

No. 674,958.

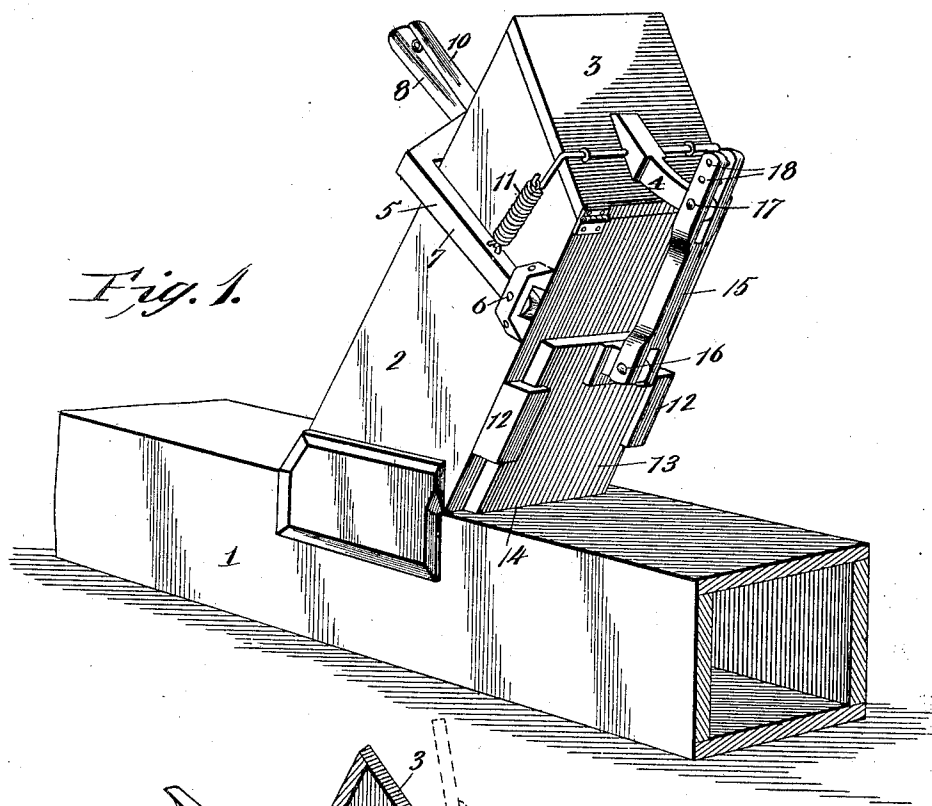
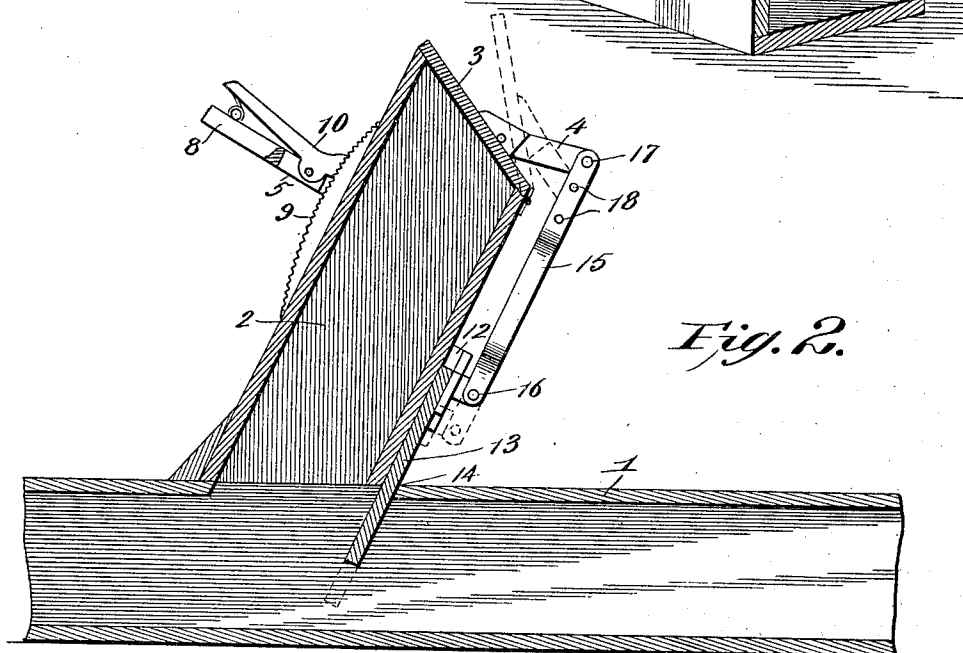
Patented May 28, 1901.

