

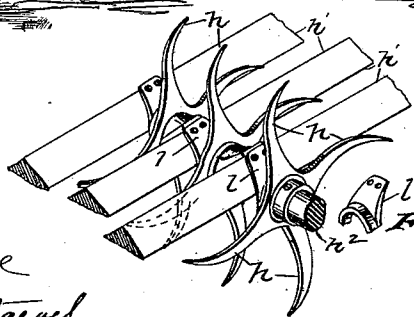
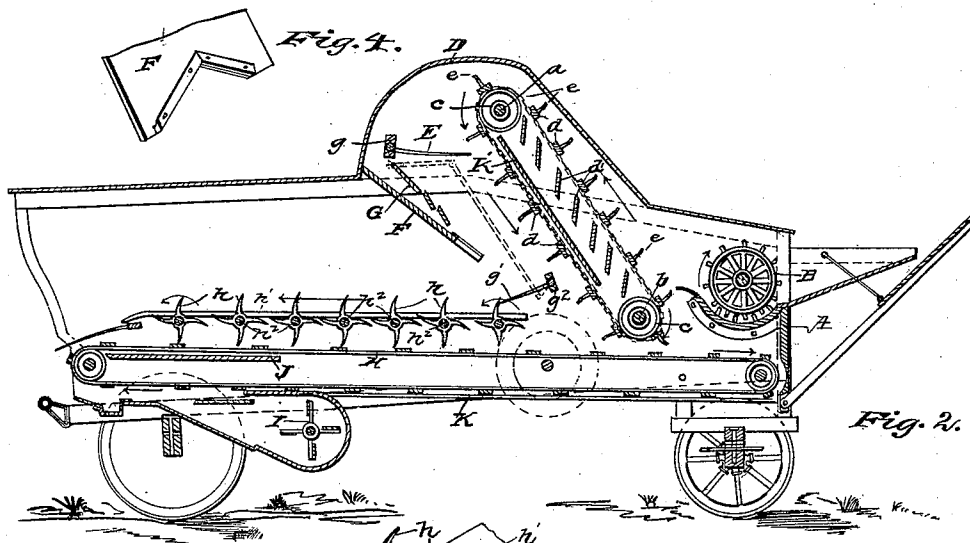
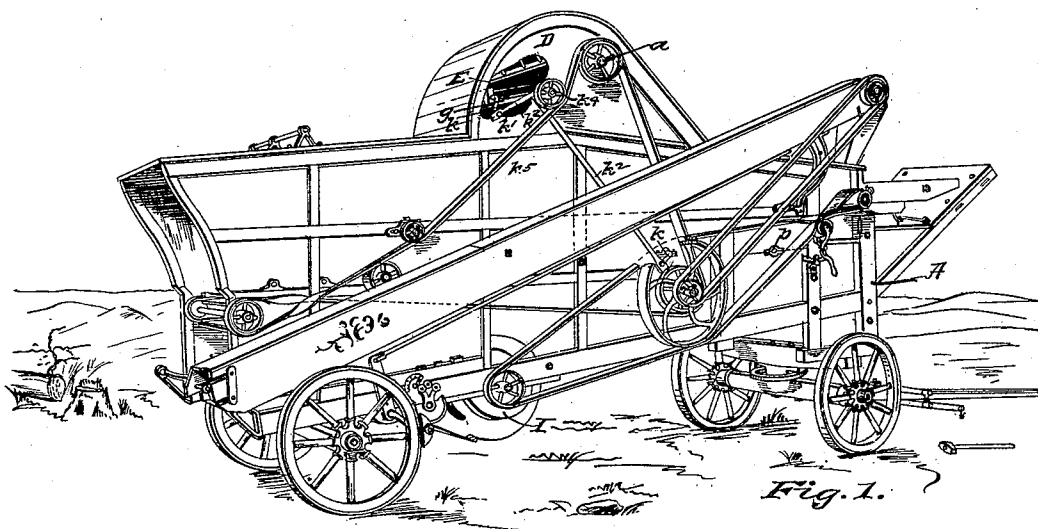
(No Model.)

2 Sheets—Sheet 1.

J. HERSHBERGER.
THRASHING MACHINE.

No. 469,184.

Patented Feb. 16, 1892.



WITNESSES:

Ed. G. Lane
Henry Sinterael

INVENTOR

Joyathan Hershberger
BY *Fried W. Bond*

ATTORNEY.

