(No Model.)

# J. J. MORAN.

## BLAST REGULATOR FOR GRAIN SEPARATORS.

No. 289,436. Patented Dec. 4, 1883.

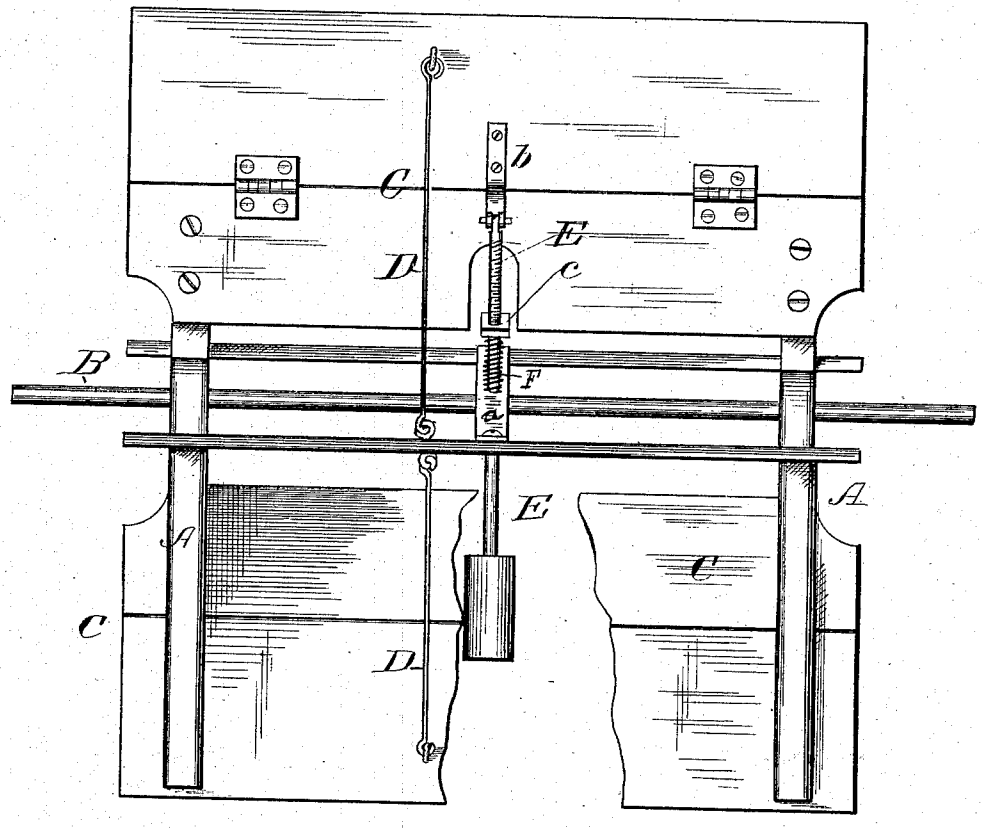



Fig. 1.

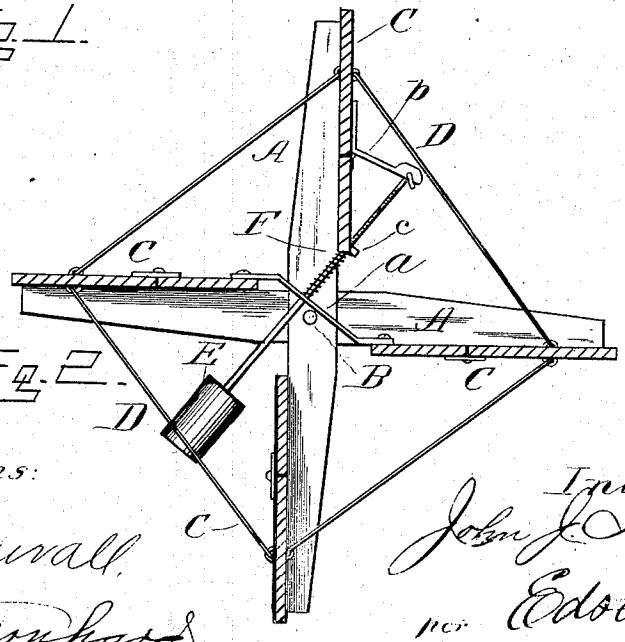



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOHN J. MORAN, OF NEOGA, ILLINOIS, ASSIGNOR OF ONE-HALF TO FRANKLIN D. VORIS, OF SAME PLACE.

## BLAST-REGULATOR FOR GRAIN-SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 289,436, dated December 4, 1883.

Application filed July 3, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. MORAN, a citizen of the United States, residing at Neoga, in the county of Cumberland and State of Illinois, have invented certain new and useful Improvements in Blast-Regulators for Grain-Separators; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a blast-fan for thrashing-machines; and it consists of the combination and arrangement of parts, as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a plan view, with portions of the wings broken away, of my improved blast-fan. Fig. 2 is a vertical cross-section thereof.

In carrying out my invention I construct a frame of two pairs of crossing bars, A, secured together (it may be) by the fixed sections or portions of the wings or blades presently described, and having a central shaft, B, with its ends adapted to bear in the sides of the fan-chamber common to all thrashing-machines.

C C are the wings or blades, which are preferably of rectangular form, and each composed of two longitudinal sections or portions, one being fixed to the radial arms of the crossing bars A, at the inner ends of said arms, while the other sections are hinged to the fixed sections; or they may each, as a whole, be hinged directly to the arms. The hinged sections of the wings or blades are connected together by rods D, to enable them all to act simultaneously.

E is a weighted rod arranged obliquely to the plane of the wings or blades in an oppositely obliquely disposed plate, *a*, fastened to two of the inner fixed wing-sections, with its unweighted end connected to a bracket, *b*, secured to one of the hinged wing-sections. This weighted rod E is provided with a tension or pressure regulating spring, F, arranged between the plate *a* and a nut, *c*, fitted to work upon a screw-thread of the rod E.

It will be noticed that with the fan in motion, should it exceed a given speed, (the normal speed, its wings having been adjusted by means of the regulating-nut *c* to resist the pressure at the latter speed,) the hinged sections of the wings will yield and continue to yield as the pressure or speed continues above that pointed out, thereby effecting an equal amount of blast, whether the speed be high or low.

By adjusting the tension of the spring F by means of the nut *c*, the hinged wing-sections can be enabled to resist a greater pressure than would be required to overcome the weighted rod, and thus permit the increasing of the speed, accordingly, of the fan.

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

1. The combination, with the hinged or flexibly-secured wing-sections connected together for simultaneous operation, of the weighted rod arranged to act on and connected to the said hinged wing-sections, substantially as and for the purpose set forth.

2. The combination, with the hinged wing-sections, of the screw-threaded weighted rod provided with a spring and an adjusting-nut, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. MORAN.

Witnesses:
WILLIAM H. SIMS,
EVA HENDERSON.