JOHN H. WEAVER.

Improvement in Grain Cleaners.

No. 116,122 Patented June 20, 1871.

Fig 1.

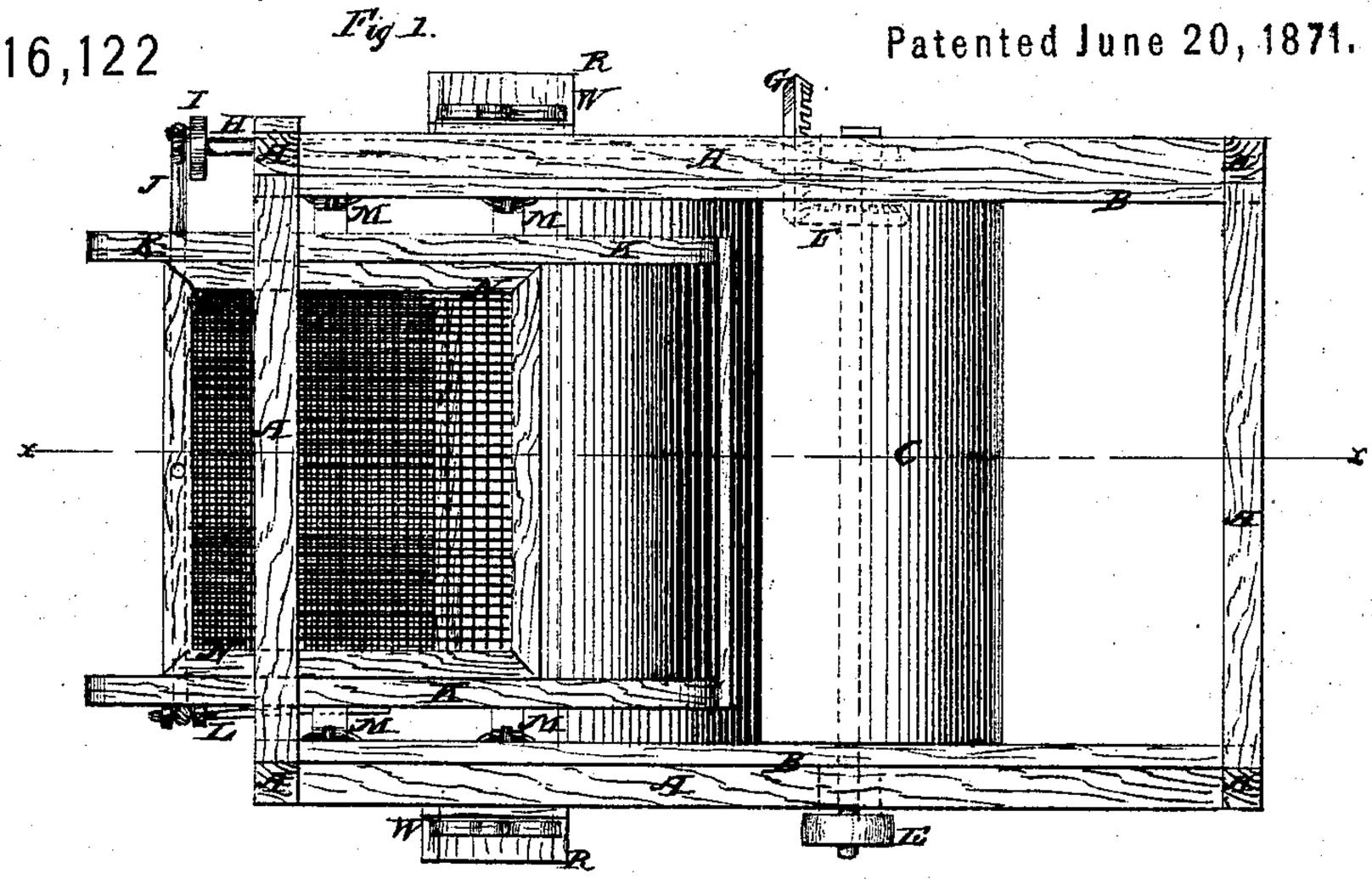


Fig 2.

