(No Model.) 2 Sheets—Sheet 1.

W. H. BOWEN.

THRASHING MACHINE.

No. 523,423. Patented July 24, 1894.

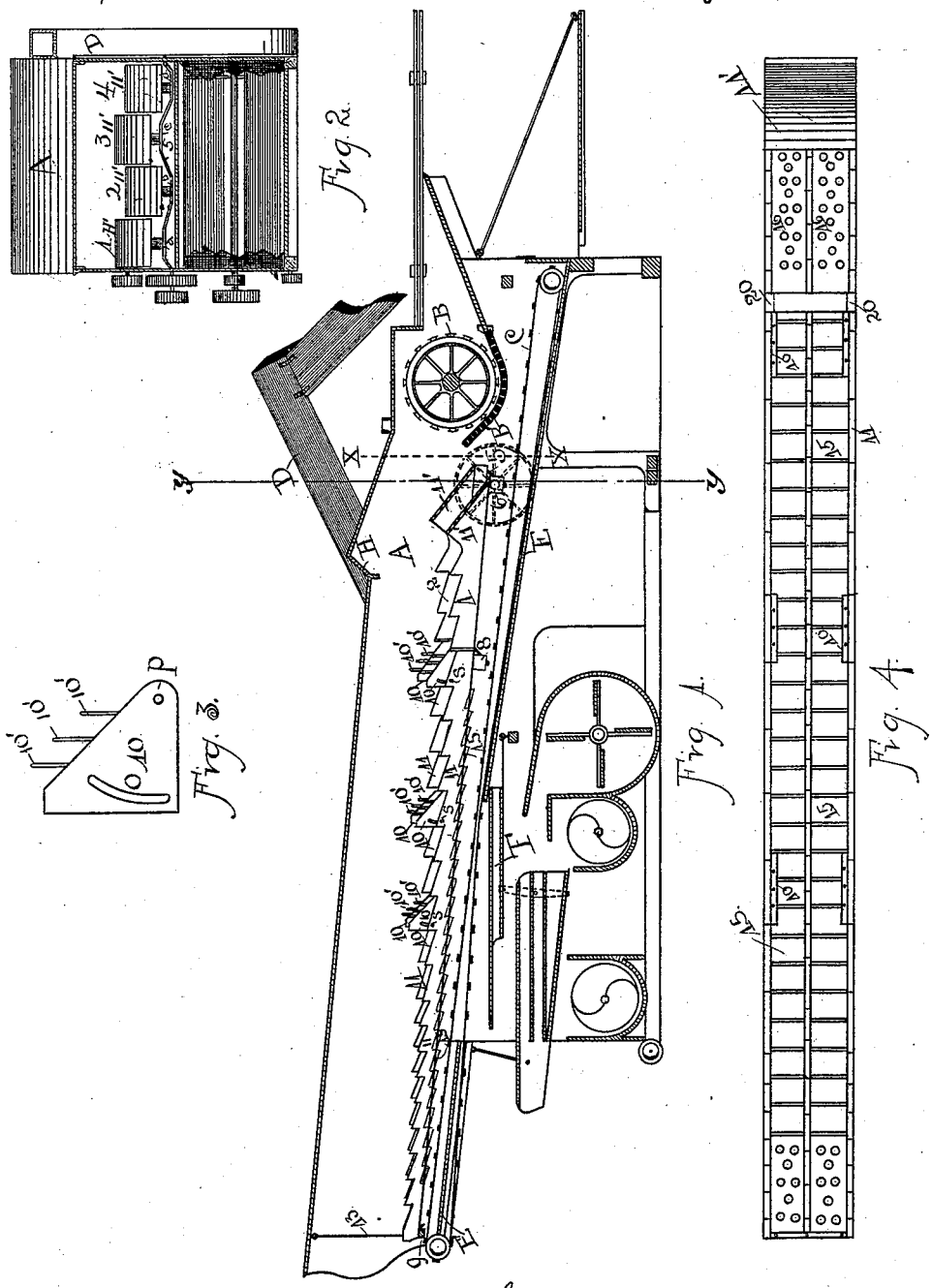

Fig. 2.

