S. HUGHES.

Flour Bolt.

No. 27,907. Patented April 17, 1860.

Fig: 2.

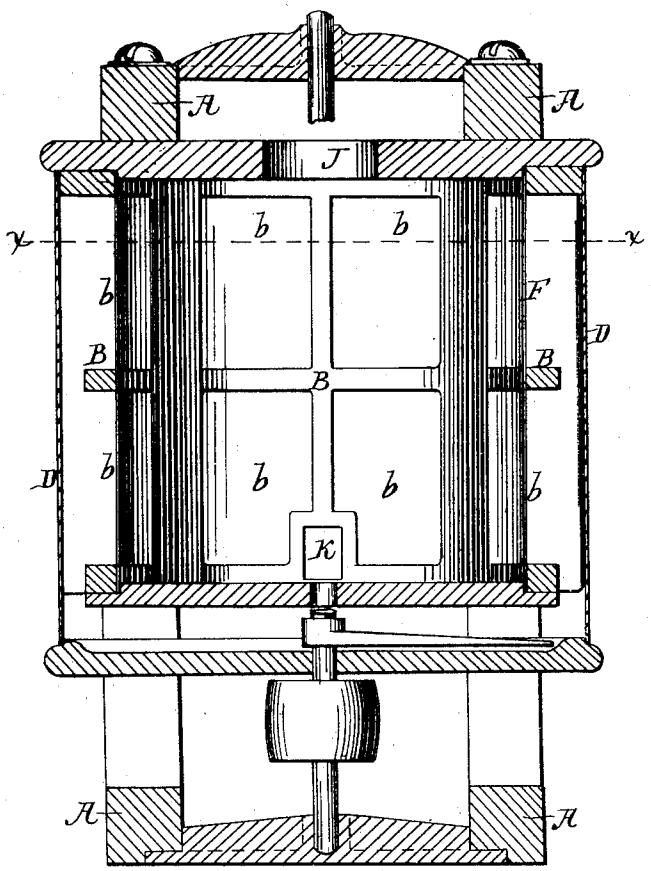


Fig: 1.

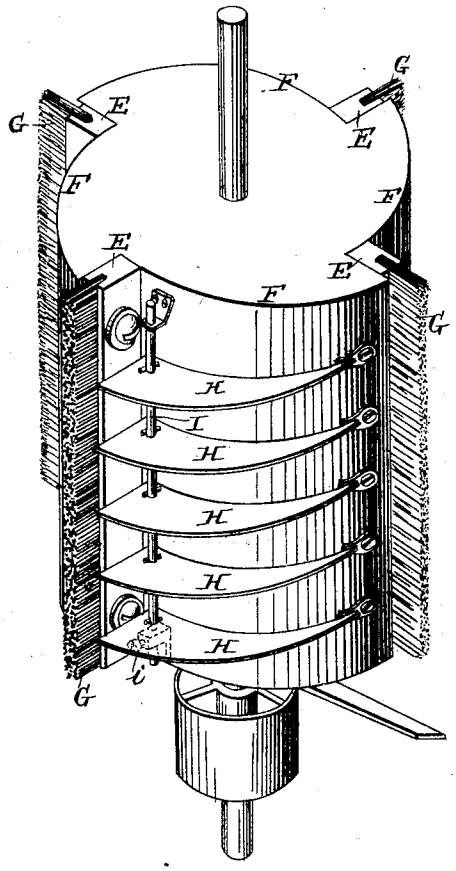


Fig: 3.

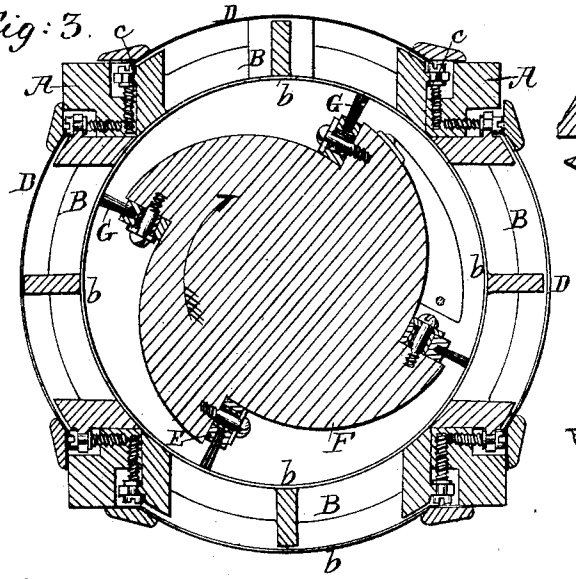


Fig: 5.

