

(No Model.)

J. GRUBE.

BLAST REGULATOR FOR GRAIN SEPARATORS, &c.

No. 312,992.

Patented Feb. 24, 1885.

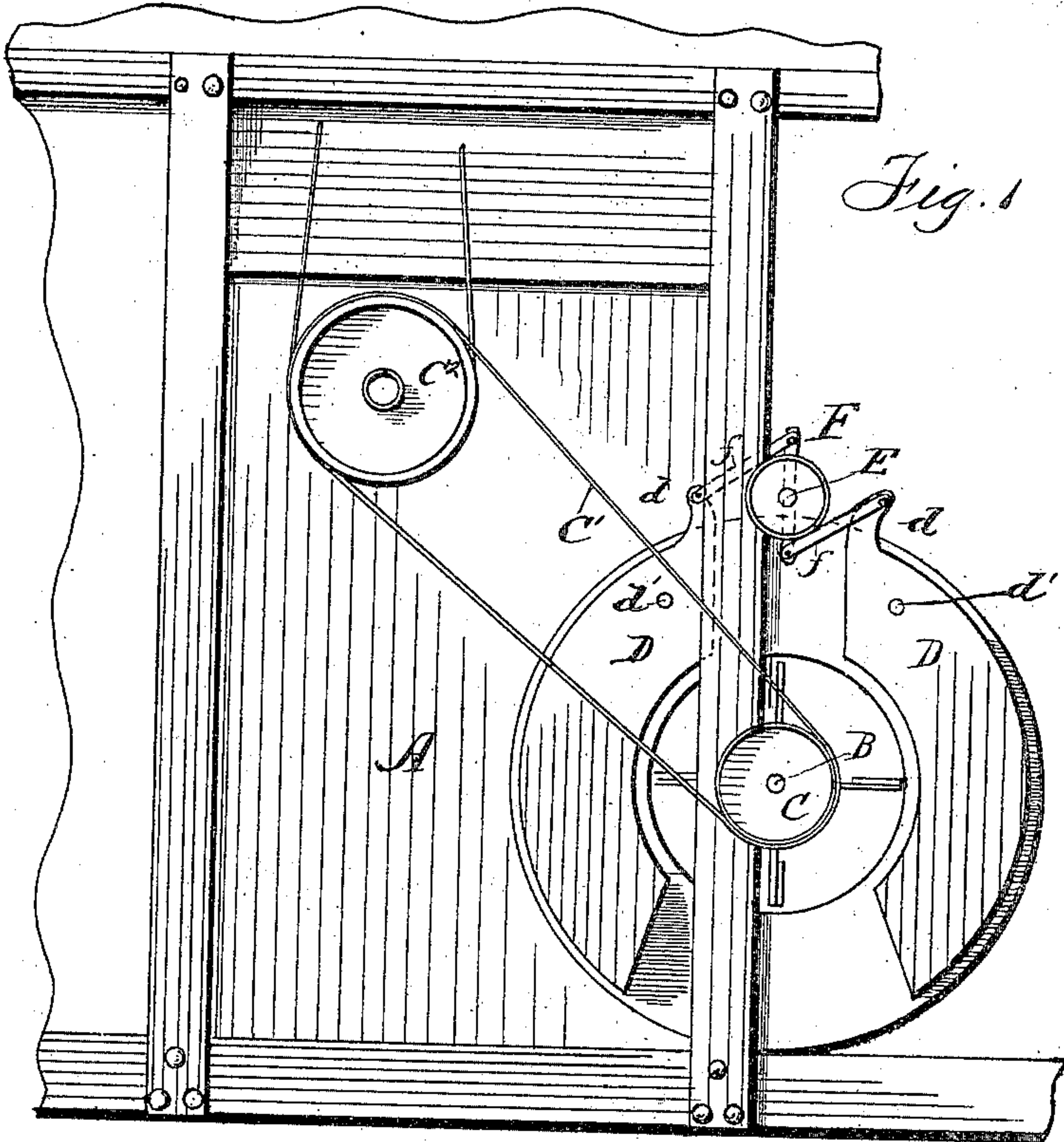


Fig. 1

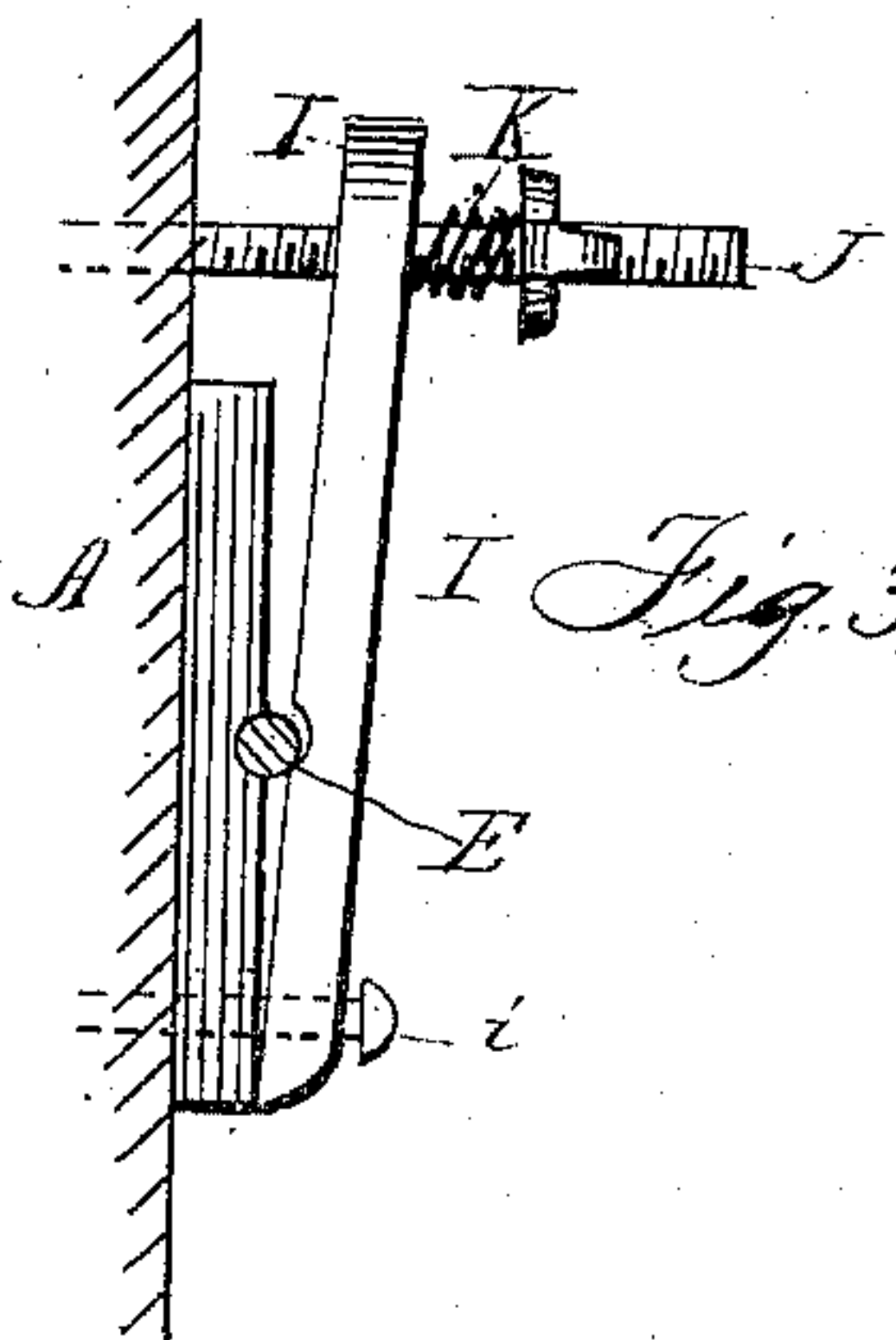


Fig. 3.