Fig. 3.

Fig. 1.

Fig. 4.

WITNESSES:

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E. J. McClintock

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BY

A. H. Swarthout

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(No Model.)

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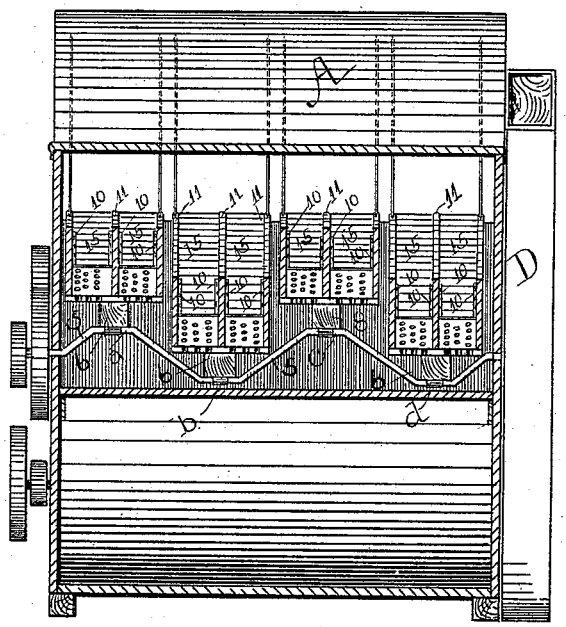

Fig. 5.

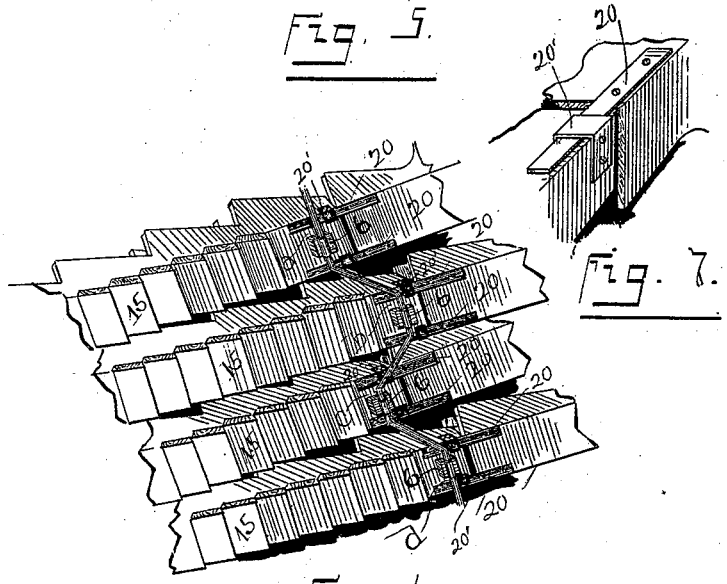

Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM H. BOWEN, OF WISE, ASSIGNOR TO THE KEYSTONE MANUFACTURING COMPANY, OF LANSING, MICHIGAN.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 523,423, dated July 24, 1894.

Application filed January 12, 1892. Renewed April 8, 1893. Again renewed January 13, 1894. Serial No. 496,814. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BOWEN, a citizen of the United States, residing at Wise township, in the county of Isabella and State of Michigan, have invented certain new and useful Improvements in Thrashing-Machines; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to the separation in thrashing machines; its object being to provide means for a more thorough separation of the grain and straw.

Figure 1 is a side sectional view of my invention. Fig. 2 is a front sectional view on the line X X of Fig. 1. Fig. 3 is a side elevation of the pitchers 10 10. Fig. 4 is a top plan view of one of the separating devices. Fig. 5 is an enlarged front sectional view showing crank on line *y*—*y* of Fig. 1. Fig. 6 is a bottom perspective of the shakers showing section connections. Fig. 7 is an enlarged perspective of same.

