

(No Model.)

A. H. JOHNSON.
SHOE FOR GRAIN SEPARATORS.

No. 289,915.

Patented Dec. 11, 1883.

FIG. 1.

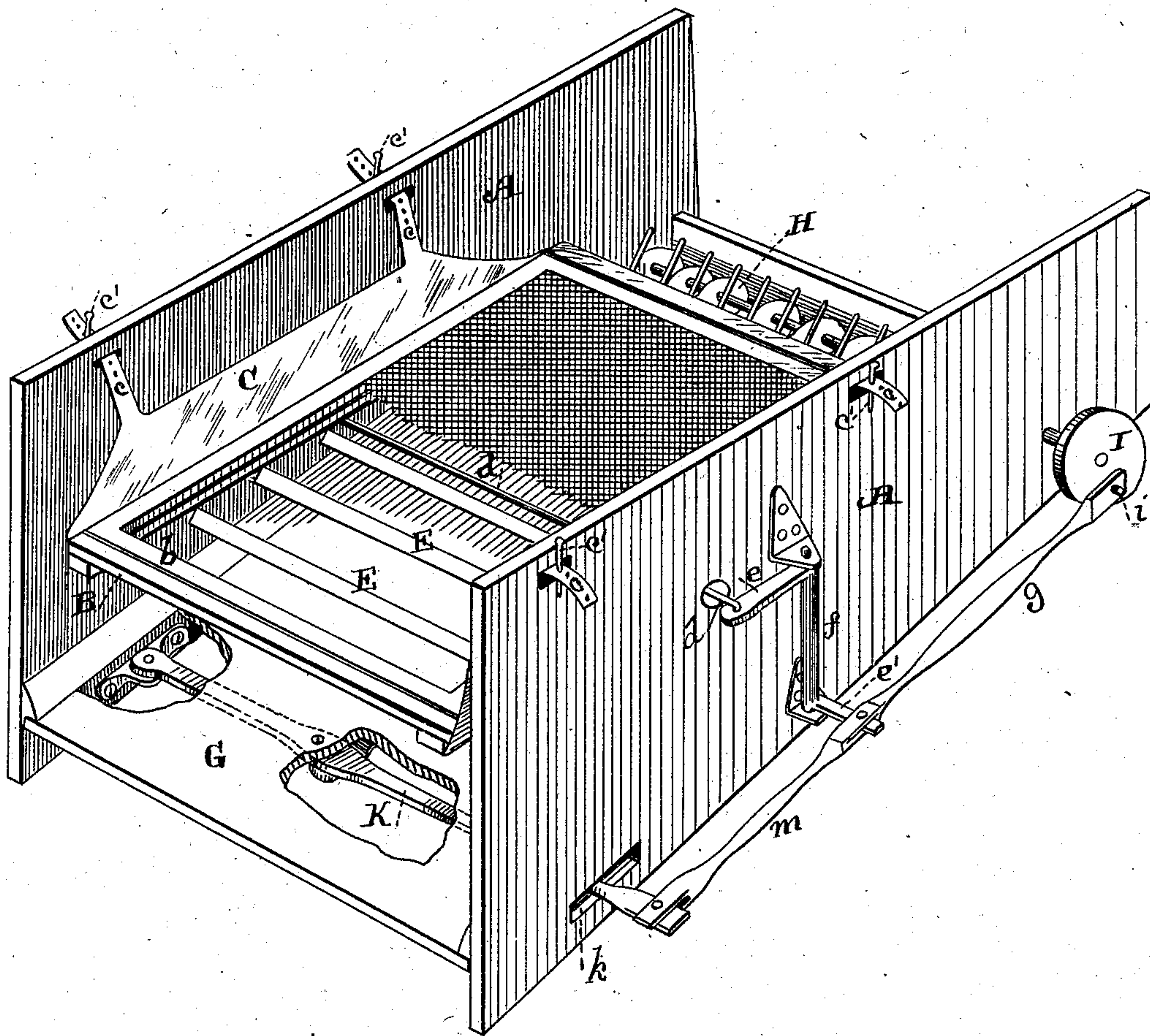
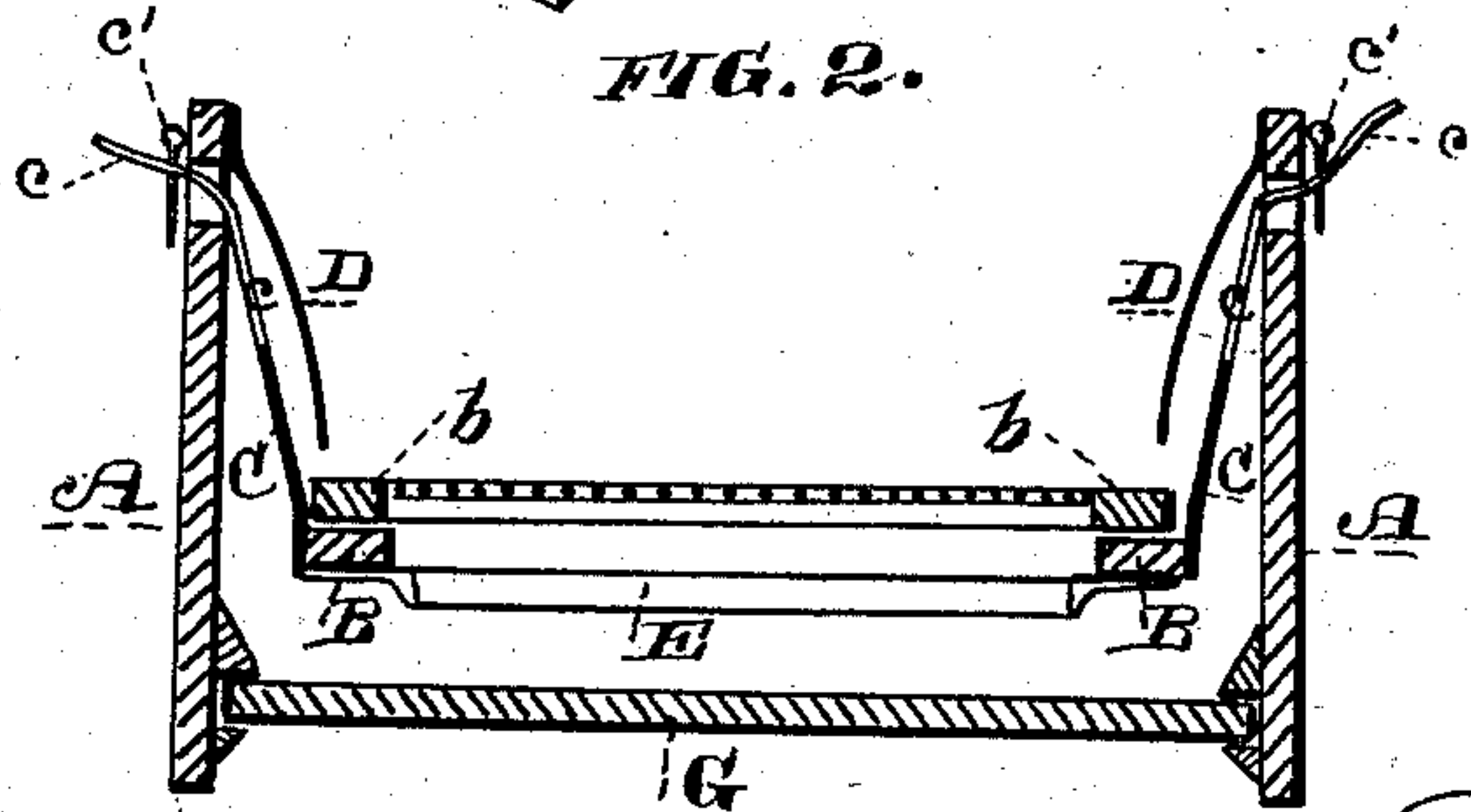


FIG. 2.