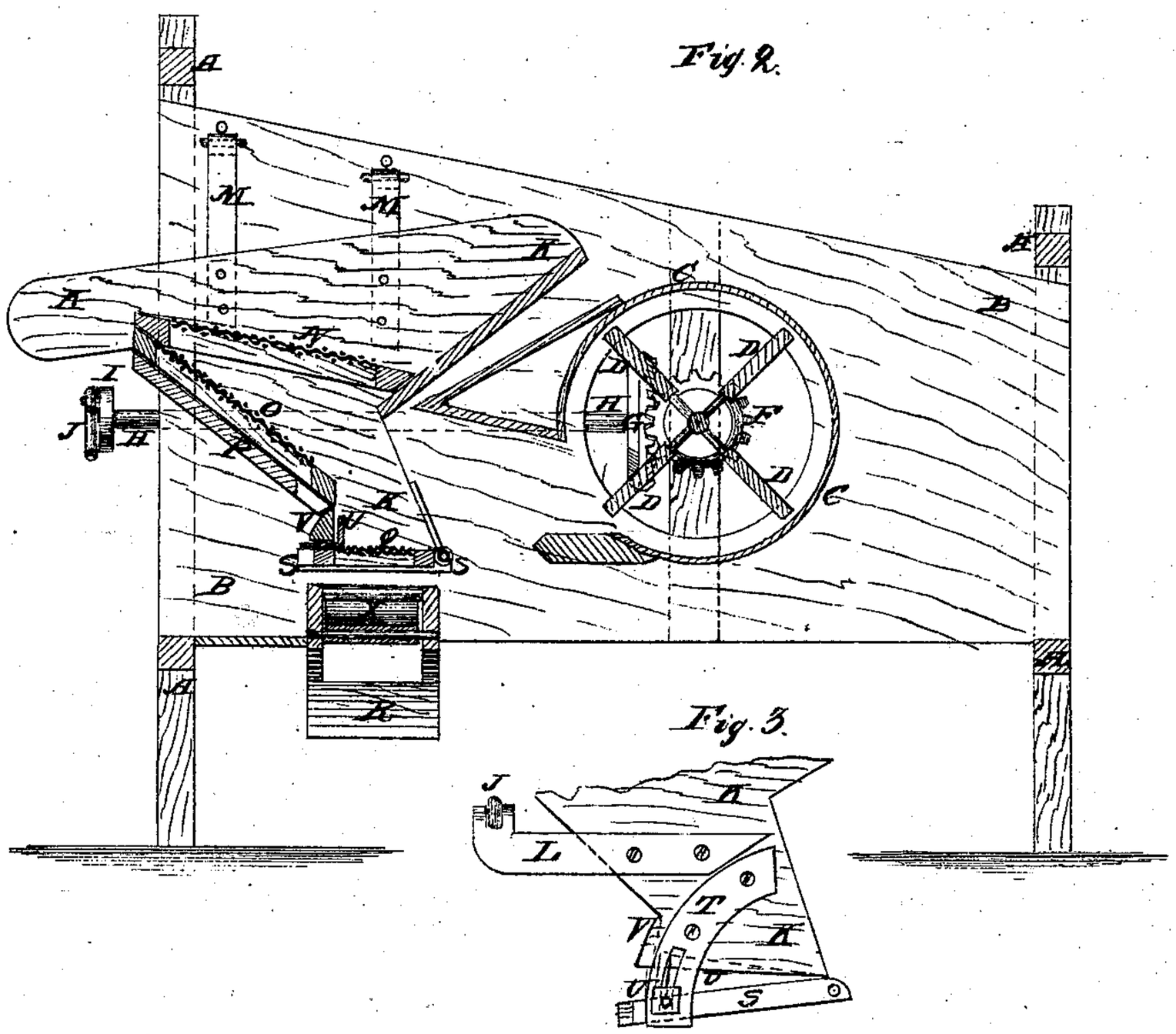
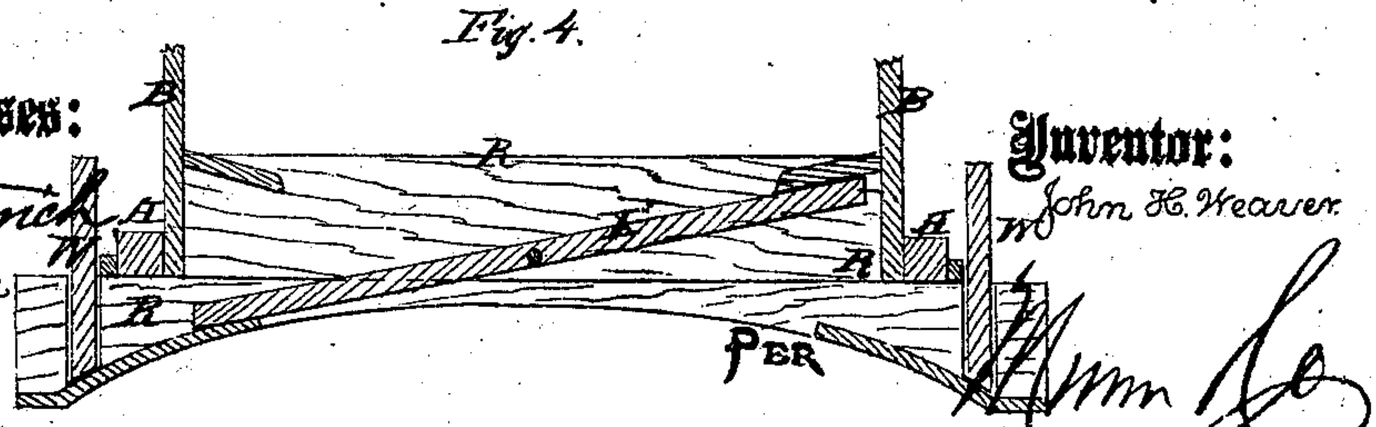


Fig. 3.

