

(No Model.)

A. J. BUIE.

ALARM FOR FLOURING MILLS.

No. 377,370.

Patented Feb. 7, 1888.

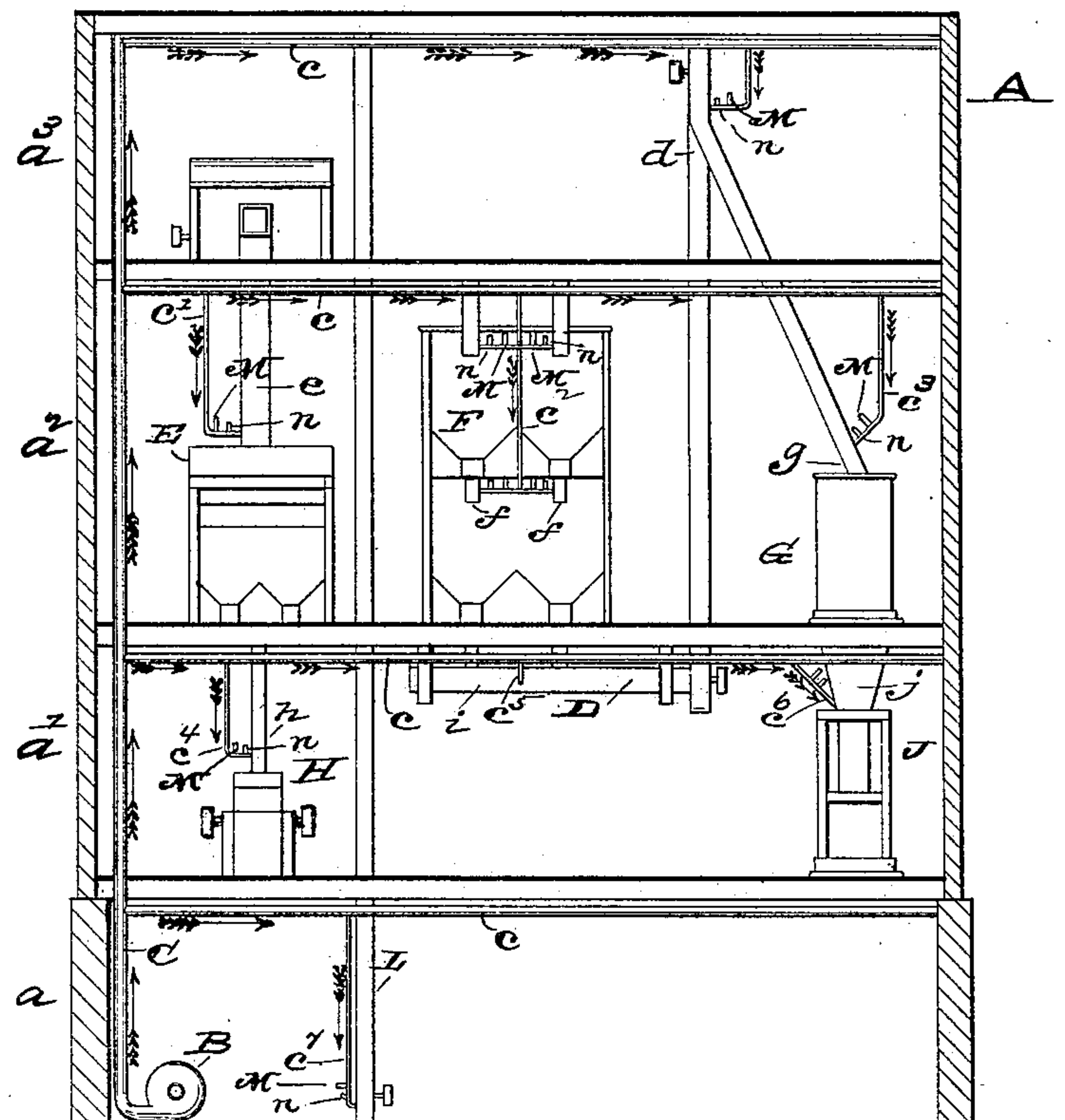


Fig. 2.

