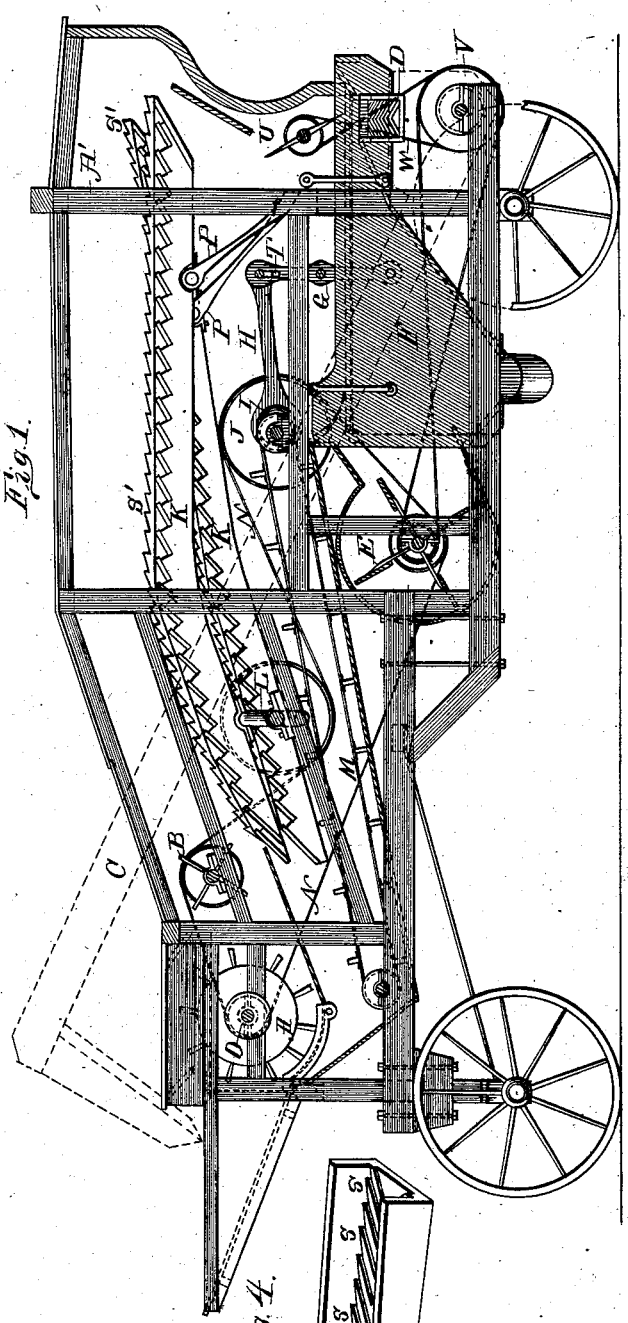

Fig. 1.

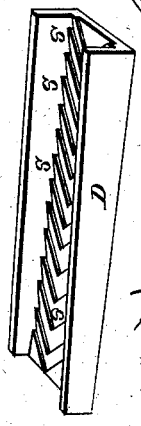

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

MICHAEL SULLIVAN, OF MILWAUKEE, WISCONSIN.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 259,990, dated June 20, 1882.

Application filed October 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL SULLIVAN, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Thrashing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention consists in certain improvements in the construction of machines for thrashing and separating grain, whereby they are rendered more perfect in their operation, all as hereinafter more fully set forth and described.

Figure 1 represents a side view of the frame and working mechanism, the side boards being removed. Fig. 2 represents a cross-section of the raddles and double-crank shaft for operating the same. Fig. 3 represents a top view of the raddles and double-crank shaft. Fig. 4 is a perspective view of the tailings-spout.

The same or corresponding parts are represented by the same reference-letters throughout the several views.

A is the cylinder. B is a beater. C is the elevator-spout, through and by which the tailings from the tailings-trough are conducted back to the cylinder. D is the tailings-trough. E is the fan. F is the shoe. G is a lever by which motion is communicated from the reciprocating bar H to the shoe F. Bar H is connected with the eccentric I in the ordinary manner, by which eccentric it is caused to reciprocate toward the right and left with each revolution of the wheel J.

K K are the raddles, by which the straw is thoroughly shaken upward and downward, and thrown forward step by step from the front to the rear end thereof with each revolution of the double-crank shaft L.

M is the wheat-belt, by which the wheat is conveyed from the cylinder to the shoe and deposited upon the screens.

N is a band which receives its motion from the cylinder-pulley O, and communicates motion therefrom to the fan E, eccentric I, double-crank shaft L, and beater B. The raddles K are supported at their rear ends upon springs P P, and at their front ends upon the double-crank shaft L. The lower ends of the springs P P are rigidly secured to a cross-bar of the frame A′, and said springs are bent or sprung forward with each forward movement of the raddles K, and are permitted to spring back again into their normal position with each backward movement of the raddles.

I am aware that the rear end of a vibrating shaking-shoe has previously been supported upon a rocking frame, which rocking frame was loosely pivoted to a stationary cross-bar of the frame, to which peculiar form I make no claim.

It is obvious that by pivoting the upper ends of the springs to the raddles, at a distance from their rear ends, as shown, said rear ends of the raddles are caused to rise and fall in a reverse order to that of their front ends.

Q Q are the cranks, to which the front ends of the raddles are connected by the journal-boxes R. Said cranks are formed upon opposite sides of the shaft, as shown in Figs. 2 and 3, in such a manner that they balance each other, by which arrangement one is caused to rise as the other drops, and the shaft is so revolved that the upper raddle is carried forward simultaneously with the backward movement of the other. Thus it is obvious that as the straw is lifted and carried forward by the upper raddle the other raddle moves downward out of contact with the straw as it moves backward. Thus with each revolution of the shaft L the respective raddles are alternately moved forward and backward, whereby the straw is thoroughly shaken and all the grain removed therefrom.

S′ are serrated bars, which are rigidly attached to and project above the upper surface of the raddles. The teeth of said serrated bars engage in the straw and aid the raddles in carrying it forward.

The bottom of the trough D is provided with angular flanges S S, the object of which is to assist in ejecting the wheat and tailings from the trough. The angular flanges are formed with their internal angles facing toward the

mouth or lower end of the trough. The trough is connected to and moves bodily sidewise with the shoe F, toward the right and left or lengthwise with the machine. Thus it is obvious that as the angular flanges move rapidly toward the right and left beneath the grain and tailings the same are brought into contact with said angular flanges, and are caused by the rebound to be thrown forward toward the mouth of the spout. Thus the angular flanges serve the office of a conveyer in keeping the trough cleared of the tailings.

The lever G is provided with a slot, T, in which the bar H is adjusted nearer to or farther from the end of said lever, whereby the length of the vibratory movement of the shoe is increased and diminished.

U is a picker or device for ejecting straw and refuse substances from the front end of the shoe and screen.

V is a band-wheel which drives the stacker. Motion is also communicated from said band-wheel V to the picker U by the crossed belt W.

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

1. In thrashing-machines, the combination of the longitudinally-moving shoe and the transverse trough secured thereto, the bottom of said trough being provided with angular or V-shaped steps or grooves, substantially as set forth.

2. The combination of raddles K K, double-crank shaft L, and springs P P, the lower ends of said raddles being respectively secured to the respective cranks on opposite sides of said shaft, and their upper ends pivoted at a distance from their rear ends to the upper ends of said springs, whereby the upper ends of the raddles are caused to rise and fall in a reverse order to that of their front ends, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL SULLIVAN.

Witnesses:

JAS. B. ERWIN,

F. H. WEST.