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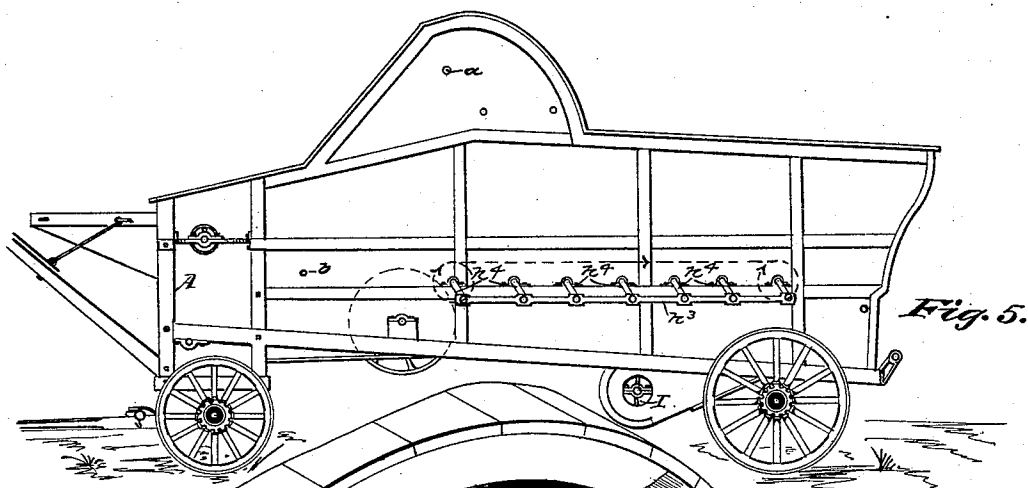


Fig. 5.

