(No Model.)

J. DABLE.

MEANS FOR OPERATING THE SLIDES OF GRAIN HOPPERS.

No. 388,641. Patented Aug. 28, 1888.

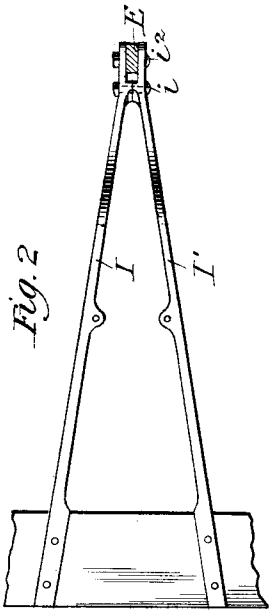


Fig. 2

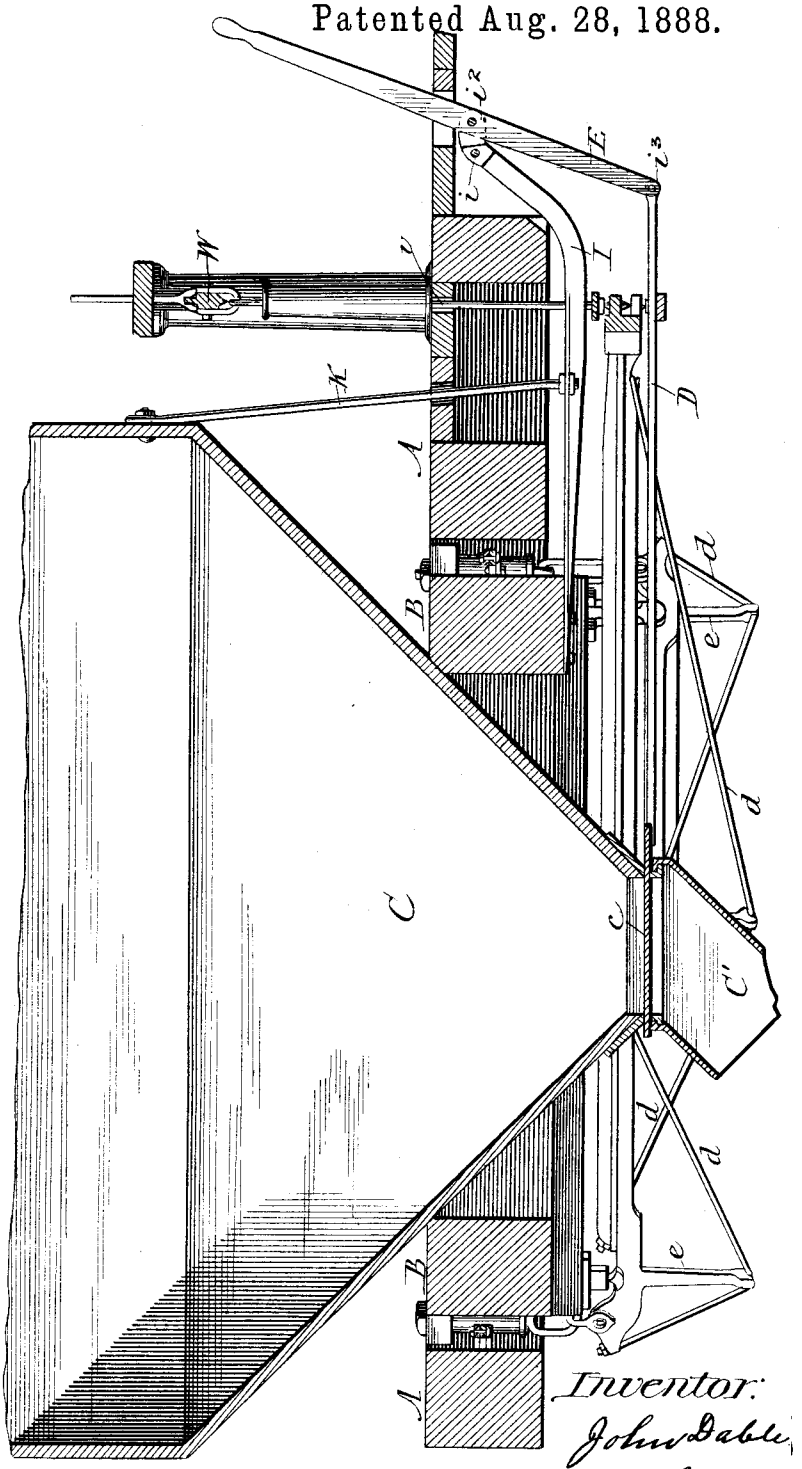


Fig. 1

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UNITED STATES PATENT OFFICE.

