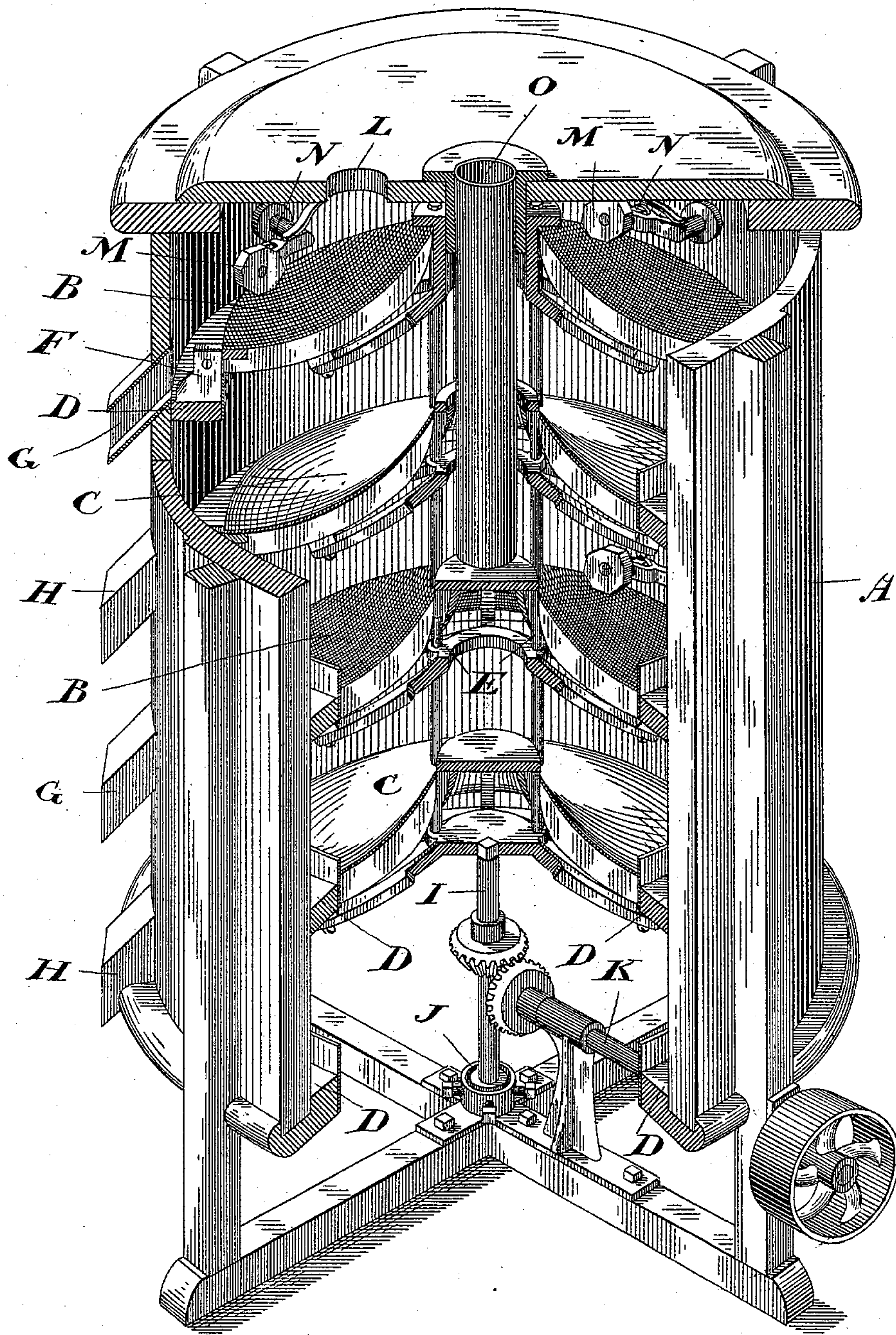


(No Model.)

W. H. MELDRUM & H. R. SHAW.
ROTARY SCALPER.

No. 494,683.

Patented Apr. 4, 1893.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. MELDRUM AND HENRY R. SHAW, OF PETERBOROUGH, CANADA.

ROTARY SCALPER.

SPECIFICATION forming part of Letters Patent No. 494,683, dated April 4, 1893.

Application filed May 11, 1892. Serial No. 432,641. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HEWITT MELDRUM and HENRY RICHARD SHAW, both of the town of Peterborough, in the county of Peterborough, in the Province of Ontario, Canada, have invented a certain new and Improved Rotary Scalper, of which the following is a specification.

