E. A. FRITZ & H. J. CARSON.

PORTABLE ELEVATOR.

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973,495.

Patented Oct. 25, 1910.

Fig. 1.

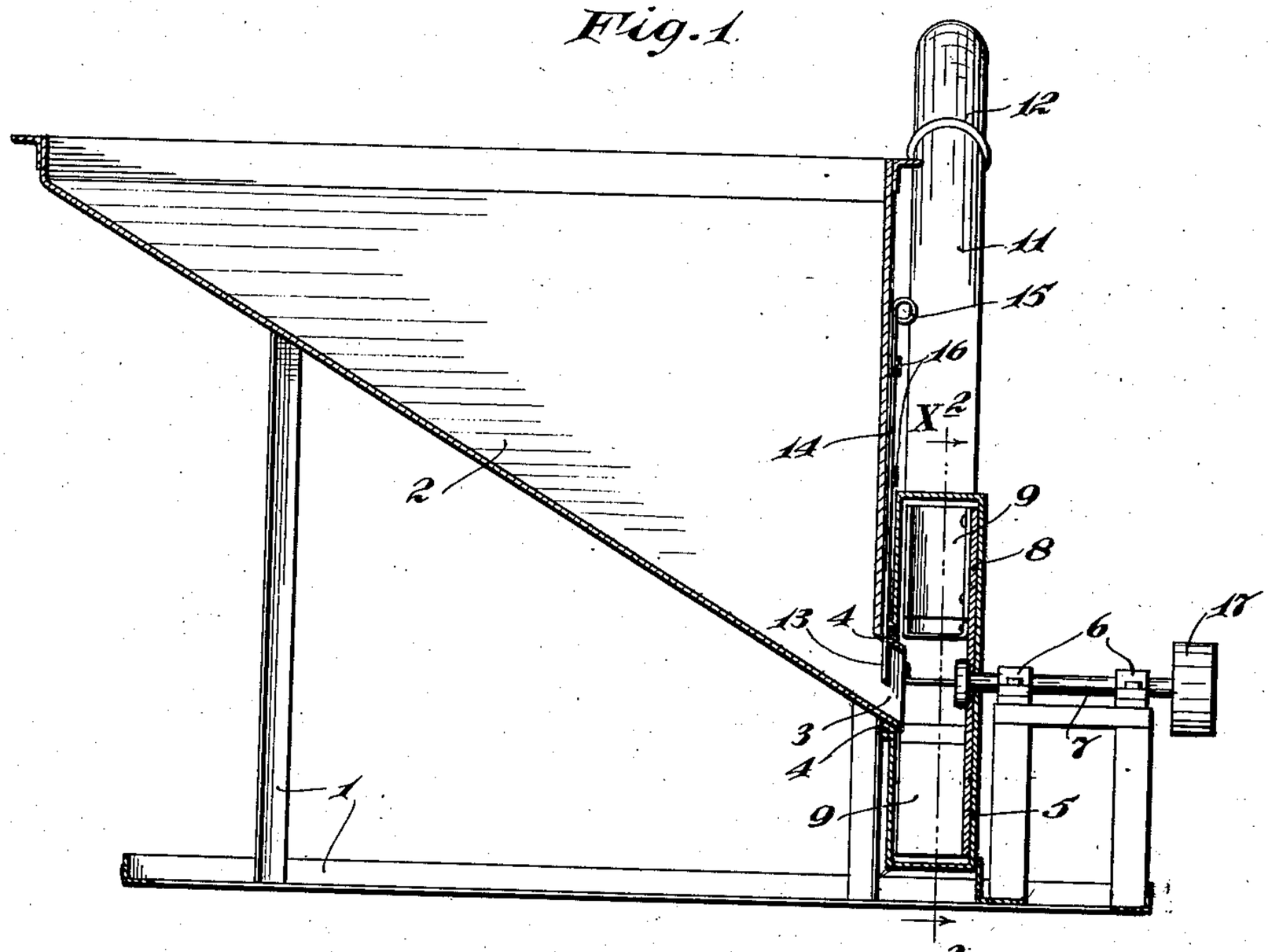
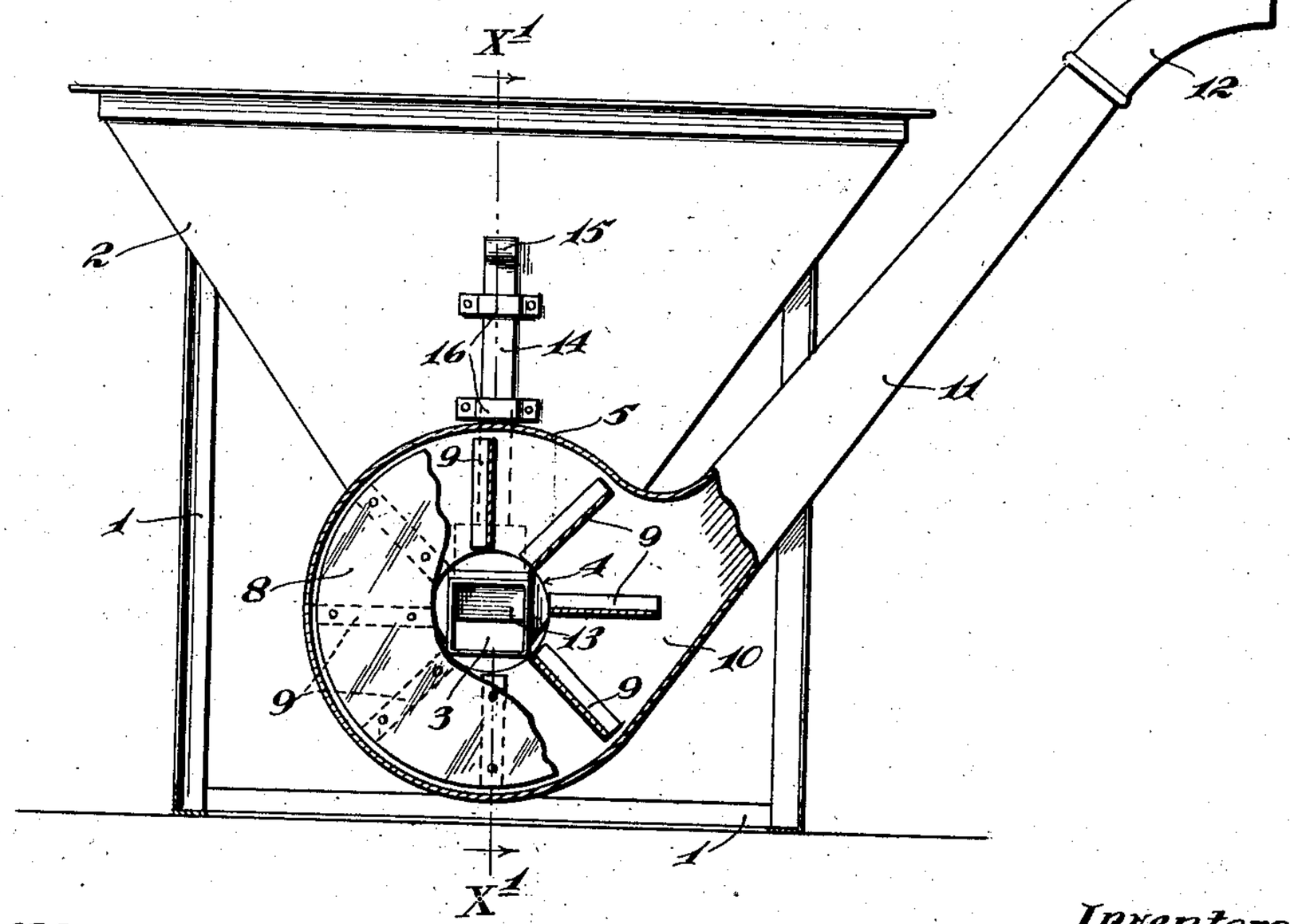


Fig. 2.