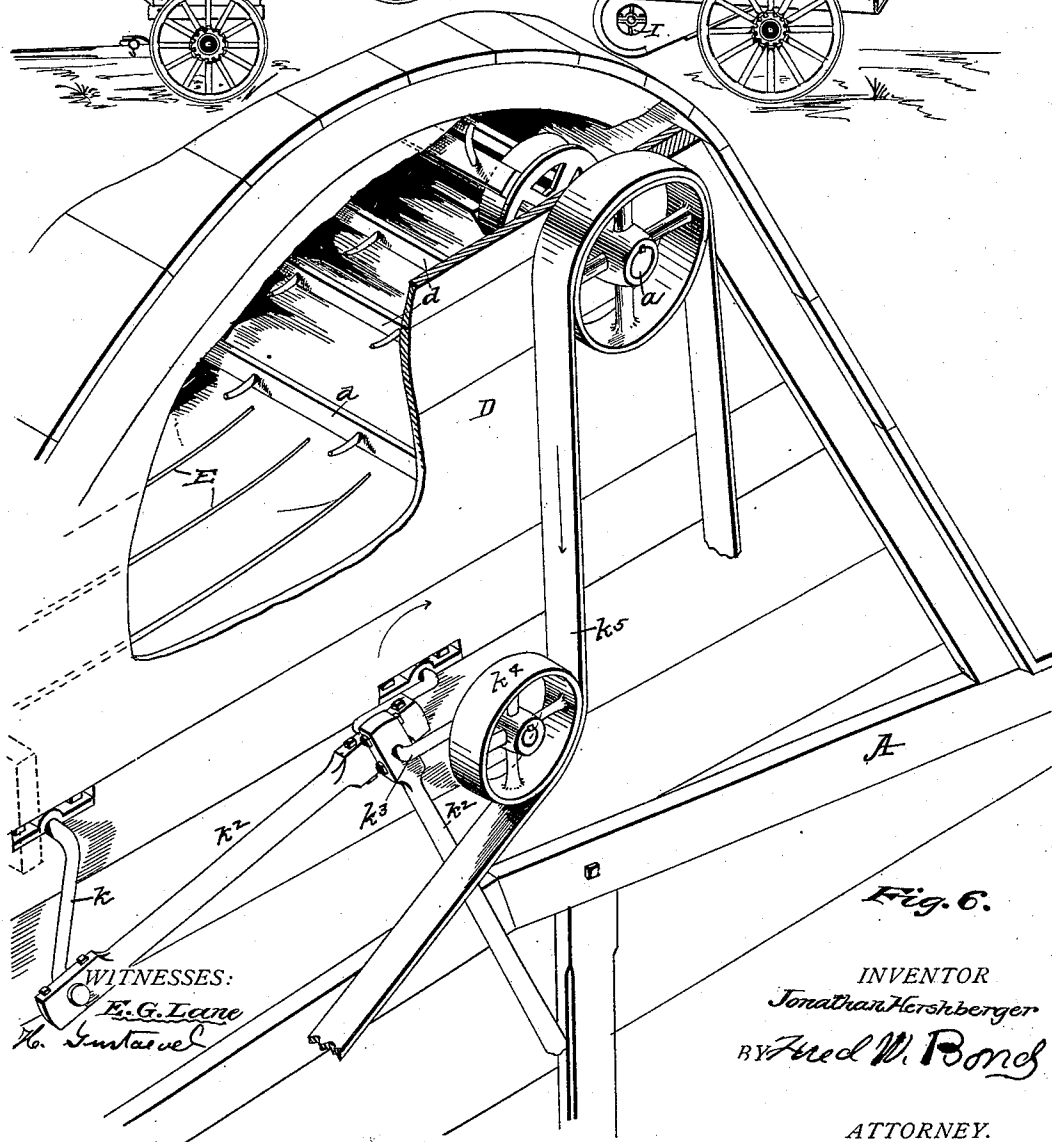


Fig. 6.

INVENTOR
Jonathan Hershberger
BY *Fred W. Bond*

ATTORNEY.

WITNESSES:
E. G. Lane
H. J. Linsdale

UNITED STATES PATENT OFFICE.

JONATHAN HERSHBERGER, OF WALNUT CREEK, ASSIGNOR OF ONE-HALF TO
WILLIAM M. JOHNSTON, OF WILMOT, OHIO.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,184, dated February 16, 1892.

Application filed March 21, 1891. Serial No. 385,937. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN HERSHBERGER, of Walnut Creek, in the county of Holmes and State of Ohio, have invented certain new and useful Improvements in Thrashing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal section. Fig. 3 is a view of one of the picker-shafts, showing the pickers located thereon, together with the supporting-bars. Fig. 4 is a detached view of the grain-distributing board. Fig. 5 is a side elevation. Fig. 6 is a view of the straw-elevating device, showing the rear side or portion of said straw-elevating device, together with the vibrating-finger mechanism.

The present invention has relation to thrashing-machines; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in each figure of the drawings.

In the accompanying drawings, A represents the frame of the machine, which frame is constructed as to form and size with reference to the parts hereinafter described. The thrashing-cylinder B is constructed in the ordinary manner and is properly journaled to the frame A in the ordinary manner. To the rear of the cylinder B are located the straw elevator and check-board, which elevator is inclined rearward from the cylinder. The shafts *a* and *b* are properly journaled to the frame A and are provided with the rollers or pulleys *c*, and in the event sprocket-chains are used for attaching the bars *d'*, sprocket-wheels should take the place of the pulleys *c*. The bars *d* are securely fastened to the belts or drive-chains C and extend entirely across the inner part of the machine proper. The bars *d* are provided with the lifting-fingers *e*, which lifting-fingers are attached to the bars *d* in any convenient and well-known manner.

For the purpose of preventing coarse straw from entering between the bars *d* the inclined

slats are provided, which slats are attached at their ends to the frame A in any convenient manner, and are so arranged that the chaff and grain which pass between the bars *d* will fall between said inclined slats *d'*.

To the top or upper part of the frame A is located the dome D, which dome is located substantially as shown in Figs. 1, 2, 5, and 6. At the rear of the straw-elevating device are located the vibrating fingers E, which fingers are attached in any convenient and well-known manner to the rock-bar *g*, which rock-bar is journaled to the sides of the dome D or its equivalent. The vibrating fingers *g'* are attached to the rock-bar *g*, which rock-bar is journaled to the frame A and is located near the bottom of the straw and grain elevating device. In use the straw and grain are received upon the front side of the straw and grain elevating device, which conveys the straw to the top or upper part of the dome D, at which time it falls upon the vibrating fingers E and the return lifting-finger *e* and passes down between the check-board F and the return lifting-fingers, when it is delivered upon the picker-arms *h* and the bars *h'*, from whence the straw is conveyed to the rear end of the machine.

For the purpose of preventing the straw from clogging either in the top of the dome D or at the bottom of the check-board F the vibrating fingers E and *g'* are provided, which vibrating fingers are for the purpose of agitating the straw and preventing the same from clogging and at the same time assisting in the separation of the grain from the straw.