The object of the invention is to construct a scalper which will occupy a small space and perform its work without scouring the stock, and it consists, essentially, of a series of conically-shaped screens arranged alternately with a series of conically-shaped conveyers connected together and caused to revolve at a moderate speed within a circular casing carrying fixed ledges immediately below the outer edge of each conically-shaped screen and conically-shaped conveyer to receive the brake or middlings discharged therefrom, which brake or middlings are swept out of their respective ledges toward a discharge spout by a series of scoops attached to the revolving sieve or conveyer; substantially as hereinafter more particularly explained, and then definitely claimed.

The drawing represents a sectional perspective view of our improved scalper.

The old style of scalper which consists of a revolving reel, scoured the stock to such an extent that, comparatively speaking, but a small quantity of high grade flour was secured. The scalpings made with horizontal vibrating screens are very apt to get out of order and require constant attention and repair and both styles occupy considerable room. By the adoption of our improved rotary scalper, we not only secure a scalper in which scouring of the stock is, practically speaking, completely avoided, but which will occupy but very little space in proportion to the work it will perform. In the drawing we have shown a machine with only two sets of screens, but it will of course be understood that the number of screens may be increased to suit any sized mill.

A, represents the casing which is cylindrical in form and made a suitable size to contain as many screens B, as required, only two being shown in the drawing. Below each screen we place a conveyer C. The conveyers are made of smooth wood or any suitable

close material, and like the screens, the conveyers are conical in shape so that the stock will slide toward their edges and fall onto the ledge D, located immediately below the edge of each screen and conveyer.

The screens B, and the conveyers C, are rigidly secured together by the bolts or rods E, as indicated in the drawing. Around the inner edge of each conveyer C, a partition is formed to prevent the brake or middlings falling off the said ledge.

From the edge of each screen B and conveyers C, a series of independent scoops F, project so that when the machine revolves, they will push the brake or middlings off the respective ledges into the spout G, or H. The screens B, and revolving conveyers C, are, as before stated, rigidly connected together and are provided with a central shaft I, which rests in a suitable step J. This shaft is properly geared, as indicated, to a horizontal shaft K, or it may be geared by any other suitable means to a power from which it is driven.

Having now referred to the principle mechanical parts involved in our invention, we shall proceed to describe briefly the operation of the machine. The stock is conveyed onto the top screen through the hole L, made in the top of the machine. The stock thus conveyed is sifted so that the middlings will fall gently through the mesh of the screen onto the conveyer C, immediately below the top screen. The brake slides down toward the edge of the top screen and falls onto the top ledge D, immediately below it while the middlings slide toward the outer edge of the conveyer and fall onto the ledge D, immediately below it. All this time the screens and conveyers are slowly revolving, say, at the rate of about thirty revolutions a minute and the scoops F, act upon the brake so as to push it toward the spout G, and the scoops F, which act on the middlings push it toward the spout H, which convey them to their respective points where they are put through the next process. As we find, a slight jarring or vibratory motion for the revolving screens makes the revolving screens operate with greater satisfaction, we provide one or more agitators for producing the desired result. This agitator may be variously constructed, a practical form being shown in the drawing which

consists of the roller M, of an irregular form such as a hexagon journaled on the end of a pivoted arm N and actuated by a spring which holds the roller against the surface of the screen so that as the screen moves, the roller is caused to revolve, and owing to its irregular form, agitates the screen as desired.

In order to convey the stock onto the lower screens, we make a hole in the center of the screens through which a central feed spout O, is carried. As there are only two screens in the machine illustrated, only one feed spout O, will be necessary, but as each additional screen is added, a separate feed spout O, is provided.

As well as providing agitators for the screens, they may also be provided for the revolving conveyers.

What we claim as our invention is—

1. A conically-shaped revolving screen arranged within a casing and designed to re-

ceive the stock, and a conically-shaped revolving conveyer located below the conically-shaped revolving screen, in combination with ledges located below the outer edges of the screen and conveyer and of scoops connected to the said screen and conveyer; substantially as and for the purpose specified.

2. A conically-shaped revolving screen arranged within a casing and designed to receive the stock, in combination with a polygonal roller for imparting a vibratory motion to the said revolving screen by contact therewith; substantially as and for the purpose specified.

Toronto, April 21, 1892.

WILLIAM H. MELDRUM.
HENRY R. SHAW.

In presence of—

A. M. NEFF,
J. EDW. MAYBEE.