(No Model.)

L. C. SHROEDER.

FEED REGULATOR.

No. 324,888. Patented Aug. 25, 1885.

Fig. 1.

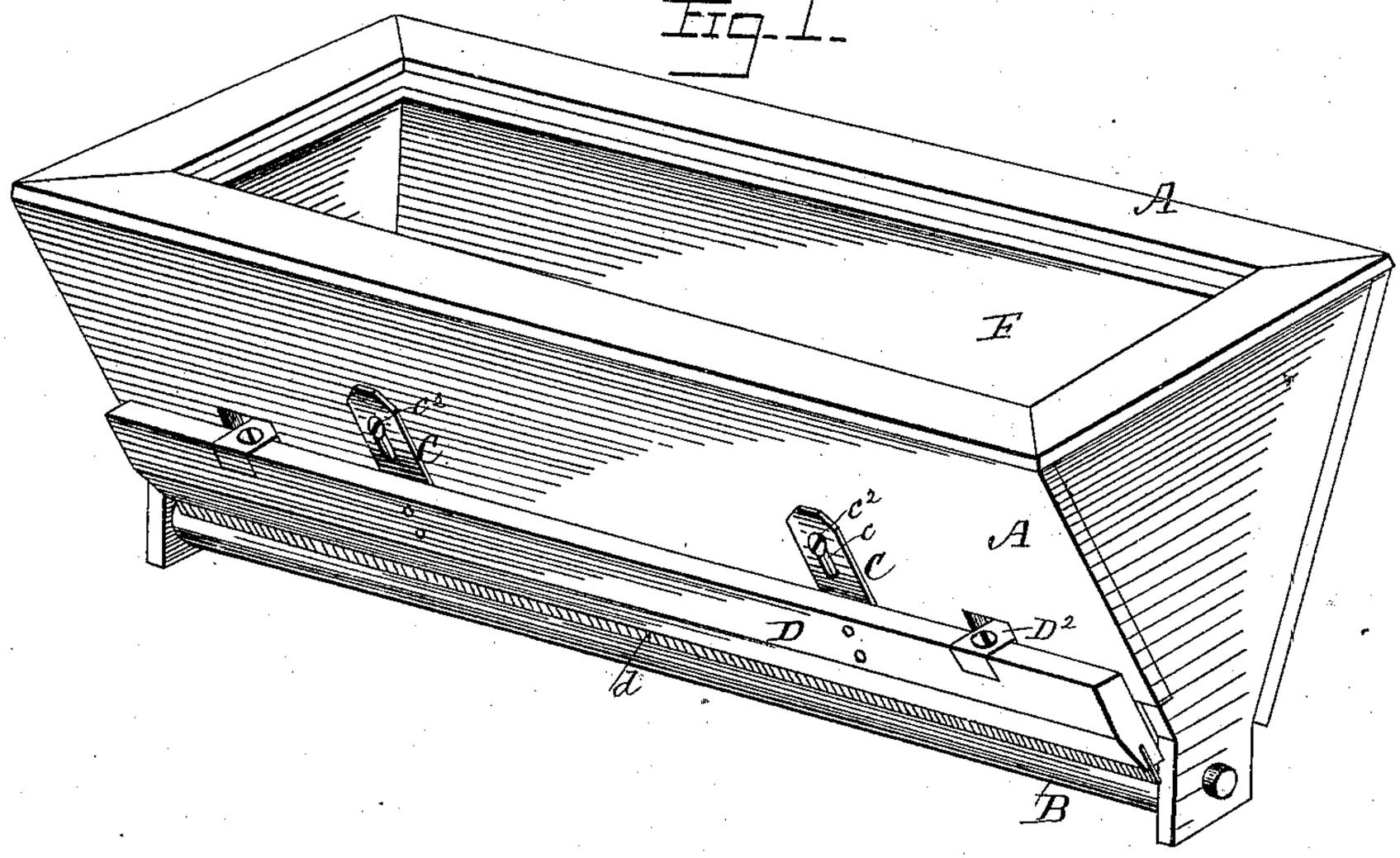


Fig. 2.