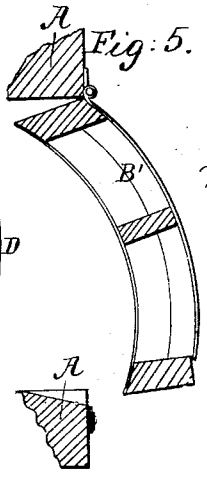
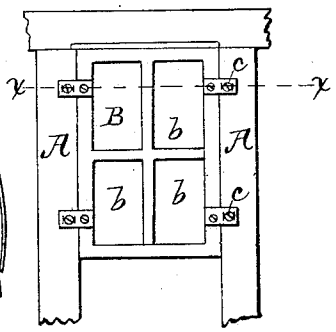


Fig: 4.



Witnesses.

Jas. Kelly Jr.
John W. Chester

Inventor.

Stephen Hughes.
per Wright Brother
attys

UNITED STATES PATENT OFFICE.

STEPHEN HUGHES, OF HAMILTON, OHIO.

FLOUR-SEPARATOR.

Specification of Letters Patent No. 27,907, dated April 17, 1860.

To all whom it may concern:

Be it known that I, STEPHEN HUGHES, of Hamilton, Butler county, Ohio, have invented a certain new and useful Improvement in Flour-Separators; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

My improvement relates to a peculiarly formed helical beater in connection with various devices for controlling and rendering more effective feeding and separating operations.

In the accompanying drawings, Figure 1 is a perspective view of my beater. Fig. 2 is an axial section of the case or concave. Fig. 3 is a horizontal section of the machine at the line *x x*. Fig. 4 is a front view of a sash on a reduced scale showing the four points of adjustment. Fig. 5 is a horizontal section showing a mode of attaching one of the sashes.

A is the frame of a concave.

B are sashes filled with wire gauze screens *b* and fixed to the frame by means of four adjusting screws C in each sash.

Shells D affixed out side the sashes oblige the flour which traverses the screens *b* to descend. The periphery of the beater consists of jogs forming alternately shoulders E and helical or eccentric cylindrical surfaces F. Each shoulder E is armed with a brush G attached adjustably so as to be capable of being set out or in to agree with the concave. Each recess between the surfaces E and F is provided with a series of shelves or chutes H whose outer margins are concentric with the concave and nearly touch it. These chutes are hinged *h* at their narrow ends to the cylinder and every chute of a set is attached to a single rod I whose elevation or depression raises or lowers the ends of the chutes nearest to the shoulder E. These shelves afford a very effective means of retarding or of accelerating the delivery of the stuff.

i are set screws by means of which the movable ends of the chutes are held at any desired elevation. One of the sashes I prefer to attach by hinges at one of its vertical edges as shown at B′ Fig. 5, so as to be conveniently and readily opened for inspection, cleansing repair or adjustment of itself or the interior mechanism.

Operation: A suitable hopper being fixed at the mouth J and a spout to the discharging orifice K and the beater being rotated, the meal or other matter is fed in and passing down between the cylinder and the concave is very effectually beaten against the latter by the curved or helical surfaces of the former which surfaces act both as a beater and as a blast apparatus. The chutes H, according as they are depressed or elevated at their broad or free ends act to detain the stuff or deliver it with greater rapidity. The represented attaching devices for the brushes and the screens being easily accessible are readily adjusted to each other.

I claim as new and of my invention herein and desire to secure by Letters Patent—

1. The construction of the beater with shoulders E and eccentric surfaces F for the purposes set forth.

2. The adjustable chute boards H constructed and arranged and operating in the manner and for the purposes set forth.

In testimony of which invention, I hereunto set my hand.

STEPHEN HUGHES.

Witnesses:

GEO. H. KNIGHT,

OCTAVIUS KNIGHT.