In the drawings A is the frame work of the machine, B the cylinder, and B′ the concave.

C is the grain carrier. D the elevator, E and E′ the grain boards or pans, and F the fanning mill.

H is a hood at the top of the frame in the rear of the cylinder against which the straw and wheat are thrown as it leaves the cylinder. The wheat and straw are deflected by the hood H upon the four straw shakers, which are each divided into two sections 1 and 1′, 2 and 2′, 3 and 3′, 4 and 4′. The front section is about one-fifth the length of the rear sections. Upon the upper edge of these shakers I form teeth having a rearward slant on their front edges, and an abrupt fall in the rear. Across the front section of each shaker I secure the board 11′, 11′, slanting backward same as the teeth but extending higher than the teeth. As the straw leaves the cylinder it strikes these boards 11′, 11′, and is thrown up against the hood H.

10, 10, 10, are adjustable forked pitchers secured to the straw shakers, particularly the rear section, and are intended to pick up the straw and throw it along, thus helping in the separation. They are pivoted at their front end *p*, and have a segmental slot *o*, in the rear through which a bolt S passes. By loosening the nut on the bolt S the pitchers may be adjusted up or down as required. Fig. 4 shows the construction of these shakers, 1, 2, 3, 4, they are of the width required, and have a slatted bottom, 15, except the front and rear which may be perforated, as at 16. 5 and 8 are crank shafts, extending from one side of the machine to the other. Said shafts are provided with two series of oppositely, alternately projecting cranks, *a*, *b*, *c*, *d*, to which are connected the front ends of the respective sections of the shakers, 1, 2, 3, 4. It is obvious that the motion of the front ends will be circular and reciprocating, and alternate. The two sections 1 and 1′ are connected by loose straps 20, which are secured to the front section and pass through slides 20′ on the rear section. These slides are large enough so there will be no binding between the sections by reason of the different motion in the rear end of the rear section. I divide the shakers into two sections in order that the front of the shakers may have more of the circular motion to carry the straw along, rather than the oscillating motion. The rear ends of the sections 1′ 2′ 3′ 4′, of the shakers are supported by the swings 13, thus causing an alternate oscillating motion to the rear part of the sections. Straw and grain coming through the cylinder are thrown by its force, assisted by the ends 11′, against the hood H. It will then fall upon the shakers 1, 2, 3, 4, which will lift it up and push it along. When it reaches the pitchers 10 10 they will pick it up, the forks serving to pull it apart, and throw it at *c*; each shaker as it rolls up serving to clear its neighbor of straw as it recedes. The straw will thus be thoroughly shaken of grain. The grain falling upon the perforated and slatted bottoms of the shakers passes through upon the pans E and E′, and is swept by the carrier C into the fanning mill F.

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

1. In a thrashing machine the straw shaking device consisting of two or more parallel shakers, each in two sections having slatted and perforated bottoms and toothed upper edges, and having two or more adjustable pitchers 10, provided with forks 10′ secured to the upper edges of the shakers, the shakers being connected to opposite cranks substantially as described and as and for the purpose set forth.

2. In a grain separating device for a thrashing machine the combination with two or more parallel shakers each in two sections loosely united by sliding bars, and having perforated and slatted bottoms and toothed upper edges, and the adjustable forks secured to the upper edges of the shakers of two cranks having two or more opposite arms to which the shakers are secured, one crank for the front section and one for the rear section and the swing 13, substantially as described and as and for the purpose set forth.

3. In a thrashing machine, the combination with the cylinder and concave of the hood H, the series of parallel sectional shakers, described, the crank shafts with alternately opposite arms connected to said shakers, the adjustable forks secured to the edges of the shakers, and the swing 13, substantially as described and as and for the purpose set forth.

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

WILLIAM H. BOWEN.

Witnesses:

F. D. PATTERSON,

A. H. SWARTHOUT.