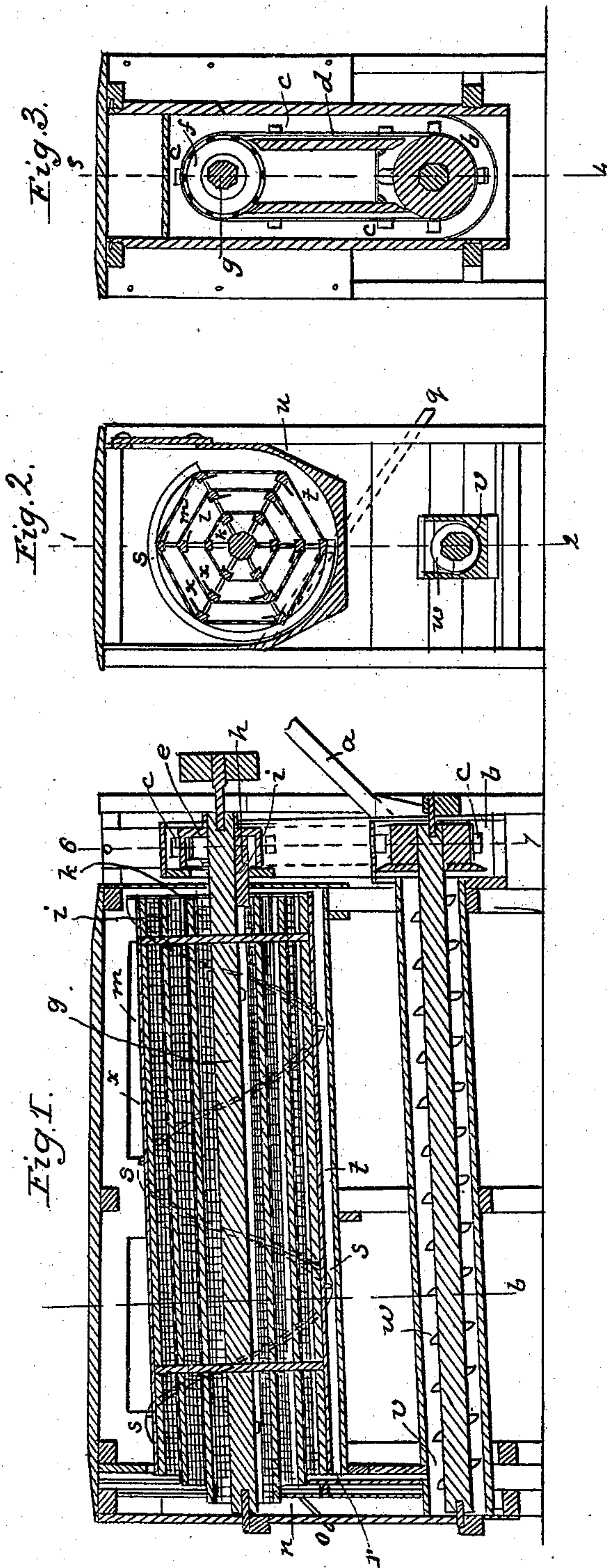


R. J. BROWN.
Flouring Mill.

No. 21,062.

Patented Aug. 3, 1858.



UNITED STATES PATENT OFFICE.

R. J. BROWN, OF PERRY, PENNSYLVANIA.

FLOURING-MILL.

Specification of Letters Patent No. 21,062, dated August 3, 1858.

To all whom it may concern:

Be it known that I, ROBERT J. BROWN, of Perry, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Flouring-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal section in the lines 1, 2 and 3, 4 of Figs. 2 and 3. Fig. 2 is a transverse section of Fig. 1 in the line 5—6, and Fig. 3 is a transverse section of Fig. 1 in the line 6—7.

The letters of reference indicate the same parts in the different figures wherever they occur.

My invention relates principally to the bolting apparatus of flouring mills, and the elevator and conveyers connected therewith.

The meal passes from the stones where it is ground through the spout *a*, into the trough *b*, whence it is elevated by means of buckets *c*, fastened to the endless strap *d*. This strap is perforated at the points where the buckets are attached, so that the buckets are partially open at the back. The pulley *e*, over which the elevator strap passes and which communicates motion thereto, is fixed upon the reel shaft *g*. It is made hollow and open at the end nearest to the bolt, its periphery being composed of ribs or bars parallel to its axis, leaving open spaces *f*, between the ribs. As the strap *d*, passes over the pulley *e*, upon the reel shaft *g*, the meal falls from the buckets through the open spaces *f*, between the ribs of the pulley into the conveyer *h*. The short spiral flange *i*, serves to carry the meal from the conveyer *h*, into the first or inner bolt *k* of a series of concentric bolts. Surrounding this is another, and finer bolt *l*, and outside of *l*, is another still finer *m*, all three upon one reel shaft *g*. In order to keep the different grades of stuff separate, the bolt reel *l*, is made about four inches shorter than *k*, and *m* about four inches shorter than *l*, thereby making the complete separation of stuffs by means of the passages *n*, *r*, and *p*, which are arranged respectively at the ends of the bolts. The bran is discharged into the passage *n* and passes out through the passage *o*, the shorts into *p*, and are discharged through the spout *q*; the middlings pass from the

end of the bolt *m* through *r*, into the trough *v*, whence they are carried into the trough *b*, by means of the endless screw conveyer *w*, for the purpose of being elevated with the meal from the stones and rebolted. The flour passes through the meshes of the cloth of *m*, into the space *t*. The continuous spiral flange *s*, outside of the bolt reel and attached to it moves the flour steadily along and conveys it to the openings *u*, whence it is discharged. The strips *x*, on the inside of the ribs of the two bolts *l*, and *m*, act as elevator cups to throw the stuff over the cloths inside of and next to them.

The advantage of feeding the meal to the bolts by the elevator constructed and arranged as described, directly to a conveyer *h* on the bolting shaft, consists in the great simplification of machinery. The spouts generally used for feeding the meal are dispensed with, as is also the box to catch the waste, incident to spouting meal into the bolt.

Arranging the bolts within each other in combination with the outside spiral conveyer *s*, and with the conveyer *w*, underneath, constitutes a compact and simple machine and insures a cheap operation and a great saving in space.

The continuous spiral conveyer *s* serves to move the flour steadily along instead of dashing it forward by "flights" which have been heretofore employed for the purpose. The action of the flights causes commotion and retards the bolting.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination of cups without backs, with a perforated strap for the purpose of elevating and discharging meal in the manner set forth.

2. The combination of a ribbed pulley with a conveyer on the bolting shaft in the manner and for the purpose specified.

3. The arrangement of two, three or more bolts within and concentric with each other, and upon the same reel shaft, in the manner, and for the purpose set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

R. J. BROWN.

Witnesses:

S. M. MACHESNEY,
A. A. SHAW.