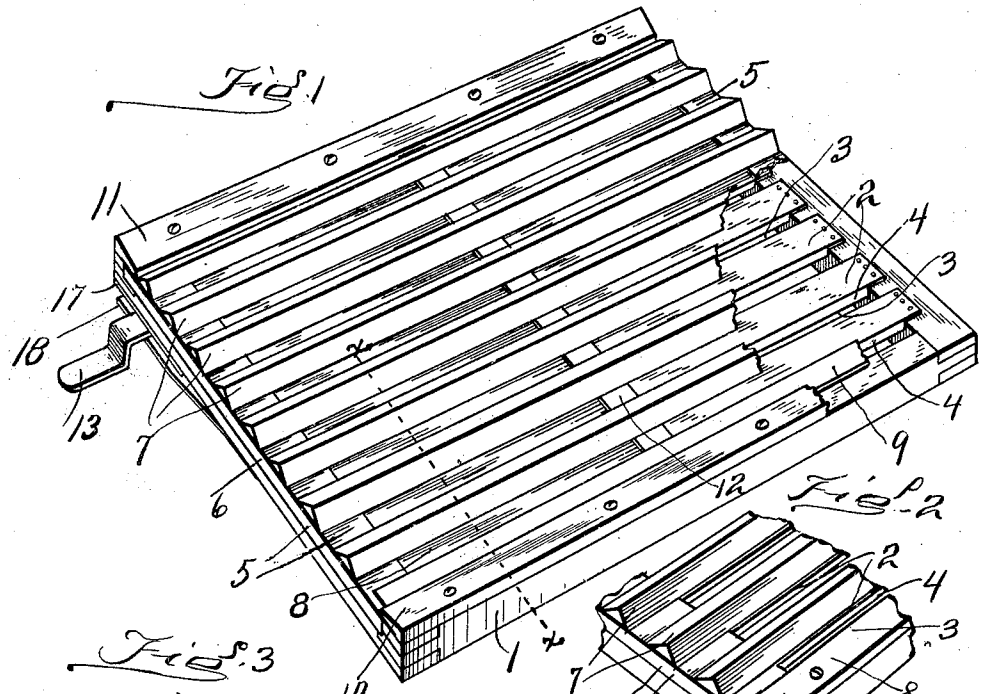
No. 686,980. Patented Nov. 19, 1901.

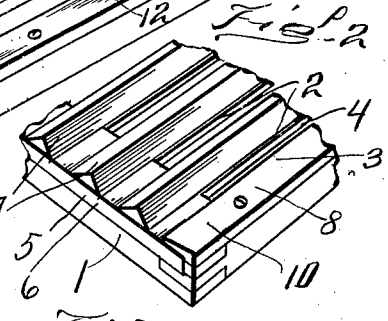
D. LIPPY.

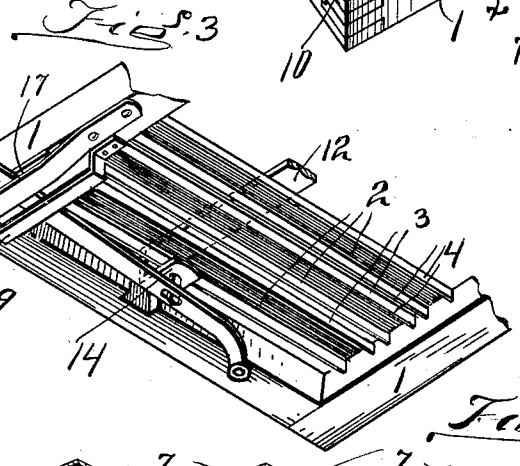
GRAIN SEPARATOR AND CLEANER.

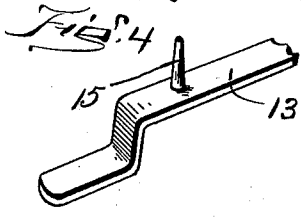
(Application filed Feb. 18, 1901.)

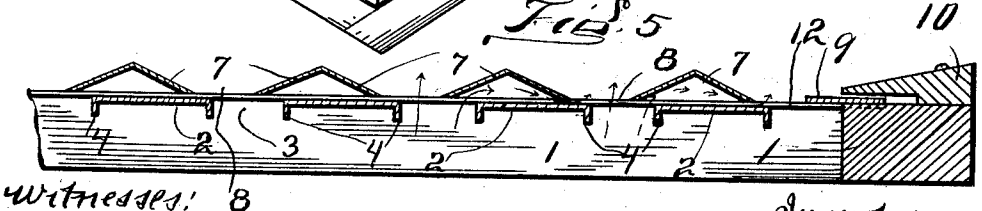
(No Model.) 2 Sheets—Sheet 1.











Witnesses:
E. Farrow.
J. R. Bond.

Inventor.
David Lippy
By F. W. Bond
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 6.

