

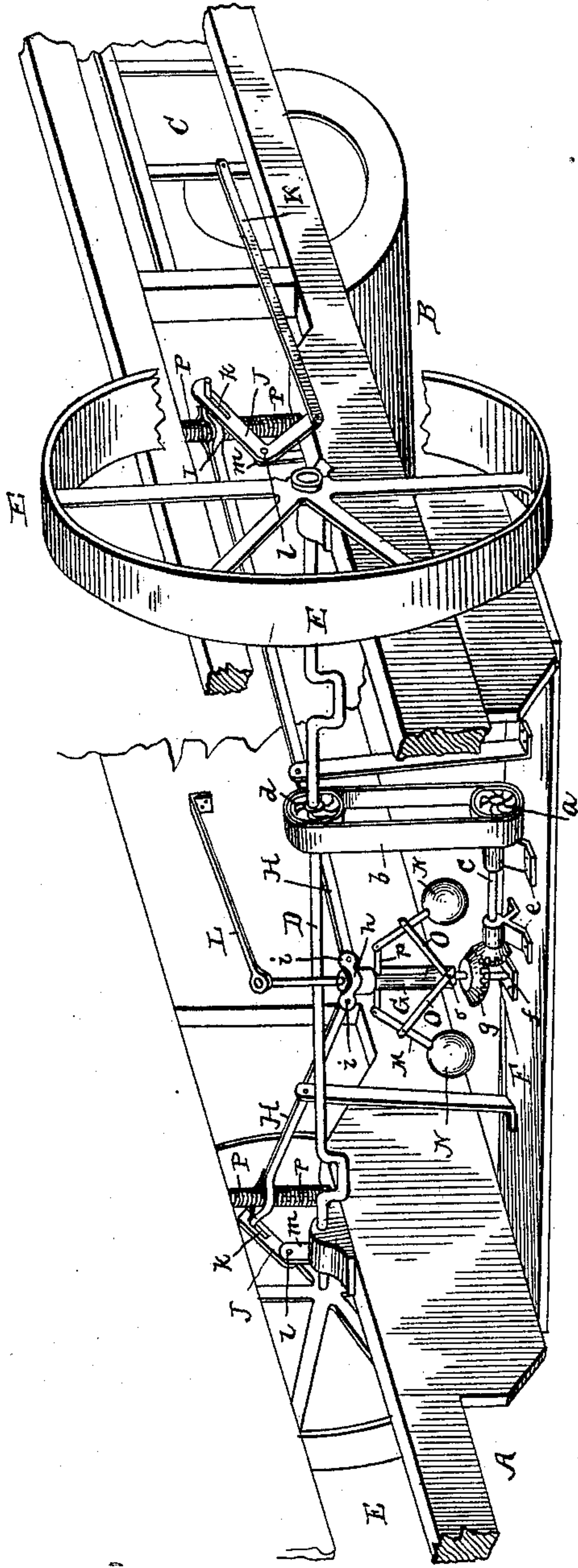
(No Model.)

J. S. ADY.

AIR BLAST REGULATING DEVICE FOR FANNING MILLS.

No. 432,352.

Patented July 15, 1890.



Witnesses
Ira R. Steward.
Alfred T. Sage.

Inventor
James S. Ady,
By his Attorney,
W. E. Henderson.

UNITED STATES PATENT OFFICE.

JAMES S. ADY, OF ODEBOLT, IOWA.

AIR-BLAST-REGULATING DEVICE FOR FANNING-MILLS.

SPECIFICATION forming part of Letters Patent No. 432,352, dated July 15, 1890.

Application filed October 14, 1889. Serial No. 326,915. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. ADY, a citizen of the United States, residing at Odebolt, in the county of Sac and State of Iowa, have invented certain new and useful Improvements in Air-Blast-Regulating Devices for Fanning-Mills; 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 drawing, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in air-blast-regulating devices for fanning-mills of that class wherein the shutters controlling the admission of air are actuated by connection with a speed-governor; and it has for its object, among others, to provide an improved device of this character which shall be composed of fewer parts, operated more easily and positively, and wherein provision is made for obtaining a uniform power by means of springs applied at the ends of the vibrating levers, which are actuated by the governor.

