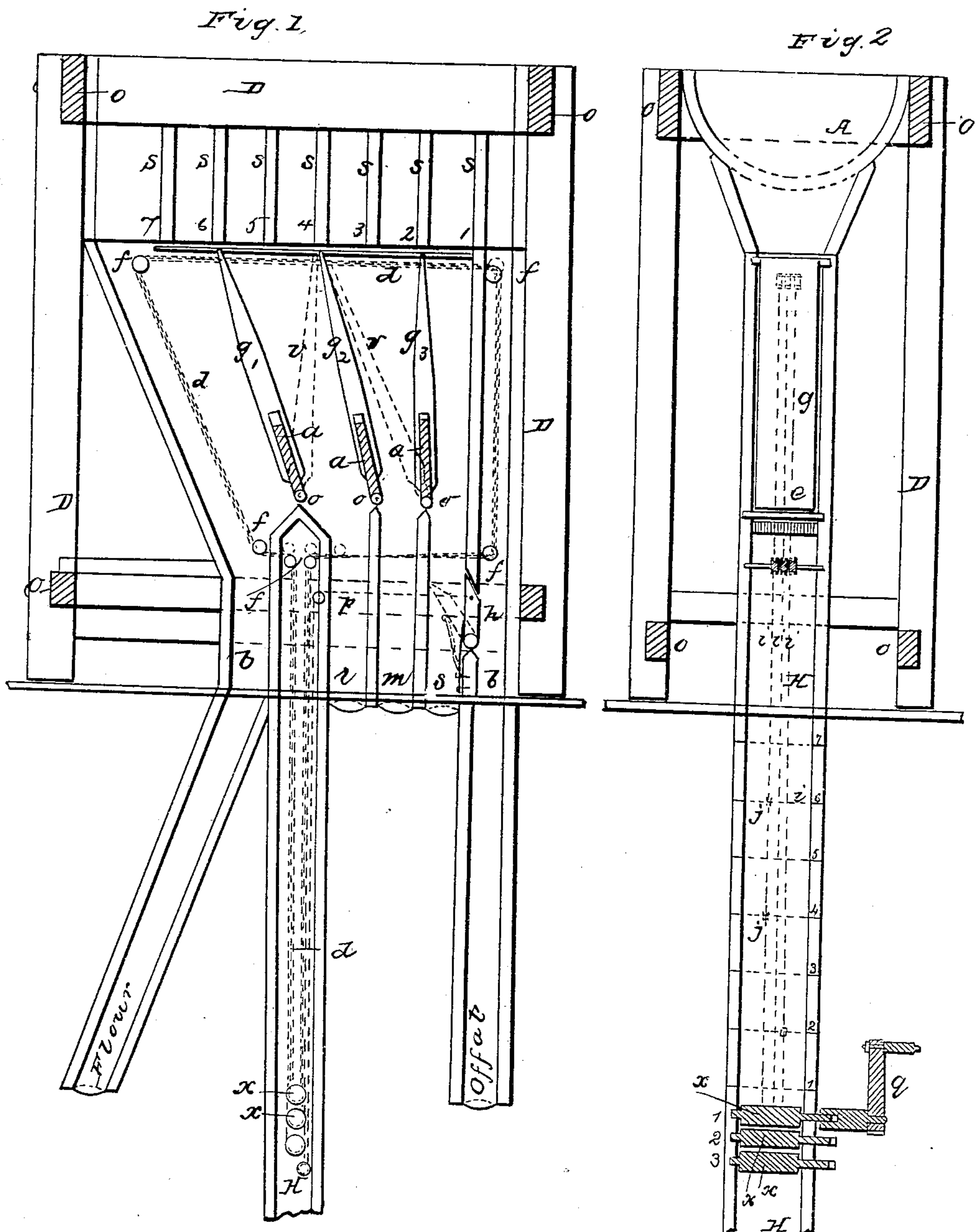


S. C. MENDENHALL.

Flour Bolt.

No. 14,199.

Patented Feb. 5. 1856.



UNITED STATES PATENT OFFICE.

S. C. MENDENHALL, OF RICHMOND, INDIANA.

FLOUR-BOLT.

Specification of Letters Patent No. 14,199, dated February 5, 1856.

To all whom it may concern:

Be it known that I, S. C. MENDENHALL, of Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful improvements in wire-cloth flour-bolts for the purpose of effecting a more perfect and simple separation of the flour and offal; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and letters marked thereon, forming a part of this description.