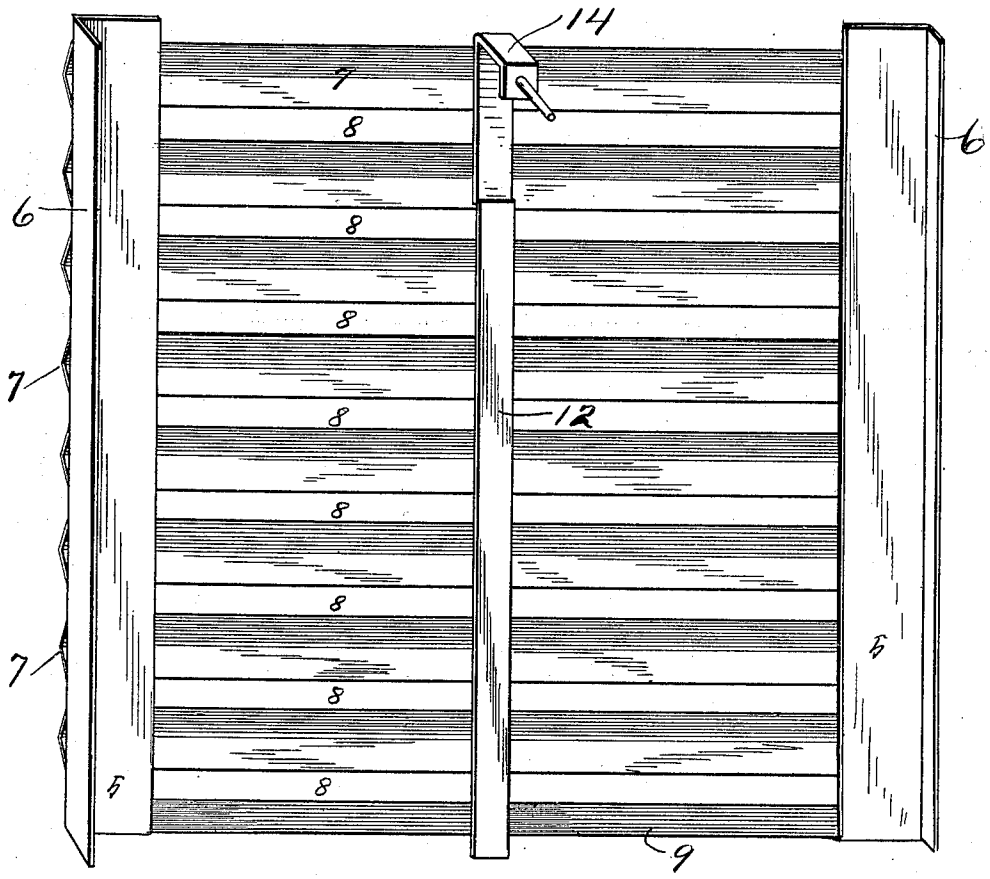
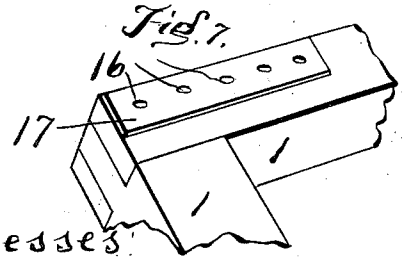


Fig. 7.



Witnesses:
E. G. Lerous.
J. R. Bond.

Inventor.
David Lippy
By F. W. Bond
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DAVID LIPPY, OF MANSFIELD, OHIO.

GRAIN SEPARATOR AND CLEANER.

SPECIFICATION forming part of Letters Patent No. 686,980, dated November 19, 1901.

Application filed February 18, 1901. Serial No. 47,731. (No model.)

To all whom it may concern:

Be it known that I, DAVID LIPPY, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Grain Separators and Cleaners; 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 figures of reference marked thereon, in which—

Figure 1 is a perspective view showing parts broken away. Fig. 2 is a top view showing a portion of the frame and its different parts. Fig. 3 is a bottom or under side view showing a portion of the separator and cleaner and the mechanism for adjusting the same. Fig. 4 is a detached view of the adjusting-lever. Fig. 5 is a transverse section on line *x x*, Fig. 1, showing one end of the frame. Fig. 6 is a bottom or under side view of the top adjustable metal frame. Fig. 7 is a view showing a portion of the frame and the plate designed to hold the adjusting-lever in proper fixed adjustment.

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

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the frame, which is rectangular and formed of any desired size, reference being had to the size of the separator and cleaner designed to be constructed.

To the end members of the frame 1 are securely attached in any convenient and well-known manner the metal strips 2, which metal strips are spaced from each other, by which arrangement the longitudinal openings 3 are provided or produced. For preventing the strips 2 from springing they are formed at their edges with downturned flanges 4. These have no reference to the blast.

It will be understood that the strips 2 are formed of considerable length, inasmuch as they run lengthwise of the separator instead of crosswise, as heretofore, and by which arrangement continuous open spaces are produced lengthwise of the separator or cleaner, said spaces extending the entire distance between the end members of the frame.