JOHN DABLE, OF CHICAGO, ILLINOIS.

MEANS FOR OPERATING THE SLIDES OF GRAIN-HOPPERS.

SPECIFICATION forming part of Letters Patent No. 388,641, dated August 28, 1888.

Application filed May 25, 1888. Serial No. 275,068. (No model.)

To all whom it may concern:

Be it known that I, JOHN DABLE, of Chicago, county of Cook, and State of Illinois, have invented an Improvement in the Means for Operating the Slides of Grain-Hoppers, of which the following is a specification.

My said invention will be fully described hereinafter with reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of an apparatus embodying my improvement; and Fig. 2, a detail view of the lower side of a portion of the square frame B and the two curved bars I and I′, the inner ends of which are fastened on the under side of the square frame B, while their outer ends are bolted to each other and are pivoted to and sustain the upright lever E.

My said improvement herein described and claimed with a grain-hopper, C, a slide, *c*, a spout, C′, a square frame, B, for the hopper, and a main or foundation frame, A, and a frame of metal rods, *e* and *d*, and a scale-beam, W, connected with the last-mentioned frame, are exactly the same with those shown and described in Letters Patent of the United States issued to me bearing date the 31st day of January, A. D. 1888, No. 377,292, for a scale for weighing grain, in which the operative parts consisted mainly of a hand-wheel, vertical lever, a rack and pinion, and a support for the same, by means of which the slide *c*, under the bottom of the hopper, was operated, whereas the special devices herein described and claimed consist of the upright lever E, which is passed down through a vertical slot through the floor of the building and is pivoted between the outer ends of the curved bars I and I′, which are spread asunder at their inner ends, which inner ends are themselves fastened to the frame B, as shown in the drawings. These bars near their outer ends are curved upward, in order that their connection with the upright lever E may be pivoted to them at a point nearly midway of its length, and that they may form a fulcrum for the lever.

The lower end of the lever E is pivoted to the outer end of a horizontal rod, D, the inner end of which is securely fastened to the slide *c*, which slide is passed through an aperture in the lower end of hopper C, so that when the upper end of the lever is forced back and forth on its fulcrum-pin i^2 the slide *c* will be driven in and out and the lower end of the hopper opened to and closed against the grain put into the hopper to be weighed. These devices for operating the slide are securely attached to the hopper C by two rods, *k*, the upper ends of which are bolted to the hopper, while their lower ends are likewise fastened to the curved rods I and I′, respectively.

By reason of the construction and arrangement of the lever E and its specified connections with the square frame B, the hopper C, and the slide *c*, and of the hopper being seated in the square frame B, these parts will always have true and accurate action in reference to each other, the whole of them being disconnected in their action from the foundation-frame A and the frame by which the latter is connected with the scale-beam W.

The spreading asunder of the inner ends of the curved bars I and I′ and their attachments to the hopper secure the lever against any sidewise yielding, and the position of the upper end of the lever will always indicate to the eye of the operator whether the lower end of the hopper be opened or closed without his taking the time and trouble of going below to see the slide *c*, and quick and accurate weighing of the grain will be the result.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the hopper C, the slide *c*, the bar D, attached at one end to the slide *c* and pivoted at the other to the lower end of the lever E, the said lever itself pivoted between the outer ends of the curved bars I I′, the said curved bars themselves having their inner ends fastened to the square frame B, and the vertical bars *k*, connecting the middle portions of said curved bars with the hopper C, adapted to operate the slide *c*, substantially as described.

JOHN DABLE.

Witnesses:
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