C. B. CAFFEY.

AUTOMATIC REGULATOR FOR PNEUMATIC FLUES.

(Application filed Oct. 15, 1900.)

(No Model.)



Witnesses

C. H. Walker.
J. W. Garner

by

C.B. Caffey, Inventor.
C.A. Knowlton.
Attorneys

Attorneys

UNITED STATES PATENT OFFICE.

CHARLES B. CAFFEY, OF BASTROP, TEXAS.

AUTOMATIC REGULATOR FOR PNEUMATIC FLUES.

SPECIFICATION forming part of Letters Patent No. 674,958, dated May 28, 1901.

Application filed October 15, 1900. Serial No. 33,155. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. CAFFEY, a citizen of the United States, residing at Bastrop, in the county of Bastrop and State of Texas, have invented a new and useful Automatic Regulator for Pneumatic Flues, of which the following is a specification.

My invention is an improved automatic regulator for pneumatic flues, adapted to automatically regulate the strength of the air-current passing through the flue; and it consists in the peculiar construction and combination of devices hereinafter fully set forth, and pointed out in the claims.

My invention may be used on a pneumatic conveyer-flue such as is used to convey seed or lint cotton from a cotton-gin; and my invention is adapted to be used in connection with a pneumatic flue of any description in which it may be desirable or necessary to regulate the strength of the air current or blast passing through the flue.

In the accompanying drawings, Figure 1 is a perspective view of a pneumatic flue provided with an automatic regulator constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same.

The main trunk or section 1 of the pneumatic flue is provided on one side (here shown as the upper side) with an elbow or branch flue 2, which is disposed at an appropriate angle with relation to the main flue. The outer end of the branch flue 2 is provided with a valve 3, which is adapted to close the same, and is provided with an arm 4, that projects from its pivoted or hinged side. An adjusting-yoke 5 is pivoted on the branch flue 2, as at 6, said adjusting-yoke having the arms 7, which are astride of said flue 2, and being provided at its outer side with a handle 8. The flue 2 has a segment-rack 9 on one side, which is engaged by a spring-pressed pivoted locking-dog 10, with which the yoke 5 is provided. Springs 11 connect the arms 7 of the adjusting-yoke with the valve 3 and serve to normally close the said valve, the tension of the springs 11 being regulated by the adjusting-yoke, as will be understood.

On the rear side of the branch flue 2, in

guides 12, with which the same is provided, is a cut-off valve 13, which operates in an opening 14 in the upper side of a main trunk 1 of the pneumatic flue and is adapted to be extended into the main trunk of the flue as far as may be necessary in order to divert a portion of the air blast or current passing through the main flue 1 and cause the excess to be discharged through the branch flue 2 past the valve 3. The said valve 13 is connected to the arm 4 of valve 3 by a link 15. The said link is pivotally attached to the valve 13, as at 16, and is pivotally attached to the arm 4 of valve 3 by a pin 17; and said link is provided with a series of adjusting-openings for said pin, said adjusting-openings being designated by the reference-numeral 18 and adapted for so adjusting the valve 13 with reference to the arm 4 as to cause the said valve to be normally extended into the flue 1 as far as may be desirable.

It will be understood that upon an abnormal increase of the pressure of the current or blast passing through the flue 1 the valve 3 will open, by reason of the pressure on its under side, to permit the escape of the excess volume of air, and that as the valve 3 opens, the valve 13, which is automatically operated thereby, will be moved partially across the flue 1, so as to intercept the current or blast of air therein, the said valves 3 and 13 co-acting to automatically relieve the flue 1 of excess pressure. By adjusting the valve 13 with relation to the valve 3 and by regulating the tension of the springs 11 my automatic regulator may be so adjusted as to cause the pressure in the flue 1 to be relieved when the same exceeds any degree desired.

Having thus described my invention, I claim—

1. A pneumatic flue having a branch or elbow, an automatic pressure-relieving valve thereon, and a cut-off valve in said pneumatic flue connected to and operated by said pressure-relieving valve, substantially as described.

2. A pneumatic flue having a pressure-discharge branch or elbow, an automatic pressure-relieving valve therein, a cut-off valve in said pneumatic flue and means to connect

said cut-off valve to said pressure-relieving valve, and regulate the same with reference thereto, substantially as described.

3. The combination with a main pneumatic
5 flue and a branch flue leading therefrom, of
a valve on the discharge end of said branch
flue to relieve the same of pressure, springs
to normally close said valve, means to regulate the tension of said springs, a cut-off
10 valve in the main pneumatic flue and exten-

sible connections between said cut-off valve and the pressure-relieving valve, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
the presence of two witnesses. 15

CHARLES B. CAFFEY.

Witnesses:

J. B. PRICE,

JAS. N. JENKINS, Jr.