Upon the top of the frame 1 and upon the longitudinal bars 2, fastened thereto, is located a laterally-adjustable frame, which frame consists of a rectangular structure made of two angled end members 5 6, united by longitudinal parallel inverted-V-shaped bars, each of said end members being composed of a metal strip rectangular in cross-section, the side 6 of each member extended downward and overlapping the end of the frame, while the sides 5 of each of said members rest upon the top of the frame at each end. To the angled end members are attached in any convenient and well-known manner the V-shaped bars 7, the valley portions of said bars being located upon their bottom and the cone portions of said bars upon the upper sides, thereby forming ridges running lengthwise of the separator or cleaner. The V-shaped bars 7 are spaced from each other, thereby forming spaces or openings 8 corresponding with the openings or spaces 3 between the fixed strips 2.

If desired, one side of the adjustable metal frame having the V-shaped bars may be provided with the flat metal strip 9, which flat metal strip is securely attached to the end members or guides 5 and moves back and forth under the wooden strip 10, said wooden strip 10 being secured to one of the side members of the frame 1 and overlaps the flat metal strip 9, thereby assisting in holding the flat metal strip in proper relative position. The opposite side of said metal frame is held in proper relative position by the wooden cap 11, which wooden cap is located over the ends of the end members or guides 5, which are the ones having the angled flanges 6. To the V-shaped bars 7 and upon their bottom sides is connected the metal strip 12, which metal strip extends crosswise of the separator or cleaner proper and is also for the purpose of preventing the V-shaped bars 7 from springing.

For the purpose of providing a means for adjusting the metal frame laterally, and thereby to adjust the separator and cleaner for different kinds of grain and for different condi-

tions of the straw, the operating lever or handle 13 is provided, which operating handle or lever is pivotally attached to one of the side members of the frame and is extended rearward, so as to be accessible for adjusting the sliding metal frame without stopping the machine when in operation. To the operating lever or handle 13 is connected the bracket 14, which bracket is attached to two or more of the V-shaped bars 7.

For the purpose of holding the adjustable metal frame at any desired point of adjustment the lever or handle 13 is provided with the pin 15, which pin engages with the apertures 16, formed in the plate 17, which plate is connected to one of the end members of the frame 1.

For the purpose of holding the pin 15 in proper fixed position the spring 18 is provided, which spring bears upon the lever or handle 13. For the purpose of preventing the lever or handle 13 from being moved in any direction farther than is necessary the bracket 19 is provided, which bracket is located and arranged substantially as shown in Fig. 3.

It will be understood that by my peculiar arrangement and by providing the V-shaped bars 7 and locating the valleys of said bars upon the bottom of said V-shaped bars and on the tops of the fixed strips 2 when a portion of said V-shaped bars is brought over the openings 3 between the fixed bars 2 a portion of the blast will be caught in the valleys of the V-shaped bars of the top metal frame and the portion so caught be forced downward and laterally and between the bottom edges of said V-shaped bars and the top or upper sides of the fixed bars 2, moving the grain, which would follow or find its way along the top or upper sides of the uncovered portions of the fixed metal strips 2, which blast drives the grain toward the openings and alows it to pass down through said openings.

It will be understood that by closing only a portion of the openings 3 a sufficient upblast will be produced to lift the chaff away from the grain and allow said chaff to be carried rearward and discharge from the machine and from the separator or cleaner.

It will be seen by my peculiar arrangement that no obstructions of any kind are produced, but straight and continuous surfaces provided for the movement of the chaff and straw over the separator and cleaner from end to end.

By providing the V-shaped bars 7 elevated ridges are formed, upon which elevated ridges the straw and weeds or any foreign substance may ride and at the same time be elevated away from the grain or seed to be separated and cleaned.

It will be understood that by attaching the V-shaped bars 7 upon the upper sides of the guides 5 and locating said guides upon the upper sides of the fixed strips 2 a space is produced between the bottom edges of said V-shaped bars and metal strips 2 equal to the thickness of the guides 5, which is sufficient to allow the blast to pass between the fixed strips 2 and the V-shaped bars 7.

By my peculiar arrangement the V-shaped bars 7 and the metal strips 2 run lengthwise of the frame instead of crosswise, and the adjustment is brought about by a lateral or crosswise movement of the adjustable metal frame.

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

1. In a separator of the class described, a rectangular frame provided with longitudinal fixed bars spaced from each other, end members having connected thereto longitudinal parallel inverted-V-shaped bars and means for simultaneously adjusting the V-shaped bars laterally, substantially as and for the purpose specified.

2. The combination of a rectangular frame, parallel fixed strips secured thereto and spaced from each other, said strips and spaces extended the length of the rectangular frame, angled end members located upon the rectangular frame and having connected thereto, inverted-V-shaped parallel bars spaced from each other and spaced from the top of the fixed bars, and means for simultaneously adjusting the parallel V-shaped strips laterally, 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.

DAVID LIPPY.

Witnesses:
W. H. GIFFORD,
GEORGE W. STATLER.