

JOHNSTON & WEAVER.

Hulling Machine.

No. 39,051.

Patented June 30, 1863.

Fig. 2

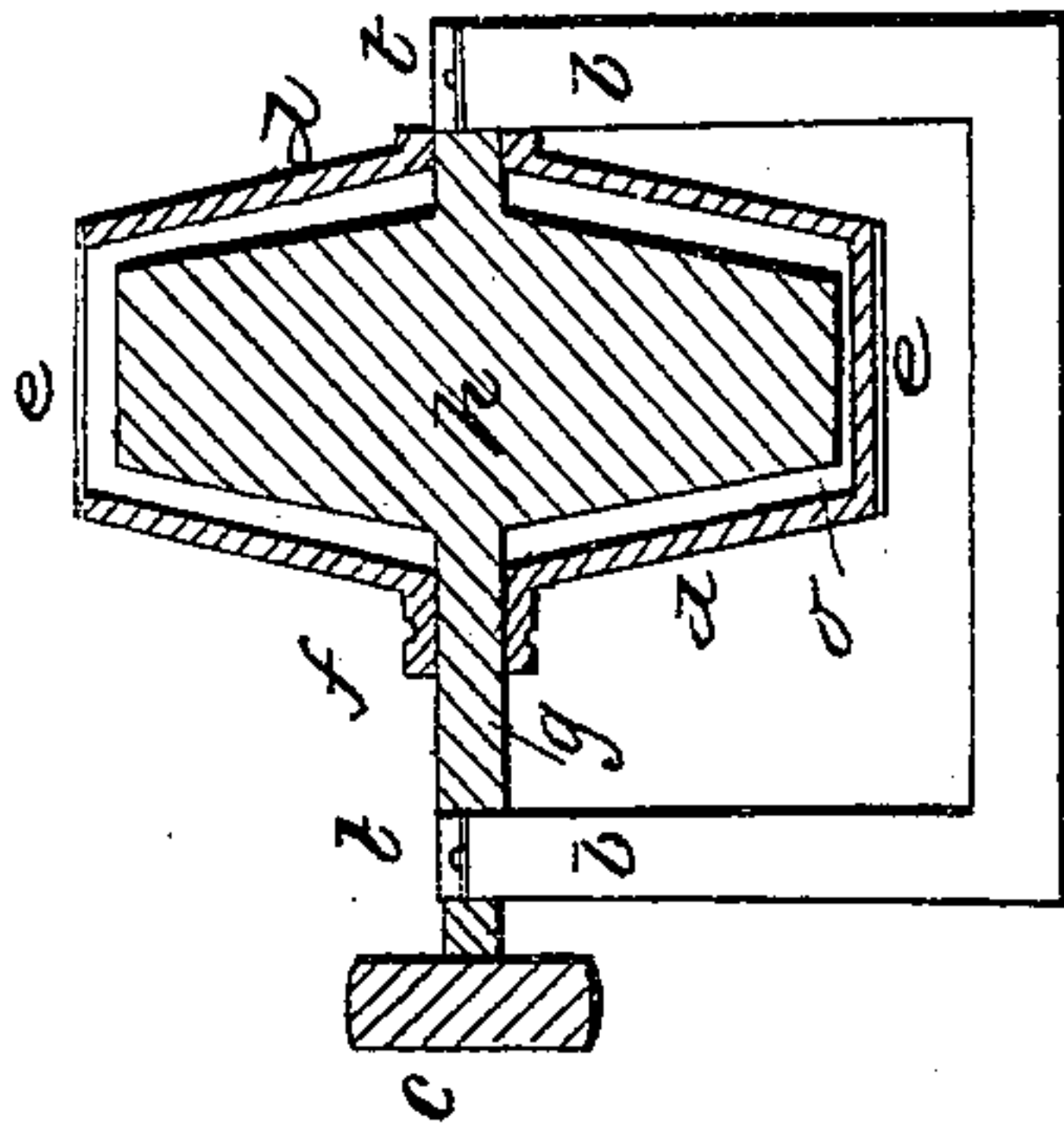
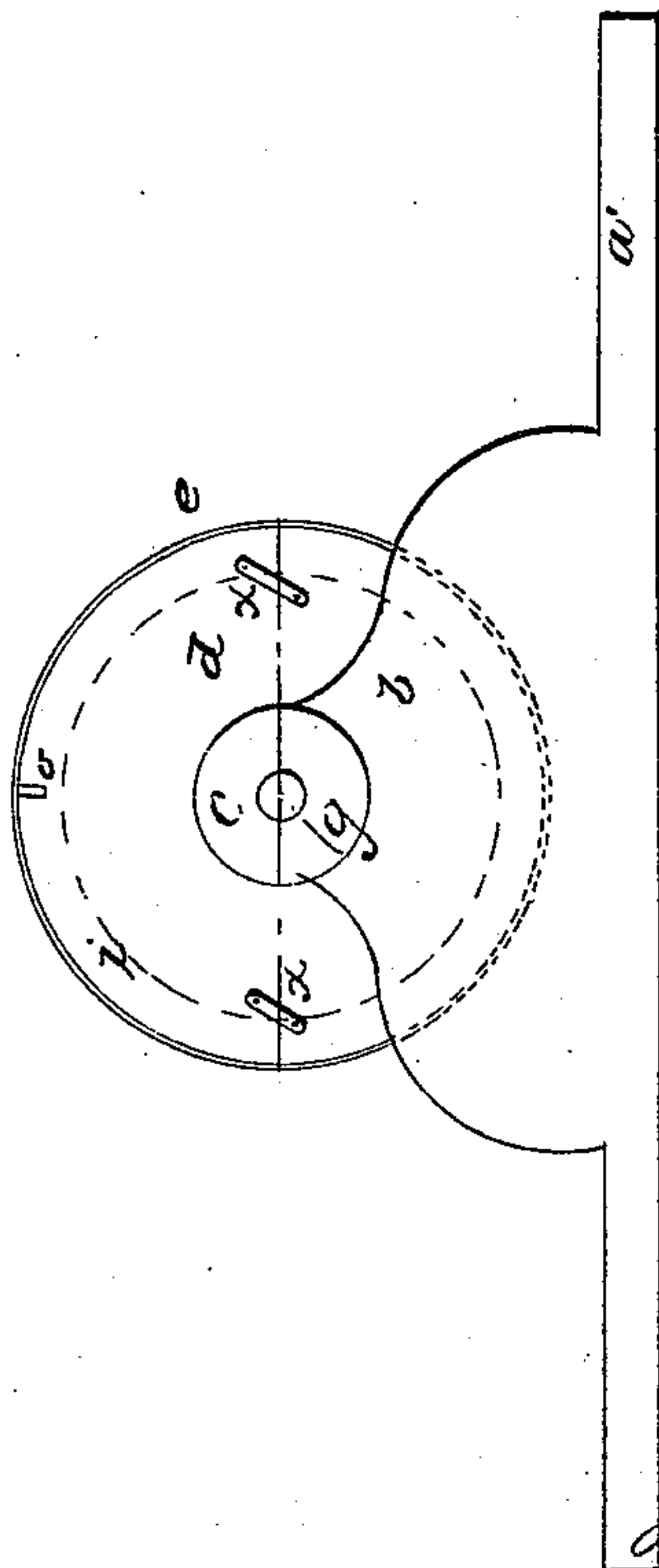