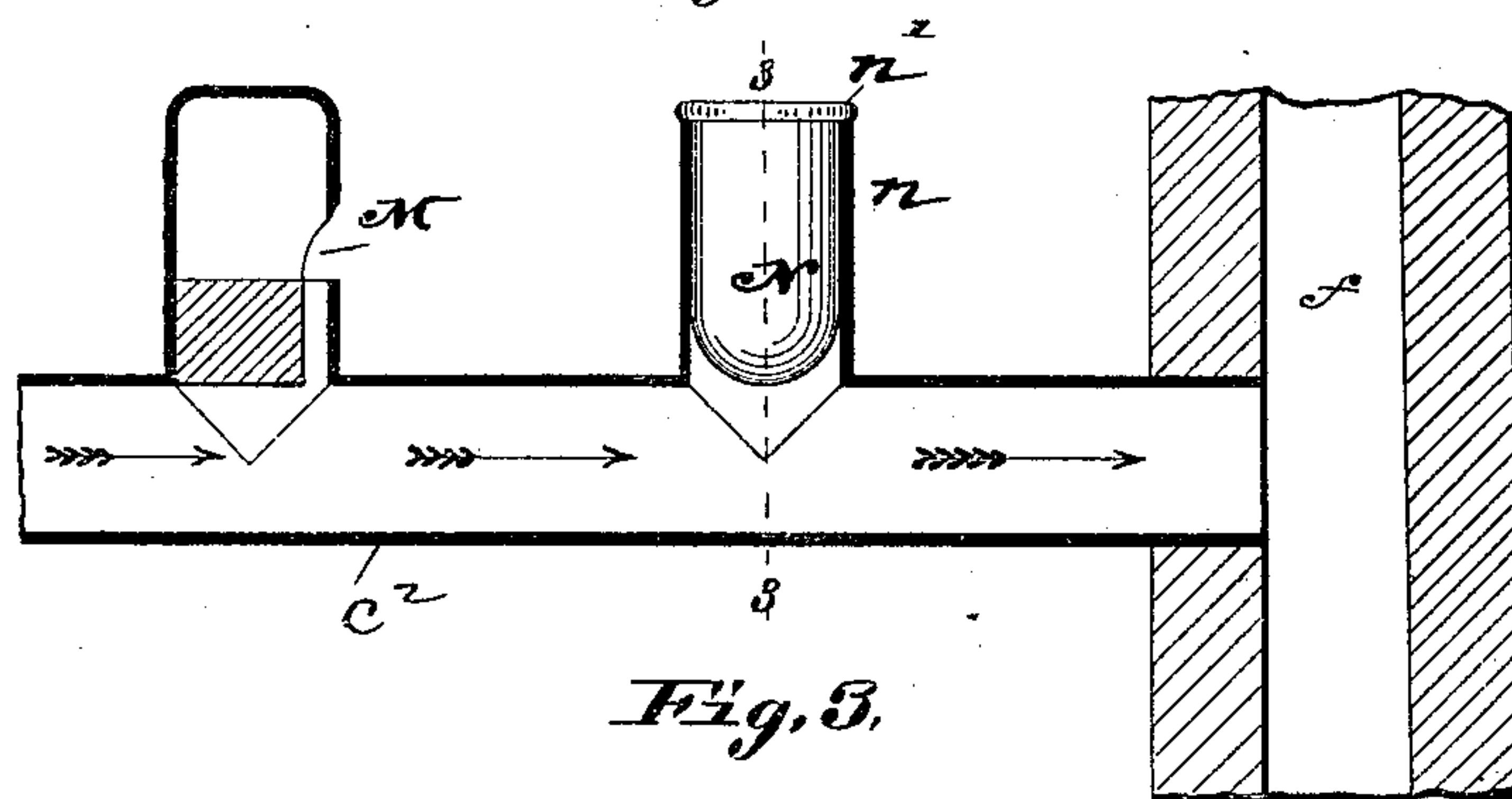
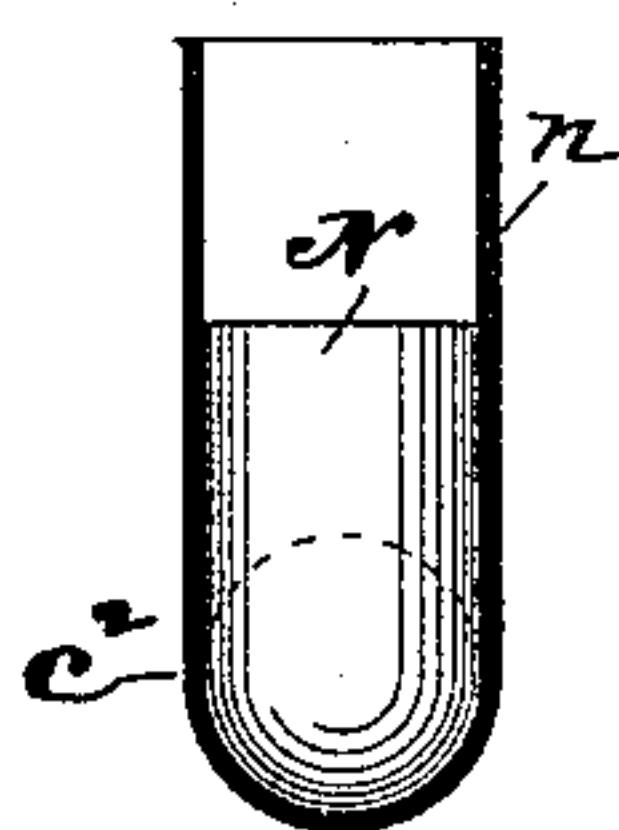


Fig. 3.



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ALARM FOR FLOURING-MILLS.

SPECIFICATION forming part of Letters Patent No. 377,370, dated February 7, 1888.