The invention consists in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawing, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawing, which, with the letters of reference marked thereon, forms a part of this specification, and which is a perspective view of a portion of a fanning-mill, showing sufficient parts thereof to illustrate the application of my invention thereto.

Referring to the details of the drawing by letter, A designates the frame or case of the machine, and B the fan-case; C, one of the shutters for regulating the admission of air thereto; D, the crank-shaft, and E the main driving-pulleys, to which the power is applied in any well-known manner. All of these parts may be of any known construction and operate in the usual manner, and as they form no part of the present invention further description and illustration thereof are not deemed necessary.

Fast on the shaft D is a pulley *d*, from which power is transmitted to the pulley *a* by means of the band or belt *b*. This pulley *a* is carried by a horizontal shaft *c*, journaled in suitable bearings *e* attached to a stationary part of the machine, and carrying at its opposite end a bevel gear-wheel *f*, which meshes with a bevel gear-wheel *g* on the lower end of the governor-shaft F, which is supported in suitable steps, as shown in Fig. 1.

G is a sleeve on the governor-shaft, and this sleeve carries near its upper end a clamp or semicircular band *h*, which fits in a groove in the sleeve, as shown. This clamp may be formed of two semicircular parts, or may be a collar formed with lugs or ears *i*, between which are pivoted the inner ends of the vibrating levers H, which are pivoted about midway their length to the upper ends of the standards *j* and at their other ends forked or otherwise formed to embrace and work loosely on the guide-rods I, fixed to some stationary part of the machine. The outer ends of these levers extend beyond the said guides and pass through elongated slots *k* in the ends of one arm of the bell-crank levers J, pivoted at their angles, as at *l*, to some fixed support, as the bar *m*, the other ends of these bell-crank levers being connected with the rods or bars K, the ends of which are attached to the shutters C, as shown.

L is a support having at one end a bearing for the upper end of the governor-shaft.

The governor-arms M carry at their lower ends the balls N, and between their ends have pivotally connected thereto one end of the arms O, the opposite ends of which are pivotally attached to the sleeve G on the governor-shaft on a common pivot *o*. The opposite ends of the governor-arms are attached to the ends of the horizontal bar *p*.

Surrounding the guide-rods I are the coiled springs P, one above the end of the vibrating lever and one below the same, the two springs finding one point of resistance on the said lever and the other against some fixed part of the frame of the machine.

The operation is apparent, and as it is similar to that of similar devices of this character, the novelty in the present instance residing in the peculiarities of construction, a detailed description thereof is not deemed necessary.

The employment of the spiral springs at the ends of the vibrating levers for equalizing the power, the loose connection between the bell-crank levers and the vibrating levers, 5 and the general construction and arrangement of parts are considered features of importance, the loose connection especially being deemed important, for the reason that slight play is permitted, which avoids any 10 tendency to injury of the parts which would be occasioned by a sudden acceleration of speed.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

15 1. The combination, with the shutter, the crank-shaft, and the speed-governor actuated by connection with said shaft, of the vibrating lever actuated by the governor, the bell-crank lever having one of its arms provided 20 with an elongated slot, through which the end of the vibrating lever passes, the other arm of the bell-crank lever being connected with the shutter, the vertical guide-rod, and a spring surrounding the guide-rod and bearing

on the vibrating lever, substantially as shown 25 and described.

2. The combination, with the shutter, the crank-shaft, the speed-governor actuated by connection with said shaft, and the vibrating lever actuated by connection with the gover- 30 nor and having forked outer end, of the guide-rod, the forked end of the vibrating lever embracing said guide-rod, the bell-crank lever having an arm provided with an elongated slot, through which the end of the vibrating 35 lever passes, the connection between the bell-crank lever and the shutter, and the spiral springs on the guide-rod, one above and the other below the vibrating lever and bearing on the end thereof, substantially as shown 40 and described.

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

JAMES S. ADY.

Witnesses:

H. D. TECK,
B. R. WARD.