Fig. 4.



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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN H. WEAVER, OF GAP, PENNSYLVANIA.

IMPROVEMENT IN GRAIN-CLEANERS.

Specification forming part of Letters Patent No. 116,122, dated June 20, 1871.

To all whom it may concern:

Be it known that I, JOHN H. WEAVER, of Gap, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Improvement in Grain-Cleaner; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a top view of a grain-separator to which my improvement has been attached. Fig. 2 is a detail vertical section of the same through the line *x x*, Fig. 1. Fig. 3 is a detail side view of the lower part of the shoe, showing its attachments. Fig. 4 is a detail longitudinal section of the grain-receiving box.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of grain-separators to enable them to more effectually clean wheat and other grains from chaff, heavy straws, and other foreign matter; and it consists in the construction and combination of various parts of the cleaner, as hereinafter more fully described.

A represents the frame. B is the casing. C is the fan-box, and D are the fans, to which motion may be given by a crank, E, attached to the end of the fan-shaft. To the said fan-shaft, near its other end, is attached a bevel-gear wheel, F, into the teeth of which mesh the teeth of a bevel-gear wheel, G, attached to the shaft H. The shaft H revolves in bearings in the frame A, and to its rear end, which projects at the rear or shoe end of the separator, is attached a small crank or crank-wheel, I, to the crank-pin of which is pivoted the outer end of the connecting-rod J, which extends across the end of the shoe K, and is pivoted to the projecting end of an arm, L, which is attached to the further side of the shoe K. The shoe K is hung from the casing B by the spring or pivoted rods M, so that the said shoe may be operated by the revolution of the fan-shaft. The grain, as it enters the shoe K, passes upon the sieve N, through which it passes to the inclined screen O, and from which the chaff is blown off and passes out at the tail of the machine. The screen O is made so fine that kernels of wheat or other grain being cleaned cannot pass through, but will slide down it. The fine seeds that may be with the grain pass through the screen O and fall upon the board P, down which they slide, and fall at its lower edge to the floor or into a receiver. The grain passes from the screen O to the screen Q, through which it passes to the grain-receiving box R, and the heavy straws, ticks, and other rubbish that has not passed off with the chaff escapes at the forward edge of the screen Q, as hereinafter described. The ends of the screen Q are placed in grooves in arms S. The forward ends of the arms S are pivoted to the lower part of the shoe K, and their rear ends are secured to the arms T by bolts attached to said arms S, and which pass through curved slots in the lower parts of the said arms T, where they are secured in place by nuts and washers, so that, by loosening the said nuts, the rear edge of the said screen Q may be raised and lowered, as required. To the rear side edge of the screen Q is attached a plate or flange, U, which extends up along the inner side of the cross-bar V, attached to the shoe K, and which supports the lower edge of the screen O, and at the same time forms a vertical section or portion of the shoe to receive and divide the blast, as hereinafter described. As the rear edge of the screen R is lowered the plate U slides down along the bar V to prevent an opening from being formed between the bottom of the said bar V and the rear edge of the said screen, as hereinbefore described. The ends of the grain-receiving box Q project at the sides of the separator, and are closed by means of slide-gates W. The bottom X of the receiving-box R is pivoted at its center, as shown in Fig. 4, so that it may be tipped or inclined in either direction to discharge the grain at either side of the separator, as may be desired, the weight of the grain holding it securely in place when adjusted. The mouth of the fan-box C, that gives direction to the blast of air, is so arranged, as shown in Fig. 2,

that, while the main current of air will pass up to blow off the chaff, a part of said blast will strike the vertical section V and will be turned so as to return across the screen Q, and force any straw, sticks, or other heavy rubbish that may come down with the grain off said screen, allowing them to fall to the floor.

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

1. The screen Q and shoe K, combined with grooved and pivoted arms S and slotted arms T, as and for the purpose specified.

2. The screen Q, movable plate U, bar V, shoe K, and screen O, combined, constructed, and arranged as and for the purpose specified.

3. The box B, having end projections R, vertical gates W W, and pivoted bottom X, constructed and arranged as and for the purpose specified.

JOHN H. WEAVER.

Witnesses:
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