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UNITED STATES PATENT OFFICE.

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PORTABLE ELEVATOR.

973,495. Specification of Letters Patent. Patented Oct. 25, 1910.

Application filed February 10, 1910. Serial No. 543,021.

To all whom it may concern:

Be it known that we, EMIL A. FRITZ and HUGH J. CARSON, citizens of the United States, residing at Fairfax, in the county of Renville and State of Minnesota, have invented certain new and useful Improvements in Portable Elevators; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its object to provide an improved grain elevator especially adapted for use on a farm in elevating grain into the granary.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claim.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a longitudinal vertical section taken on the line x^1 x^1 of Fig. 2; and Fig. 2 is an end elevation, with some parts sectioned, on the line x^2 x^2 of Fig. 1.

The numeral 1 indicates a portable skeleton frame upon which is mounted a hopper 2. This hopper is provided, in its vertical side, adjacent to the bottom thereof, with a short discharge neck 3 which projects into the eye 4 of a fan case 5 secured to the frame.

Mounted in suitable bearings 6 on the frame 1 is a horizontally extended shaft 7, the inner end of which projects into the fan case 5. To the inner end of the shaft 7, is rigidly secured a disk-like head 8 which works close to the inner surface of the outside of the case 5 and on the opposite side from the eye 4. On the inner face of the head 8 is secured a multiplicity of radially and laterally projecting blades 9. These blades are preferably, as shown, channel-shaped in cross section, with one side of each blade 9 riveted or otherwise secured to the inner face of the head 8 and with the other side thereof working close to the inner wall of the fan case 5. By reference to Fig. 2, it will be noted that the inner ends of the radially projecting blades 9 terminate from the center of the fan case 5 a distance equal to the diameter of the eye 4 of the fan case 5, thus permitting the blades 9 to rotate around the inwardly projecting end of the discharge neck 3.

The fan case 5 is provided with a longitudinal opening 10 which leads to an upwardly projecting spout 11. To the free upper end of the spout 11 is secured a flexible discharge nozzle 12 which may be of any suitable construction. In actual practice, suitable means will be provided for operating the flexible nozzle from a distant point.

Mounted in the discharge neck 3 is a vertically movable gate 13 having an upwardly extended stem 14 which terminates at its free upper end in a hand piece 15. Suitable guides 16 are secured to the hopper 2 through which the stem 14 works. To the outer end of the shaft 7 is secured a driving pulley 17 which may be driven from any suitable source.

The operation of the device may be briefly stated as follows: The fan is first started and when the same has reached the required speed, the grain to be elevated is poured or shoveled into the hopper 2 and permitted to flow through the discharge neck 3 and into the fan case 5. By the adjustment of the gate 13, the flow of the grain through the discharge neck 3 may be regulated. The grain, in leaving the discharge spout 3, will first strike the head 8, be caught by the blades 9 and thrown through the opening 10 in the fan case 5 into the discharge spout 11. From thence the grain will be blown through the spout 11, by the blast of the fan. By the proper adjustment of the nozzle 12, the grain may be deposited into any one of the several bins of the granary, at will.

The above device, while very simple and of comparatively small cost, has, in actual practice, been found highly efficient for the purposes had in view. It has been found that any smut which may be on the grain will be broken up by the action of the blades 9 on the grain, and it has also been found that a great deal of the dust in the grain will be blown therefrom as the grain leaves the discharge nozzle 12.

What we claim is:

In an elevator of the kind described, the combination with a fan casing having an eye in one side and provided with a discharge spout, of a disk-like head within said fan casing and working close to the opposite side from said eye, inwardly and radially projecting channel shaped blades secured to said

head, a driven shaft projecting into said fan casing and secured to said head, a hopper having a discharge neck projecting into and through the eye of said fan casing, and a regulating gate mounted in said discharge neck outside of said fan casing substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EMIL A. FRITZ.
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