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ARTHUR H. JOHNSON, OF WOODLAND, CALIFORNIA.

SHOE FOR GRAIN-SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 289,915, dated December 11, 1883.

Application filed February 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. JOHNSON, of Woodland, county of Yolo, State of California, have invented an Improved Shoe for Grain-Separators; and I hereby declare the following to be a full, clear, and exact description thereof.

Referring to the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a vertical cross-section.

A represents the sides of a frame, within which is hung the shoe B. This shoe is constructed of light pieces set at right angles to each other, the ends being on top of the sides in order to properly inclose the riddle *b*, which is laid upon the shoe.

Attached to the sides of the shoe are leather or other flexible strips, C. From the forward and rear ends of these strips tongues *c*, of the same material, extend through frame A, and project beyond sufficiently to allow them to be grasped. They are secured by small pins *c'*. Thus the shoe is hung in the frame by the flexible strips C, and may yield to any desired movement. The tongues *c* furnish means to adjust the shoe from the outside to any inclination, or to raise or lower any corner, or otherwise to change its position, according to circumstances.

In order to protect the hanger-strips C from dust and chaff, I attach flexible shields or curtains D to the sides of the frame, and let them hang down over the hanger-strips, Fig. 2. Across the shoe B, I secure firmly a number of parallel inclined directing-strips, E. These are at such inclination as to direct the wind from the fan up through the shoe and under the riddle *b*. By placing them throughout the extent of the shoe the wind will be directed upon the whole under surface of the riddle. Under the shoe is the grain-board G, secured in suitable guides in the frame A. Its upper end is in relation with an auger, H, for carrying the grain to one side, and approaches very close to the shoe, though it is in no wise connected therewith.

In order to give the shoe a side motion, I attach a rod, *d*, to one side of the shoe and carry it through the frame to the outside. Here it is connected with a crank, *e*, of a vertical shaft, *f*, mounted on the outside of the

frame. This shaft has a second crank, *e'*, with which is connected rod *g*.

I is the driving-pulley, having a crank-pin, *i*, with which the rod *g* is connected. By the revolution of the pulley I the shaft *f* is oscillated, and imparts a side swing or motion to the shoe B through the rod *d*. At the same time, in order to impart a longitudinal or end swing to the grain-board, I pivot one end of a long lever, K, to one side of the frame A, pivot it again to the under lower center of the grain-board, and allow its free end to extend through a slot, K, in the other side of the frame. A connecting-rod, *m*, joins the end of this lever with the lower crank, *e'*, of the shaft *f*. Thus the end of lever K is reciprocated, and imparts to the grain-board an end or longitudinal movement.

I deem this combination of movements—namely, the side motion of the shoe and the end motion of the grain-board—very beneficial in its effect. It gives a better agitation to the grain than if both moved in the same direction, and thus allows the wind to clean it up thoroughly.

By having the shoe suspended in the frame A as a separate and distinct part, I have but a light frame to vibrate, instead of having the entire frame A to move, as is usually the case.

The hanging of the shoe by the leather strips is effected, and the means for adjusting it in any desired manner by the tongues *c* are simple and useful.

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

The frame A, grain-board G, and means for vibrating it longitudinally, consisting of the lever K, pivoted underneath it, the rod *m*, and the driving-pulley, in combination with the separate riddle-shoe B, the flexible strips C, having tongues *c*, and the means for vibrating said shoe transversely, consisting of the rod *d*, shaft *f*, having cranks *e* *e'*, and rod *m*, substantially as herein described.

In witness whereof I hereunto set my hand.

ARTHUR H. JOHNSON.

Witnesses:

E. L. PARRAMORE,
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