Fig. 1



Witnesses  
J. L. Smith, Jr.  
John Woods

Inventors  
James J. Johnston  
James E. Weaver

# UNITED STATES PATENT OFFICE.

JAMES J. JOHNSTON, OF ALLEGHENY, AND JAMES E. WEAVER, OF TEMPERANCEVILLE, PENNSYLVANIA.

## IMPROVEMENT IN MACHINES FOR HULLING BARLEY, &c.

Specification forming part of Letters Patent No. 39,051, dated June 30, 1863; antedated March 6, 1863.

*To all whom it may concern:*

Be it known that we, JAMES J. JOHNSTON, of Allegheny city, and JAMES E. WEAVER, of Temperanceville, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Hulling Barley; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of our invention consists in the use of a drum having beveled or coniformed sides, said drum being inclosed in a case the sides or ends of which correspond in form to the sides of the drum, the drum and the inner side of the ends of the case being coated with emery or its equivalent, the whole being constructed, arranged, and operated substantially as hereinafter described.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 is a side view of the machine. Fig. 2 is a sectional view of the same.

*a* represents the base of the machine.

*b* represents the supports or bearings of the shaft or axis *g* of the drum *h*. The sides of the drum are made beveled or coniformed, for the purpose of increasing the rubbing-surface of the drum.

*c* represents the driving-pulley of the drum *h*.

*d* represents the sides of the case which surrounds the drum *h*.

The outer periphery of the case consists of a band, *e*, which is furnished with small openings for the escape of the hulls and that portion rubbed off the grain. The case is divided by a line through the center, and is held together by means of the pieces marked *x*. On the inside of the perforated band *e* is placed a cross-bar, *o*, which is used for lifting up and scattering the barley over the drum, thereby bringing all parts of the charge of barley equally in contact with the drum, thus making the barley of uniform size. When the barley is not brought equally in contact with the drum, the grains of barley when finished will be of various size and form, and this must necessarily be the case when the

barley is not equally distributed over the drum by some suitable device—such as the cross-bar *o*. One side of the case is furnished with a pulley, *f*, for the purpose of revolving it. The case, it will be observed, turns the shaft *g*, and revolves in a different direction from the drum—that is to say, if the drum is turned to the right, then the case turns to the left.

*t* represents the caps which are used for holding the shaft *g* to its place on the supports *b*.

Before coating the drum and the inner sides of the case, they should be pricked with some suitable instrument, so as to cover the parts to be coated with small indentations, so that the glue may have a good hold on the wood. After the parts to be coated are properly prepared and dried, they are then carefully coated with glue, which should be applied hot, so that it may enter the pores of the wood and the indentations. After the glue is thus applied, emery is spread evenly over the coated parts. They are then let stand until they are thoroughly dry. They are then ready for use.

The operation of our improvement is as follows: The upper half of the case is removed, and the desired charge or quantity of barley placed in the space *i* formed by the lower part of the case and drum. The upper part of the case is then secured to its place, and power applied to pulley *c* of the drum and to pulley *f* of the case, and arranged so that the case will revolve slowly and in an opposite direction to the motion of the drum, which should revolve with a quick speed. The case and drum being thus put in motion, the barley will be first hulled, then the outer coat of the grain will be taken off. The hulls and the part taken off the grain will pass out through the openings in the perforated band *e* of the case. After the barley has been operated on sufficiently to hull and pearl it, the case is parted and the barley is removed, preparatory to receiving another charge of unhulled barley. The hulls and the part taken off the grain form a most excellent article of food for cattle.

The advantages of our improvement consist, first, in furnishing a cheap barley-machine, the drum being wood in place of stone;



second, in furnishing a machine which is free from all danger in working, it not being liable to fly to pieces by the high speed imparted to the drum, which is the case where a stone drum is used; third, the speed and gain of time in hulling and pearling barley, the hulling parts always remaining sharp; fourth, the even and uniform size of the grain when hulled and pearled, caused by the use of the cross-bar; fifth, the drum never becomes glazed, which is the case where stone is used; sixth, the space between the drum and case is never increased in size, which is the case where stone is used, caused by the frequent dressing; seventh, the great gain of hulling and pearling surface obtained by the use of the bevel sides of the case and drum.

Having thus described the nature, construction, and operation of our improvement, what we claim as of our invention, and desire to secure by Letters Patent, is—

The use of the wooden drum *h* with bevel or coniformed sides, in combination with the beveled or coniformed sides *d* of the case and elevating-bar *o*, said drum and sides being coated with emery or its equivalent, as herein described, and for the purpose set forth.

JAMES J. JOHNSTON.  
JAMES E. WEAVER.

Witnesses:

JOEL SMITH, Jr.,  
JOHN WOODS.