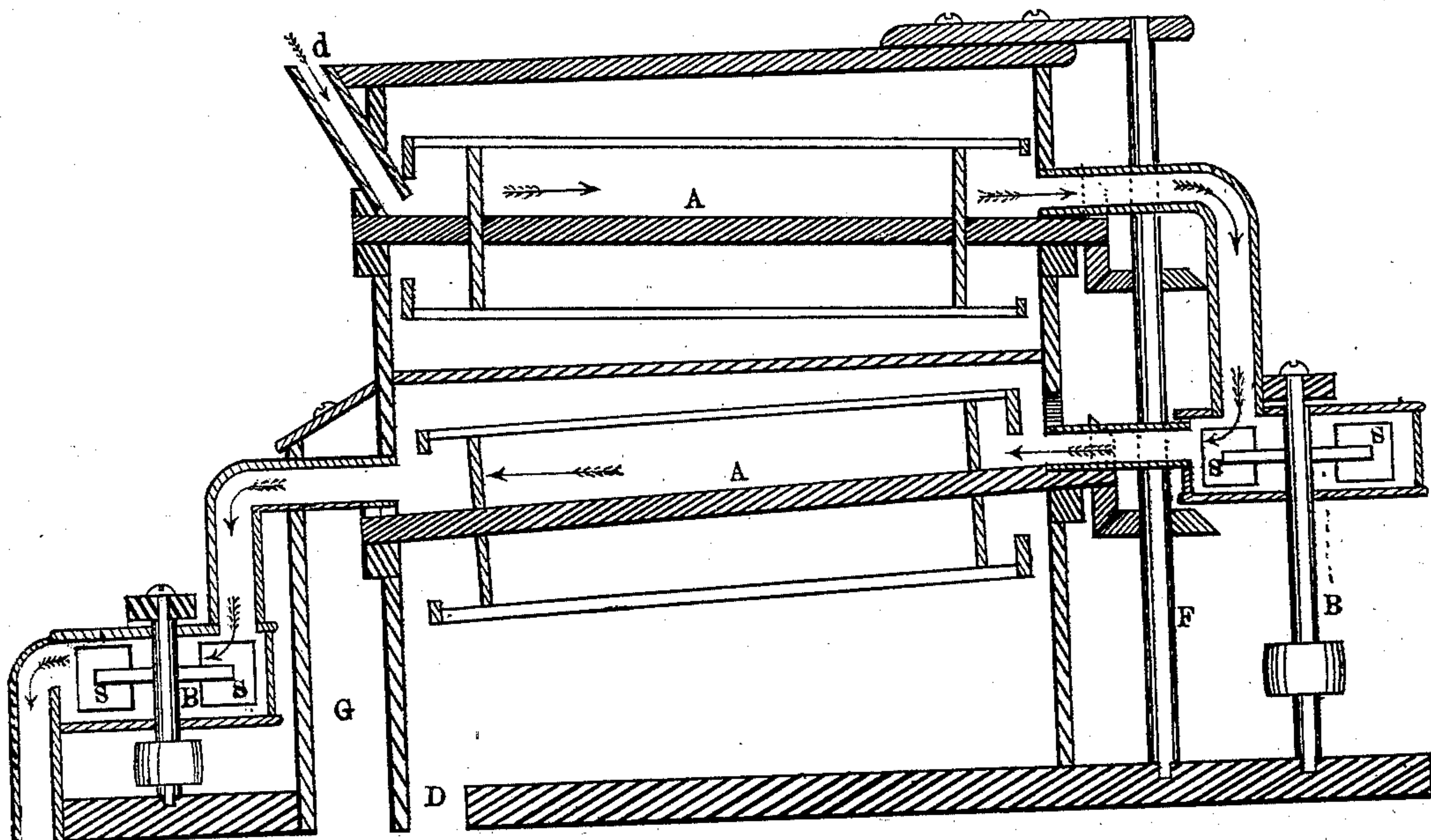


W. J. MERRITT.

FLOUR-BOLT.

Patented April 11, 1876.

No. 175,838.



WITNESSES.

Thos. L. Price
B. T. Whitson

INVENTOR.

W. J. Merritt

UNITED STATES PATENT OFFICE.

WILLIAM J. MERRITT, OF BARDOLPH, ILLINOIS.

IMPROVEMENT IN FLOUR-BOLTS.

Specification forming part of Letters Patent No. **175,838**, dated April 11, 1876; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, WILLIAM J. MERRITT, of Bardolph, in the county of McDonough and State of Illinois, have invented a new and useful Improvement in Flour-Bolts; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, and to the letters of reference marked thereon.

My invention has for its object to improve the construction of flouring machinery, so as to take all the fine bran and other impurities from the flour while passing through the bolts; and its novelty consists in the arrangement and combination of exhaust-fan blowers with the bolts, so that a continuous current of air of different strength is drawn through each bolt, as hereinafter described.

In the drawing, A A represent the bolts, which are made in the usual manner with a center shaft, to which a suitable frame is firmly attached, which is surrounded with bolt-cloth, forming a cylinder. The center shaft extends outside of the frame to receive the bevel-gear wheels, which gear into similar wheels on the shaft F. B B represent exhaust-fan blowers, which are made in the usual manner, with a center shaft, which has cross-arms to which the wings s s are attached, and is inclosed in a suitable frame, and are provided with pulleys to operate them by. These blowers are placed one on the right, and the other on the left of the bolting-chest, as shown.

The operation is as follows: Motion is applied to the shaft F, which, by means of the bevel-gear wheels, gives motion to the bolts A A. Motion is also applied to the fan-blowers B B by belts, (not shown,) and they are run at a sufficiently high speed to draw a current of air of suitable strength through each bolt. The unbolted flour is introduced into the upper bolt at the spout d, which conveys it

to the inside of the bolt. The bolt-frames are constructed with ribs projecting inward from the bolt-cloth, which catches the flour, and raises it up and lets it fall again, (which action the bolt performs by revolving,) which agitates the flour sufficiently to set free all the fine particles of bran and dust, which, by means of the exhaust air-draft from the right-hand fan-blower, (indicated by the arrows,) which catches those impurities, are drawn through the upper bolt at once, and are brought down and returned into the lower bolt. Then the left-hand fan-blower continues the current of air, but not so strong as the current through the upper bolt, so that if any of the fine particles of flour should be drawn out of the upper bolt and returned into the lower, the air-current through the lower bolt is not of sufficient strength to draw them any farther; consequently they go into the second grade of flour. The current of air through the lower bolt should be of sufficient strength to take out all the light fine particles of bran and dust that would otherwise go into the flour.

By this construction and arrangement, all the light and fine particles of bran and other impurities are taken out of the upper bolt at once, which would otherwise go into the fine flour.

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

The combination, with the bolts A A, of the exhaust-fan blowers B B, when arranged so as to draw a current of air through each bolt of equal or different strength, as may be required, substantially as and for the purpose set forth.

WM. J. MERRITT.

Witnesses;

THOS. J. PRICE,
B. T. WHITSON.