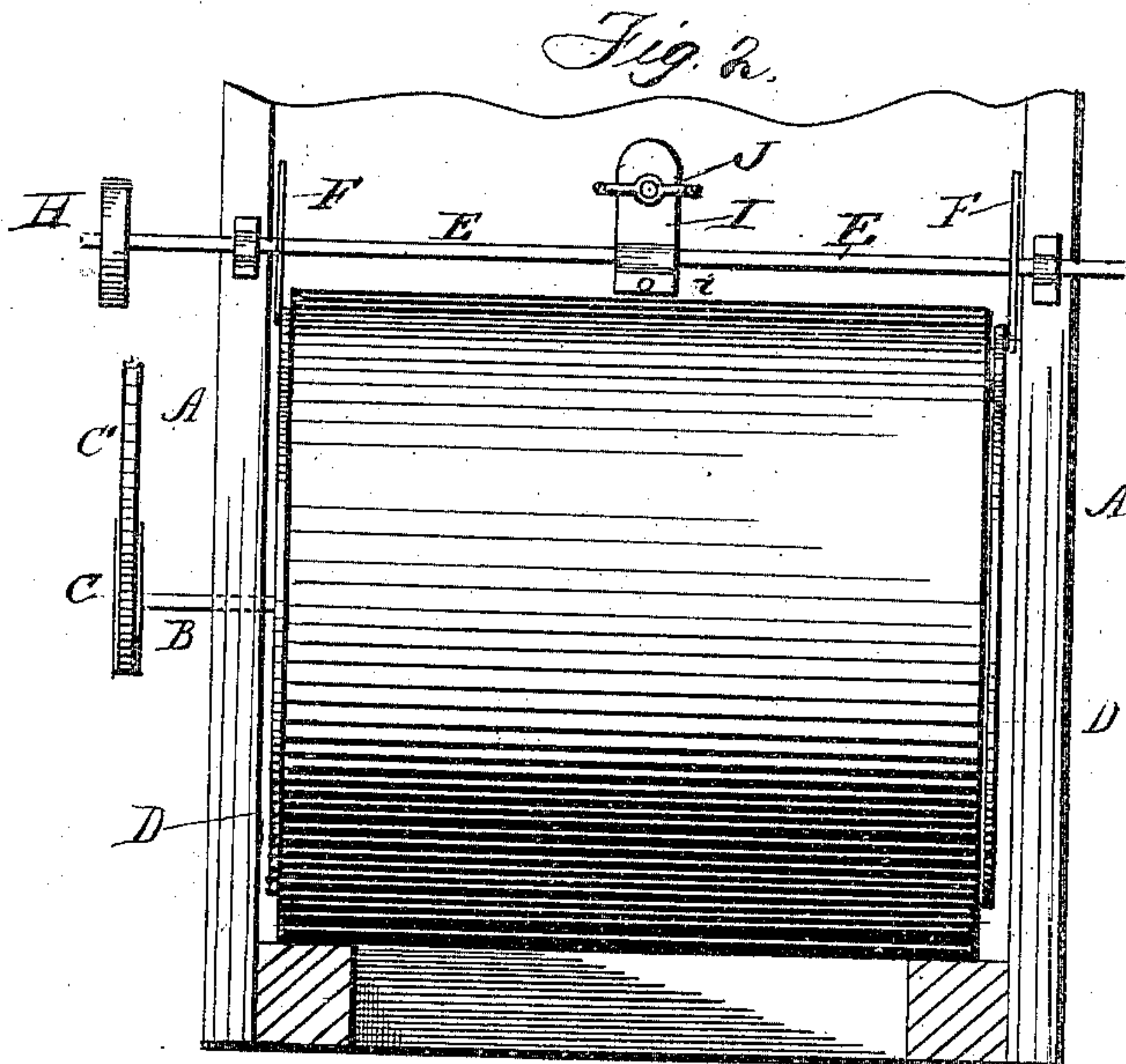


Fig. 2.

