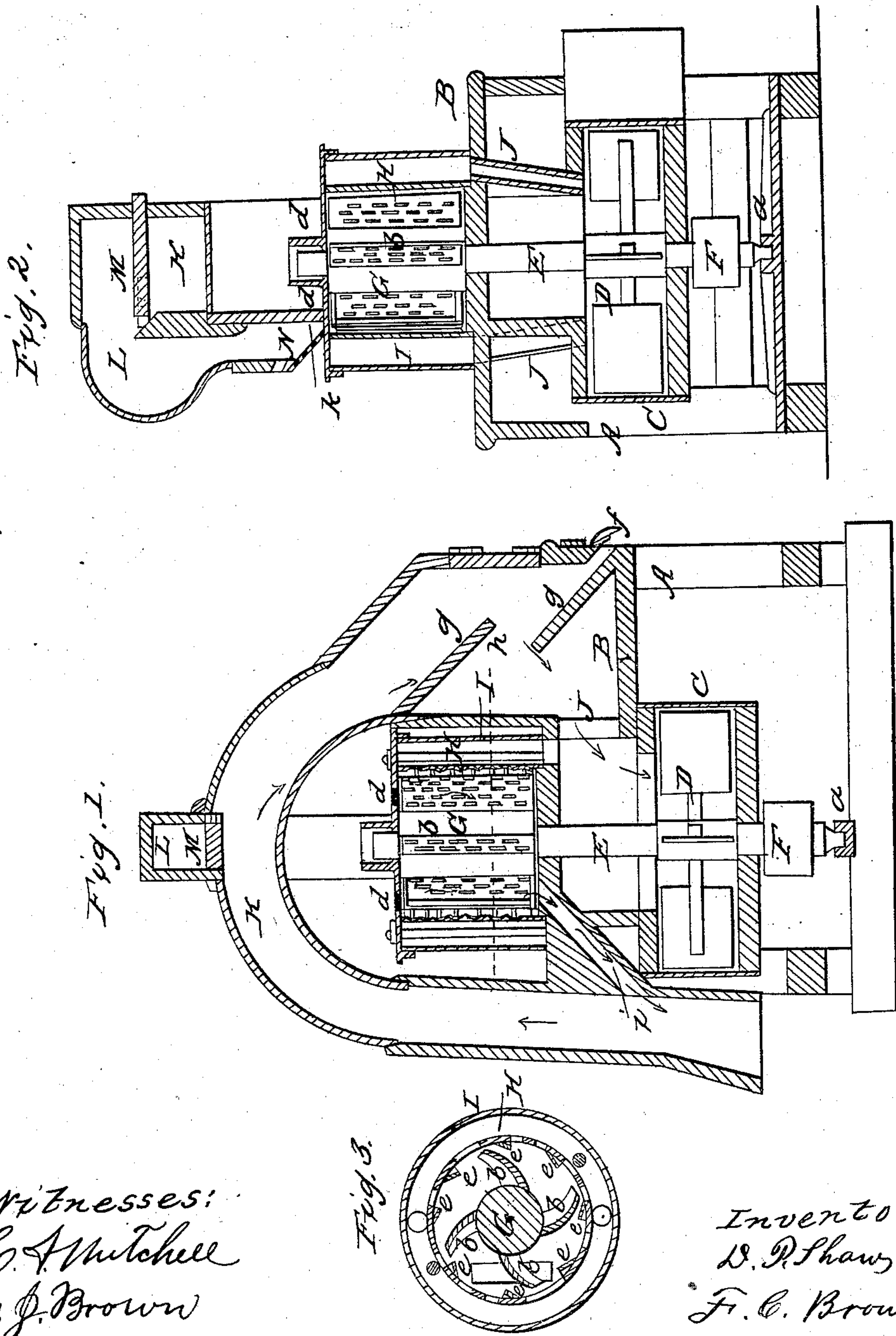


SHAW & BROWN.

Smut Machine.

No. 23,119.

Patented March 1, 1859.



Witnesses:
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L. J. Brown

Inventor:
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UNITED STATES PATENT OFFICE.

D. P. SHAW AND F. C. BROWN, OF ROCHESTER, INDIANA.

SMUT-MACHINE.

Specification of Letters Patent No. 23,119, dated March 1, 1859.