The nature of my invention consists in providing valves for the ordinary wire cloth bolt, of such construction that they will admit of expansion or contraction, so as that when their lower ends are in connection with the flour and offal spouts of the bolt, that their upper ends may move freely on a parallel line with the screen cylinder, also in providing cords, pulleys, drums and indicators to operate the valves from below, obviating the necessity of the miller going above stairs as is required with the usual construction of bolts, to make a change in the separation of the flour and offal.

As my improvements are confined to the novel and peculiar manner of producing separations in the wire cloth bolt, and particularly that of Mendenhall and Connors of which the within described improvements are intended to constitute a part thereof, I shall confine myself to the specific improvements constituting this schedule; and for further information reference may be had to the above mentioned bolt, which case is now pending in the United States Patent Office.

A, B, C, are the 1st, 2nd, and 3rd, floors in a mill.

Figure 1 in the drawing represents a sectional view through the length of the bolt; and Fig. 2 represents a sectional view through the width of the same, showing the internal arrangement of the cord-box H.

In Fig. 1, D, D, D represent the side frame; s, s, s, s, s, s, s, the extension-ribs which meet the rib of the screen cylinder and extend down in a tapering form until they form a line with the action of the spout-valves g, g, g. These valves are swung or hinged at the upper termini of the spout divisions o, o, o, and their ends move freely in parallel grooves and close to the termini of the extension-ribs, thereby form-

ing a continuous separation from the ribs of this screen cylinder into the flour and offal spouts which are marked f, r, m, s, b, for flour, returns, millings, shorts and bran. In order that the valves g, g, g, may vary their length to suit the varying distances from the points at which they are hinged below, to the points of the ribs 1, 2, 3, &c., above, they are made double, the lower part a, sliding into and out of the upper part g. This simple arrangement gives the valves an easy adjustment to any point desired, enabling the miller to make perfect separations at any point in the whole length of the bolt. h is a small valve that may be thrown across the shorts spout when all the offal is required to escape at the bran spout. It is provided with a cord p, to open it, and spring s to close it when required. The cord p may be passed into the cord box and extended down to the first floor as in the case of the other valve cords. The cords d, d, d, are attached respectively to the valves g, g, g, passing over the pulleys f, f, f, f, and down through the cord box H, to the drums x, x, x, to which they are secured. Another view of the cord box may be seen in Fig. 2. j j j are indicators secured on the cords which move the valves g, g, g. And this box H has a graduated scale on it, 1, 2, 3 &c. which spaces are the same distance apart that those of the ribs are, marked s, s, &c., and numbered 1, 2, 3, &c. The drum x¹ moves the valve g¹, the drum x² moves the valve g², and the drum x³ moves the valve g³, and the indicators j, j, j, on the cords, in connection with the figures 1, 2, 3, &c., on the box, will show the miller the precise point at which either of the valves may be placed, or enable him to change as he may desire.

Having thus fully described the construction of my improvement on flour bolts, I will now show its operation and the advantages it possesses over all other devices for the same purpose. The object accomplished with this improvement is a two fold one—a merchant and a country bolt combined. The valves as shown in Fig. 1 represent the bolt on merchant work. It will be seen that while valve g¹ is on rib No. 6 its indicator is also on 6 in the cord box and so of the other valves and indicators. Now suppose the miller wishes to put the bolt on custom work, he steps to the cord box and moves the indicator j from 6, down to 4, which will place the valve g¹ on the 4th rib which closes

the return spout. He then moves the indicator j , from 2, up to 4, which will place the valve g^3 also on the 4th rib, this action closes the middlings spout, these changes are indicated in the drawing by dotted lines v, v .
5 While the valves occupy this last position all the flour from the head of the bolt to the 4th rib will pass out at the flour spout, while all the offal except the bran will escape through the shorts spout, and to throw
10 it from the shorts spout into the bran spout the valve h , is thrown across the shorts spout by the action of the cord p , and the offal is carried into the bran spout. By this arrangement it will readily be seen that the
15 flour is secured through one spout and all of the offal through another and produced entirely within the bolt, easily and quickly without the miller being required to leave
20 the ground flour, no difference how high the bolt may be placed above.

Having thus fully described the construction and operation of my improvement in the separation in flour bolts what I claim as new and desire to secure by Letters Patent is,— 25

1. The direct and positive expansion and contraction of the valves g, g, g , between fixed and varying points, substantially in the manner and for the purpose set forth. 30

2. I also claim the combination of the expanding and contracting valves g, g, g , with the cords d, d, d , pulleys f, f, f , drums x, x, x , and indicators j, j, j , or their equivalents, for the purpose specified. 35

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

STEPHEN C. MENDENHALL.

Attest:

STEPHEN ELLIOT,
JOSEPH MARCHANT.