Attest.
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UNITED STATES PATENT OFFICE.

JEFFERSON GRUBE, OF NEWARK, OHIO.

BLAST-REGULATOR FOR GRAIN-SEPARATORS, &c.

SPECIFICATION forming part of Letters Patent No. 312,992, dated February 24, 1885.

Application filed June 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, JEFFERSON GRUBE, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Blast-Regulators for Grain-Separators, &c.; 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.

My invention relates to grain-separators, and to a novel means for adjusting or regulating the fan-blast which operates, in connection with the screens, for effecting a separation of the grain from the straw, chaff, &c.; and the novelty consists in the construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The invention is designed as an improvement upon the device shown in Patent No. 224,470, of 1880, in which two wind-boards are pivoted at the top, and each has a groove, in which works a pin upon either end of a lever. This lever is operated by a handle or hand-lever, and it may be adjusted and locked in any position desired by a toothed segment. In this construction it will be observed that the operating-lever has but little play, and that the latter part of its action has but little influence upon the wind-boards—that is to say, the action of the lever is greatest when it is farthest from a horizontal position, and decreases as it assumes such a position. The lever-pins also have great friction in the grooves, and are liable to pinch and choke therein by the dust. Added to these difficulties is the greater one that, the pivots of the wind-boards being at the top, great movement upon the part of the lever is necessary to afford a limited opening of the draft. I obviate all these difficulties by forming each wind-board as a lever, with its pivot or fulcrum between the operating-points and the draft-aperture. I thus get the full extent of the adjustment by a very limited action of the operating mechanism.

The device may be operated from either side,

and means are employed to secure the wind-boards in any desired position automatically.

The invention is fully illustrated in the accompanying drawings, in which Figure 1 is a side elevation of my improvement; Fig. 2, an end elevation, and Fig. 3 a detail enlarged.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A designates the frame of a grain-separator, B the fan-shaft, and C C' C² the power-connections. These are of any well-known and approved construction, and need not be further described in this connection.

D D designate the wind-boards, each formed with an extending arm, *d*, and pivoted to the fan-box at *d'*.

E designates a rock-shaft, which extends across the machine, and carries rigidly at either end a cross-lever, F, which by one of its arms is connected by a link, *f*, to the arm *d* of one of the wind-boards, and by its other arm is similarly connected to the arm of the other wind-board of the same pair, it being understood that this construction of parts is similar upon either end of the fan-box, and that all the wind-boards are operated simultaneously by the single rock-shaft E. The rock-shaft may be operated from either end by a hand-wheel, as H, and it is locked in any desired position of adjustment by a friction-cap, I, which, being hinged at *i*, has its perforated free end passed over a rod or arm, J, upon which a spiral spring, K, operates with a constant force, with sufficient friction to hold the rock-shaft against turning. By this construction it will be observed that a minimum action of the rock-shaft gives a great motion to the wind-boards, and that the loose pivots between the operating parts avoid any liability of choking.

I am aware that single boards have been operated from either side of the machine, and such feature is not sought to be covered in this patent.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a fan-draft regulator, the combination, with the pivoted wind-boards arranged in pairs and having extending arms, as *d*, of a rock-shaft common to all said wind-boards, the said shaft being connected to the extend-

ing arms, and the pivots of the wind-boards being between the points of such connection and the draft-apertures, as and for the purposes set forth.

- 5 2. The separator A, shaft B, wind-boards D, having arms d , pivots d' , the rock-shaft E, levers F, links f , friction-cap I, rod or arm J, and spring K, all combined and arranged to serve as and for the purposes specified.

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

JEFFERSON GRUBE.

Witnesses:

C. W. STEWART,
S. B. HALL.