Application filed June 15, 1885. Renewed June 6, 1887. Serial No. 240,449. (No model.)

To all whom it may concern:

Be it known that I, ALFRED JAMES BUIE, a resident of St. Louis, Missouri, have made a new and useful Improvement in Alarms for Flouring-Mills and other Constructions, of which the following is a full, clear, and exact description.

This difficulty is experienced in flouring-mills: The various passages—such as the spouts, tubes, and conveyers—leading to and from the various mechanisms—such as the purifiers, reels, packers, &c.—and used to transmit the product of the mill in various ways, are liable to become clogged, and if the obstruction is not at once noticed the mechanism with which it is more immediately connected is subject to injury. To provide means for calling the attention of the operatives to such obstructions as soon as they occur is the aim of this improvement.

An additional feature of the device is the provision for operating the alarm through the agency of heat.

The object of my invention is more particularly to provide the mill, or whatever building the improvement is applied to, with a system of pipes or flues which lead from a blower, or any suitable means for generating an air-blast, and ramify throughout the building and connect, respectively, with the various passages above described as leading to and from the various mill mechanisms, and in the vicinity of the mechanisms, respectively, are provided with appliances in the nature of a whistle, which, whenever an obstruction occurs in the passage to which the whistle belongs, is caused to sound by reason of the air-current being diverted by the obstruction from the passage into and through the whistle.

The annexed drawings, making part of this specification, exhibit a desirable mode of carrying out the improvement.

Figure 1 is a vertical section of a building containing the improvement. The view exhibits such mechanisms as are commonly used in a flouring-mill. Fig. 2 is a longitudinal section upon an enlarged scale, showing a portion of one of the air-pipes, being the portion more immediately connected with the reel mechanism; and Fig. 3 is a section on the line 3 3 of Fig. 2, the plug being dropped to close the passage.

The same letters of reference denote the same parts.

A represents a building of the kind under consideration. It contains one or more stories, a a' a^2 a^3 .

B represents a blower for generating the air-blast.

C represents the main pipe, which receives the air-current from the blower and conducts it to the various mechanisms in the building. There may be a branch pipe, c , for each story, leading from the main pipe C. In the story a^3 the pipe c is shown as connecting with the elevator-passage d , which leads from the conveyer D. In the story a^2 the pipe c is represented as connecting with more than one mechanism—the pipes c' c^2 c^3 , leading from the pipe c and connecting, respectively, with the passage e of the purifier E, the passages f , delivering from the reel F to the conveyer below, and the passage g of the hopper G. In the story a' the pipe c is represented as connecting with several mechanisms—the pipes c^4 c^5 c^6 , leading from the pipe c and connecting, respectively, with the passage h of the crusher H, the passage i of the conveyer D, and the passage j of the packer J. In the story a the pipe c' leads from the pipe c to the elevator L.

Now, so long as there is no obstruction in a passage, the air-current, which by means of the air-pipe is introduced into the passage, moves along that passage without occasioning any sound; but when the passage fills up with the grain past the point where the air-pipe leads into the passage the air is prevented from escaping through the passage and is diverted through the whistle M, Figs. 1, 2, causing the whistle to be blown and an alarm thereby to be sounded. The whistle is attached to the air-pipe substantially as shown in Fig. 2. It may be constructed in any suitable manner for the purpose in question, and it may be located as near to the passage as is desirable.

As it does not matter, so far as sounding the whistle is concerned, whether the air-pipe is obstructed by grain, &c., or by some other obstacle, I take advantage of the air-blast mechanism here introduced into a building and add thereto an attachment which shall cause the whistle to sound in the event of fire.

N represents a plug held in a tubular pro-

jection, *n*, upon one of the air-pipes, such as the pipe *c*². By means of a readily-fusible substance, such as wax, *n'*, Fig. 2, the plug is upheld in the projection, and so as not to offer obstruction to the movement of the air-current through the pipe *c*²; but in the event of fire or heat in the vicinity of the projection *n* the wax fuses, and the plug, no longer upheld, drops into and closes the pipe *c*², substantially as represented in Fig. 3. The air-current is now diverted, as before, into the whistle and the alarm is given.

The improvement above described is adaptable to other buildings, such as elevators, as well as to flouring-mills. The last-described feature—namely, the plug *N*, &c.—is also adaptable to various places and mechanisms other than those shown for the purpose of disclosing the presence of heat.

I claim—

1. The combination of a conduit for flour,

grain, or other material, an air-forcing device, the blower *B*, communicating with the conduit, and an alarm communicating with the conduit, which alarm is arranged to be operated by the air-current upon the choking of the conduit, substantially as set forth.

2. The combination of a conduit for flour, grain, or other material, an air-forcing device, the blower *B*, communicating with the conduit, an alarm communicating with the conduit, which alarm is arranged to be operated by the air-current upon the choking of the conduit, a plug for closing the conduit, and a fusible support for the plug, substantially as set forth.

Witness my hand.

ALFRED JAMES BUIE.

Witnesses:

C. D. MOODY,
J. W. HOKE.