For the purpose of better separating the grain from the straw the slats G are provided, which slats are located directly above the check-board F, which check-board receives the grain and fine chaff which pass between the slats G. For the purpose of preventing the grain and chaff which fall on check-board F from again falling in the straw the check-board is provided with the V-shaped flange, which carries the grain and chaff to each side of the machine, where they are conducted to the endless apron H. The picker-arms *h* are securely attached to the shafts *h'*, which shafts are journaled to the frame A

and rotary motion communicated to said picker-shafts h^2 by means of the pitman h^3 and the cranks h^4 . It will be understood that a pulley is to be attached to one of the picker-shafts h^2 and rotary motion communicated to the picker-shaft provided with a pulley by means of a belt or its equivalent. The picker-arms h are bent or curved, as illustrated in Figs. 2 and 3, and are located between the bars h' . These picker-arms h are rotated in such a direction that when they are brought above the bars h' they will travel or move toward the rear end of the machine proper. For the purpose of preventing the straw from wrapping the picker-arms h are curved, as illustrated in the drawings, thereby preventing the points of said picker-arms h from carrying or drawing the straw between the bars h' . The picker-shafts h^2 are located at such a distance apart that the ends of the arms h will slightly interlock, thereby carrying the straw from one set of picker-arms to the next adjacent set, and so on until the straw is delivered at the rear end of the machine. It will be understood that by providing the picker-arms h and locating them as above described and shown in Fig. 2 the grain and chaff will be thoroughly separated from the straw. For the purpose of conveying the grain and chaff which pass between the picker-arms h and the bars h' the endless apron H is provided, which extends from the rear end of the machine to the forward end, and is propelled by means of a pulley and belt in the ordinary manner or their equivalents.

For the purpose of carrying the grain and chaff toward the front of the machine and delivering the same at the proper place with reference to the fan I the return-board is provided.

The return-board J is attached to the sides of the machine proper and extends rearward over the sieves located in the rear of the fan I . The sieves used in this machine are attached in the ordinary manner and are of the usual form and are located and adjusted in the ordinary manner.

For the purpose of conveying the grain and chaff to the proper place in the rear of the fan the return board or bottom K is provided, which is located as shown in Fig. 2, and, as shown, the bottom or return board K extends rearward to a point, so as to discharge the grain and chaff, which pass through the endless apron H in front of the return-board J in the rear of the fan I .

For the purpose of vibrating the fingers E and g' the rock-bars g and g^2 are provided with the arms k , to which arms are journaled the pitmen k^2 . The pitmen k^2 are journaled to the crank k^3 , substantially as illustrated in Fig. 6. For the purpose of communicating rotary motion to the crank k^3 the pulley k^4 is provided, which pulley is rotated by means of the belt k^5 or its equivalent.

The bars h' are preferably formed as illustrated in Fig. 3, which consists in forming said bars upon their upper sides V-shaped, and are so formed for the purpose of preventing the straw from lodging upon said bars and at the same time inclosing or covering the picker-shafts h^2 . The flanges l are provided and are so located that they will protect or cover the portions of the shafts h^2 between the bars h' . It will be understood that the grain will better pass between the bars h^2 by reason of the inclined faces located upon the upper sides of said bars.

For the purpose of conveying the grain and chaff which pass between the bars d and the inclined slats d' to the endless apron H in front of the picker-shafts h^2 the return-board K' is provided, which return-board is attached to the sides of the machine proper and is located between the elevating device, substantially as illustrated in Fig. 2.

It will be understood that by providing the return-board K' the grain and chaff which are separated during the time that the straw is elevated to the top of the dome D will not be received or mingled with the straw at the time the straw is received on the picker-arms. It will also be understood that the grain and chaff which are separated from the straw as it descends from the top of the dome D to the picker-arms will fall on the check-board F and be carried to the sides of the separator and not allowed to mingle with the straw.

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

1. The combination of a series of shafts provided with curved picker-arms, the V-shaped bars h' , located between the curved picker-arms, the flanges l , attached to the bars h' , and means for communicating rotary motion to the picker-shafts, substantially as and for the purpose specified.

2. The combination of the inclined endless apron located behind the thrashing-cylinder B and extending upward to the dome D , the vibrating fingers E and g' , the rock-bars g and g^2 , and means for communicating a rocking motion to said bars g and g^2 , substantially as and for the purpose specified.

3. In a thrashing-machine, the combination of a cylinder and an endless apron located behind said cylinder, the vibrating fingers E and g' , the check-board F , provided with a V-shaped flange, the slats G , located above said check-board, the picker-shafts h^2 , provided with the picker-arms h , the bars h' , and means for communicating rotary motion to the picker-shafts h^2 , substantially as and for the purpose specified.

4. In a thrashing-machine, the combination of the endless apron located behind the cylinder, consisting of the bars d , the fingers e , and the belts or chains c , the vibrating fingers E and g^2 , located behind the endless

apron, the check-board F, provided with a
V-shaped flange, a series of picker-shafts
provided with the curved picker-arms h, and
means for communicating rotary motion to
5 the picker-shafts h², substantially as and for
the purpose specified.

In testimony that I claim the above I have

hereunto subscribed my name in the presence
of two witnesses.

JONATHAN HERSHBERGER.

Witnesses:

J. S. CROW,

A. F. KANAGE.