

J. H. CURTIS.
Grist-Alarms.

No. 155,427.

Patented Sept. 29, 1874.

Fig. 2.

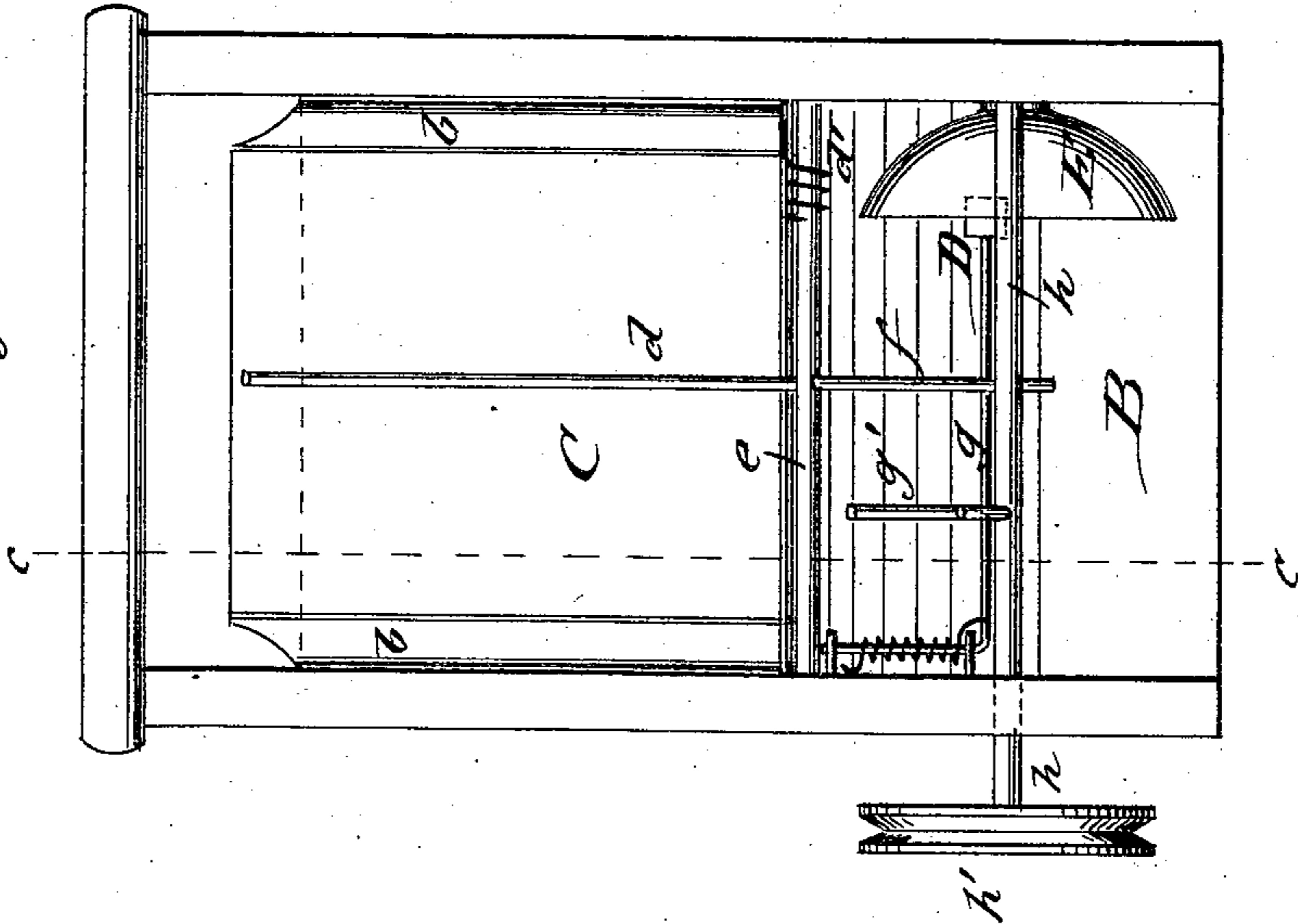
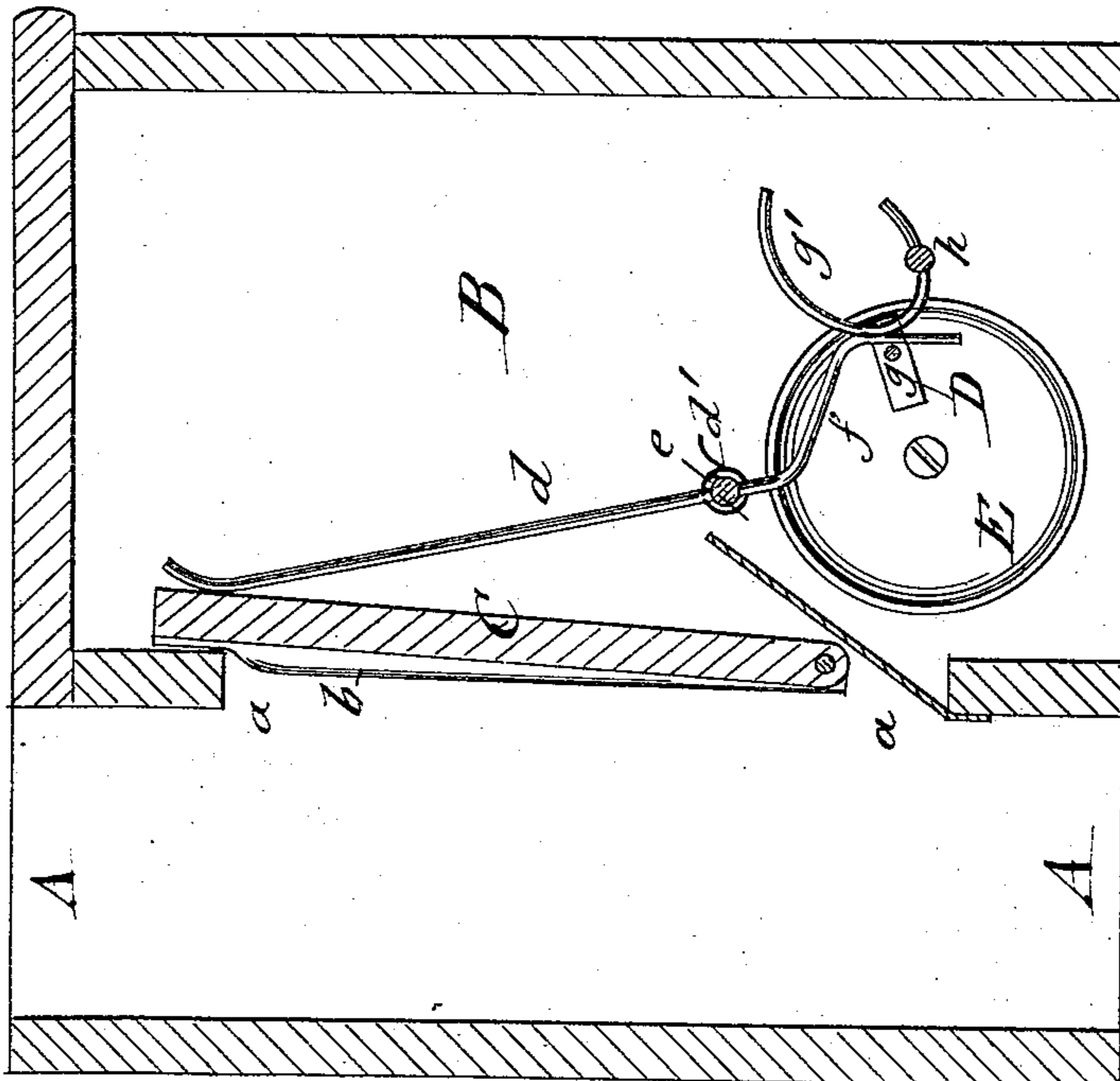


Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH H. CURTIS, OF CHARITON, IOWA.

IMPROVEMENT IN GRIST-ALARMS.

Specification forming part of Letters Patent No. **155,427**, dated September 29, 1874; application filed July 11, 1874.

To all whom it may concern:

Be it known that I, JOSEPH H. CURTIS, of Chariton, Lucas county, Iowa, have invented a new and Improved Pressure-Valve Alarm for Flour-Mills, of which the following is a specification:

Figure 1 represents a vertical transverse section, on line *c c*, Fig. 2, of my improved pressure-valve and alarm for hoppers, spouts, and other parts; and Fig. 2, a side view of the same with side cover taken off.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide for the conducting-spouts, hoppers, and other parts of the mill an automatic alarm, which is operated by the pressure of the grain, flour, or bran on the valve part, indicating by the ringing of a bell the interruption of the supply.

My invention consists in the connection of a recessed spout, hopper, or other conducting part with valve and rotary bell-alarm, operated by the pressure of the grain passing through the spout.

In the drawing, A represents the spout, hopper, pipe, or other conducting part of a flour-mill, to which the valve-alarm B is attached over a side recess, *a*, of the spout, of sufficient size for the alarm B. The valve-alarm B is operated by a swinging plate, C, hinged to the lower edge of the recess, and connected, by folding side flaps *b*, of suitable material, to the sides thereof, so that the pressure of the grain, flour, bran, &c., passing through the spout of the hopper keeps the plate *c* pressed toward the inside of the alarm B. A wire, *d*, is attached to a pivoted shaft, *e*, and pressed, by a suitable spiral or other spring, *d'*, against the valve-plate C, produc-

ing the closing of the same over spout-recess *a* simultaneously with the interruption of the supply of the grain or flour in the spout and the cessation of the pressure exerted thereby. A second wire, *f*, of shaft *e* is connected with the stem of a bell-clapper, D, in such manner that the inside position of plate C carries the clapper D away from the bell E, while the closed position of the valve-plate C admits the connection of the clapper with the bell. The spring-stem *g* of the clapper D is further acted upon by a cam or wire eccentric, *g'*, of shaft *h*, which is continually rotated by a pulley, *h'*, at the outside of the alarm-box, placed in connection with any shaft of the mill machinery, or which may also be rotated by a spiral spring, wound up from time to time.

When the supply of grain, flour, &c., is steadily kept up in the spouts, hoppers, &c., the pressure on the valve will carry the clapper away from the bell, and prevent thereby the ringing of the same; but, as soon as the pressure is discontinued, the rotating shaft will strike the bell-stem and give the alarm, so that the miller has ample time to supply the spout before the burrs run empty or other parts of the mill machinery are stopped.

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

The combination, with the bell-clapper having stem *g* and the pivoted plate C, of the shaft *e*, having spring-pressed wires *d f*, and the rotary shaft *h*, having cam *g'*, as and for the purpose specified.

JOSEPH H. CURTIS.

Witnesses:

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