To all whom it may concern:

Be it known that we, D. P. SHAW and F. C. BROWN, both of Rochester, in the county of Fulton and State of Indiana, have invented a new and Improved Smut and Grain Separating Machine; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2, are vertical central sections of our invention, the two planes of section crossing each other at right angles. Fig. 3, is a detached horizontal section of the scouring device taken in the line x, x , Fig. 1.

Similar letters of reference indicate corresponding parts in the several parts.

This invention consists in the employment or use of a blast spout, fan, and scouring device, constructed and arranged relatively with each other as hereinafter fully shown and described, whereby a very compact and efficient machine is obtained, the grain being subjected to a blast before entering the scourer, while passing through the same, and also after leaving the scourer just previous to its leaving the machine.

To enable those skilled in the art to fully understand and construct our invention we will proceed to describe it.

A, represents a rectangular framing on the upper part of which a platform B, is placed, and C, is a fan box which is placed underneath the platform B,—D, being the fan placed therein and placed on a vertical shaft E, the lower end of which is stepped at a , in the lower part of the framing A, and has a driving pulley F, on its lower part below the fan box, as shown clearly in Figs. 1 and 2.

On the shaft E, above the platform B, a cylinder G, is placed. This cylinder has a series of curved perforated plates b , attached to it. Four plates are shown in the drawing Fig. 3, but more or less may be used as desired. The cylinder G, is encompassed by a perforated cylindrical case H, the latter being inclosed by a close or tight cylinder I, the upper end or top plate c , of which has openings d , made in it near the shaft E. The inner surface of the perforated cylinder H, has vertical oblique plates or bars e , attached, said bars or plates e , being attached to the cylinder G, between

the perforations of said cylinder, the perforations being formed one over the other in vertical rows.

J, J, are two tubes which communicate with the fan box C, and the lower part of the cylinder I, as shown clearly in Fig. 2.

K, is a blast spout which is of curved form extending over the cylinder I, one end of the spout projecting down as far as the bottom of the fan box C, and the opposite end of the spout extends down as low as the platform B, and is provided with a flap or valve f , opening outward, and also provided with two inclined deflecting boards g, g , a space h , being allowed between them as shown clearly in Fig. 1.

The interior of the perforated cylinder H, communicates by an inclined spout i , with the lower part of the longer side of the blast spout K, and the shorter side of said spout K, communicates with the fan box C, by an opening j , see Fig. 1.

L, is a curved spout which communicates with the upper part of the spout K, a slide M, being interposed between the two spouts. The lower end of the spout L, has an inclined screen N, attached to it, and the lower end of the screen is fitted over an opening k , in the top plate of the cylinder I, said spout leading into the space inclosed by the perforated cylinder H, as shown plainly in Fig. 2.

The operation is as follows:—Motion is given the shaft E, by means of a belt passing around the pulley F, and the fan D, and cylinder G, rotate of course with the shaft E. The grain passes into the lower part of the spout L, just above the screen N. The grain is subjected to a blast as it passes down over the screen N, into the cylinder H, the blast being generated by the fan D, and the strength of the blast regulated by adjusting the slide M. All loose smut, dirt, dust and other light impurities are drawn up by the blast into spout K, and down into the fan box C, and ejected therefrom. The grain passes down into the cylinder H, and is there scoured by the action of the beater plates b , the grain being thrown against the stationary vertical oblique faced bars or plates e , and deflected therefrom back against the beater plates b . By this action of the beater plates b , and bars e , the smut will be scoured from the grain and also all dust and dirt, the plates

l, generating by their rotation a blast which forces the dust, dirt and smut through the perforated cylinder H, from which it is drawn into the fan box C, through the tubes J, J, by the suction produced by the fan D. The grain passes from the cylinder H, through the spout i, into the lower end of the longer side or end of the spout K, and is submitted to a third blast as it leaves said spout. The light inferior or imperfect grain is carried up within the spout K, and is discharged through the flap valve f, at the shorter end of the spout, the deflecting board g, preventing the passage of such parts into the fan box while the blast generated by the fan is sufficiently powerful to draw all light impurities through the passage h.

We do not claim a curved blast spout K,

nor do we claim separately any of the parts, 20 but

We do claim as new and desire to secure by Letters Patent,

The arrangement of the blast spouts K, L, with the scouring device inclosed within the cylinder I, and with the fan box C, in connection with the tubes J, J, substantially as shown, whereby the grain is subjected to a continual blast during the whole of its passage through the machine, to wit, prior to its advent into the cylinder I, while being acted upon by the scourer, and after it leaves the scourer substantially as described.

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Witnesses:

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