

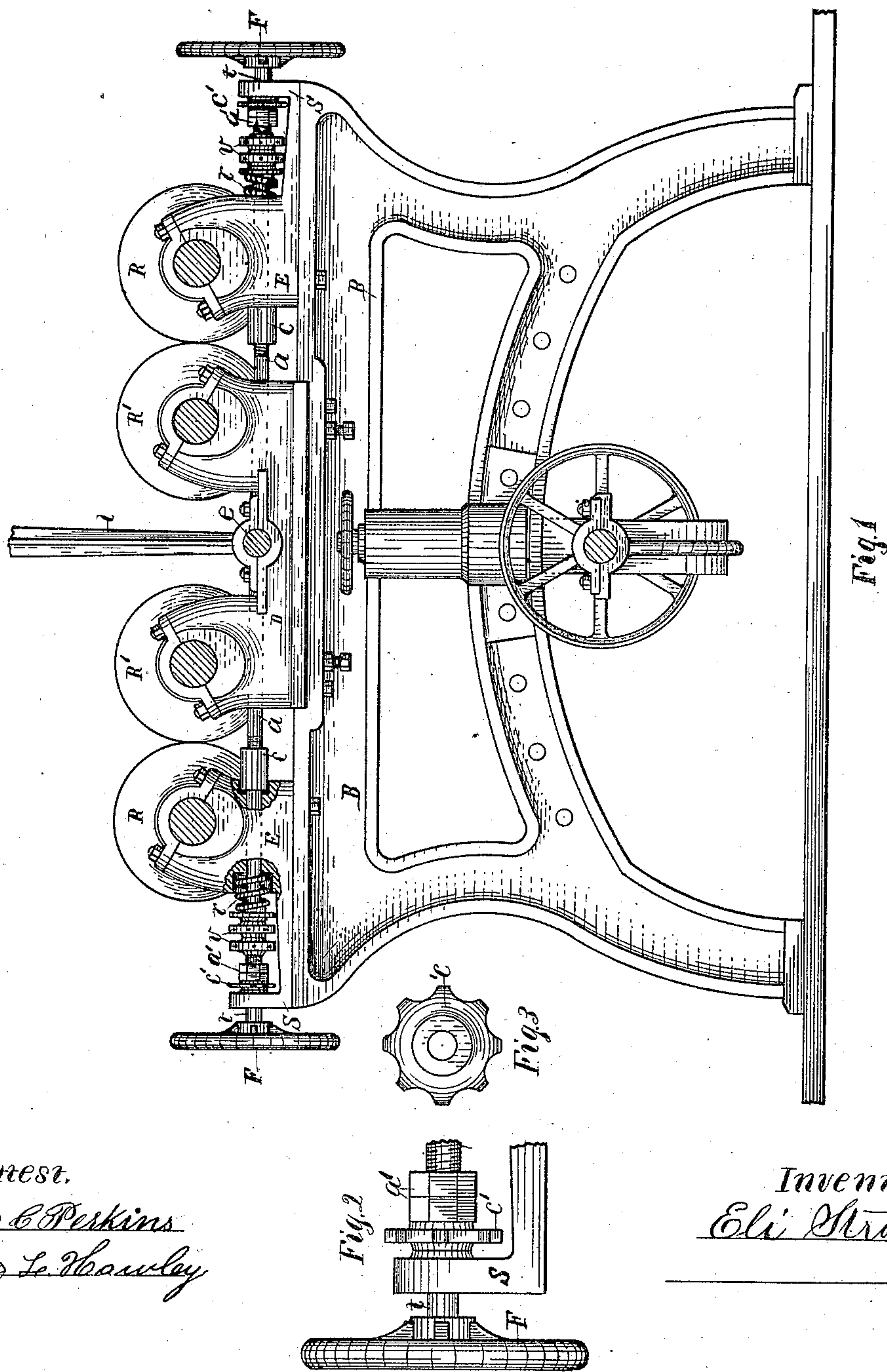
(No Model.)

E. STRONG.

PRESSURE INDICATOR FOR ROLLER MILLS.

No. 311,927.

Patented Feb. 10, 1885.



Attest.
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PRESSURE-INDICATOR FOR ROLLER-MILLS.

SPECIFICATION forming part of Letters Patent No. 311,927, dated February 10, 1885.