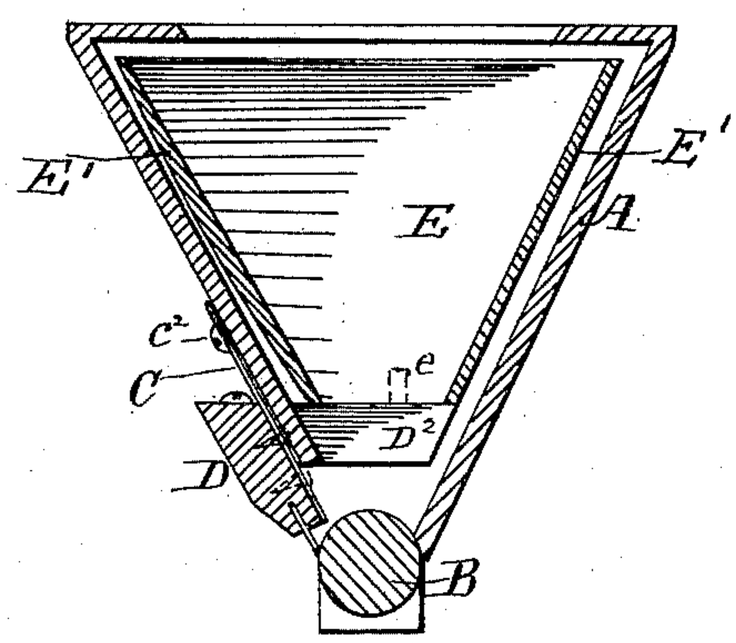
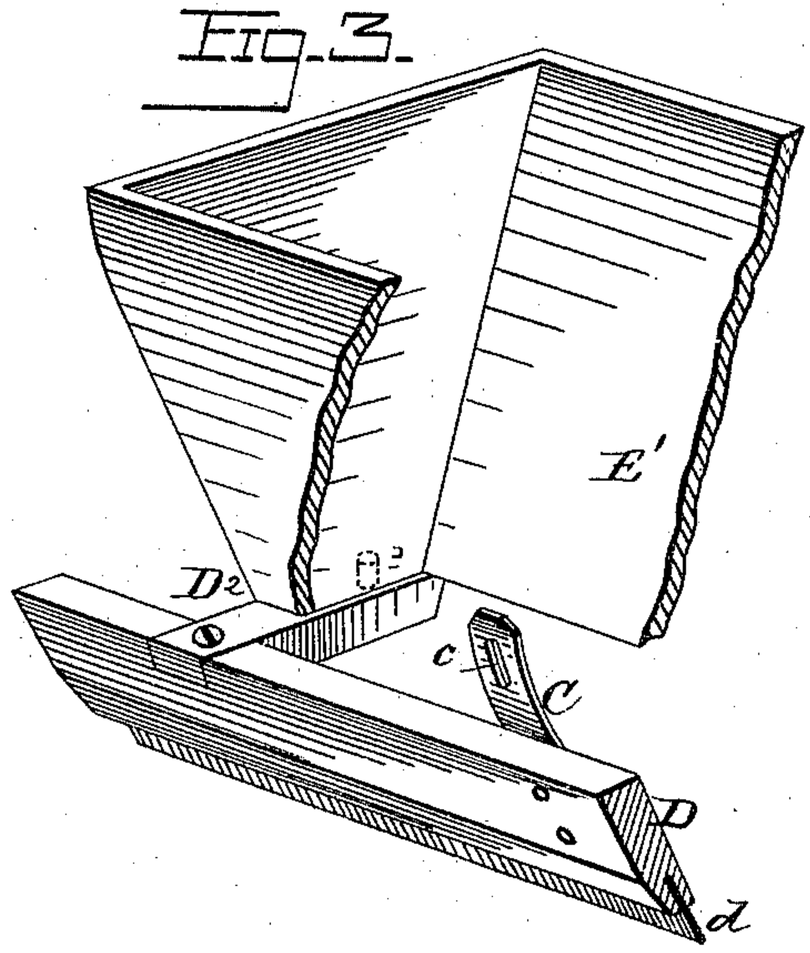


Fig. 3.



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UNITED STATES PATENT OFFICE.

LEOPOLD C. SHROEDER, OF JAMESTOWN, NEW YORK.

FEED-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 324,888, dated August 25, 1885.

Application filed June 11, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEOPOLD C. SHROEDER, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Feed-Regulators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to noiseless feed-regulators, used mainly with roller grinding-mills; and the object of my improvement is to provide a laterally-yielding gate, in connection with a feed-roll, a hopper, and a receiver automatically operated by the material conducted into the hopper.

In the accompanying drawings, Figure 1 is a perspective view of a feed regulator constructed in accordance with my invention. Fig. 2 is a transverse vertical section of the same. Fig. 3 represents in perspective a portion of the inner hopper and its supporting-gate.

In said drawings, A represents a frame in the form of a hopper, carrying a feed roller, B, mounted in bearings in the lower end thereof. The hopper is intended to be located over the grinding or crushing rolls of the mill.

To regulate the amount of material escaping from the surface of the roller B, there is suspended from the outer face of the hopper A, by means of spring-metal straps C, a gate, D, extending the whole length of the roller B. The gate carries a longitudinal tongue or strip of metal, *d*, secured to its lower edge to bear against the side of the roller B. The gate is capable of lateral motion toward and from the roller B under the impulse of pressure or of weight against its inner surface. The straps C are provided with slots *c*, to receive the screws c^2, from which the gate is suspended, the slots permitting the latter to be adjusted and to compensate for the wear of the gate-strip *d* against the roller B.

To increase the efficiency and sensitiveness of this feed-regulator, there is projecting laterally from the gate D, toward and into the hopper A, two arms, D^2, and upon these arms is secured by means of dowels or screws *e* the funnel E, having its walls tapering toward its lower end. This funnel is of such size as to have play-room within the hopper A and be capable of swinging laterally when weighty substances are resting upon its walls E′. The screws c^2 are thus the fulcrum supporting the funnel and its contents, and the weight of the latter, having its fulcrum on one side of its center of gravity, operates against the resiliency of the spring-metal straps C, and forces the gate D laterally away from the roller B, and regulates the flow of feed of the material escaping between this roller and the gate.

Having now fully described my invention, I claim—

1. The combination of the hopper A, the roller B, the gate D, and its spring-straps C with the arms D^2, projecting within the hopper, and the funnel E, secured thereon, substantially as described.

2. The combination of the hopper A, the roller B in the bottom thereof, the internal funnel, E, and arms D^2, projecting laterally therefrom through the walls of the hopper, with the gate secured to said arms and adjustably attached to the hopper A, substantially as and for the purpose described.

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

LEOPOLD C. SHROEDER.

Witnesses:

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C. B. JONES.