Application filed February 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, ELI STRONG, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo, State of Michigan, have invented a new and useful Pressure-Indicator for Roller-Mills, of which the following is a specification.

The object of this invention is to provide roller-mills with simple means to indicate when the grinding-rolls are properly adjusted, also to indicate when the pressure-spring used in connection with the adjustable roll in such mills is properly tensioned.

A construction illustrating the invention consists in an indicator-plate and a clamp operated by the movement of the adjustable roll's bearing-support in a manner to rigidly clamp the indicator-plate when the rolls are properly adjusted, and to set the plate free when the rolls are adversely adjusted.

In the drawings forming a part of this specification, Figure 1 is an elevation of a part of a roller-mill, a portion being broken away; Fig. 2, an enlarged view showing the manner of applying the indicator-plate; and Fig. 3 is a plan of an indicator-plate.

The mill shown in Fig. 1 is constructed with two sets of grinding-rolls, R' R , having like bearings and adjusting means at each end of the rolls.

In the further description of the mill, in connection with the invention, only the left-hand half of Fig. 1 will be considered further than that a pressure-indicator is to be used with each set of grinding-rolls, one at each end of the rolls, or otherwise, as desired. The stationary roll R' is located in a bearing-block having a vertical adjustment, for a purpose which need not be herein considered. The adjustable roll R is located in a movable bearing-block, E , and is thus horizontally adjustable, for the purpose of fixing and preserving a proper distance between the two rolls R' R . The adjusting-rod t , which is adjustably coupled with the threaded end of rod a , is extended through an opening in the bearing-block E , beneath the end of the adjustable roll, and through an opening in the upward extension S of said bearing-block. The rod t is provided at one end with a hand-wheel, F , and at the other end with an internally-threaded thimble, C . This thimble is screwed onto the

threaded end of rod a , and is adjustable thereon. When turning the hand-wheel F in a direction to carry the adjustable roll and movable bearing-block nearer the stationary roll, the thimble screws farther on the rod a , and when turning said wheel to carry the rolls farther apart, the thimble screws farther off the said rod. A tension-spring, r , is mounted on rod t , one end resting against the block E , and the other end resting against the tension-nuts v , which nuts are adapted to turn on the rod t in fixing the tension of the spring. A collar, a' , is rigidly secured to the rod t , and forms, in connection with the extension S , a clamp, in which the indicator-plate c' is placed.

Should the miller find by placing his hand on the indicator-plate that it was held rigidly by the clamp, he would know that the rolls were properly adjusted; but should he find the plate free to move, he would know that the rolls were running too close together. This would indicate to the miller that the tension on the pressure-spring was too great, or that the grain was not feeding sufficiently fast, and in either case that the rolls were too close together, hence not properly reducing the grain, or failing to grind at all.

In the drawings an indicator-plate is shown perforated centrally, and loosely mounted on the rod t in the clamp. Notches are formed around the edge, in which the miller may catch his finger in ascertaining whether the plate is clamped rigidly or is free to move.

Having thus described my invention, what I claim is—

1. The combination, with grinding-rolls, one of them adjustable, and means for keeping said adjustable roll in operative position by a yielding pressure, of an indicator-plate and a clamp adapted to hold the plate rigidly or set it free, whereby the condition of the grinding-roll's adjustment may be ascertained, substantially as set forth.

2. A roller-mill provided with a clamp which is operated by the movement of the adjustable roll's bearing and an indicator-plate in said clamp, whereby the plate is rigidly held or set free by the clamp to indicate the condition of the roll's adjustment, substantially as set forth.

3. The combination, with stationary and adjustable rolls, movable roll-bearings, pressure-springs, and means for adjusting the springs

and rolls, of an indicator-plate and a clamp adapted to rigidly clamp the plate or set it free, substantially as set forth.

4. The combination of an adjustable and stationary roll, a movable bearing for the adjustable roll, provided with the upward extension, an adjusting-rod provided with the rigid collar, pressure-spring, and an indicator-plate centrally perforated and loosely mounted on the adjusting-rod between said extension and rigid collar, substantially as set forth.

5. A roller-mill provided with a clamp op-

erated by the movement of the adjustable roll's bearing, and a centrally-perforated indicator-plate having a notched edge and loosely mounted in the clamp, substantially as and for the object set forth.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

ELI STRONG.

Witnesses:

T. F. GIDDINGS,
GEO. P. HOPKINS.