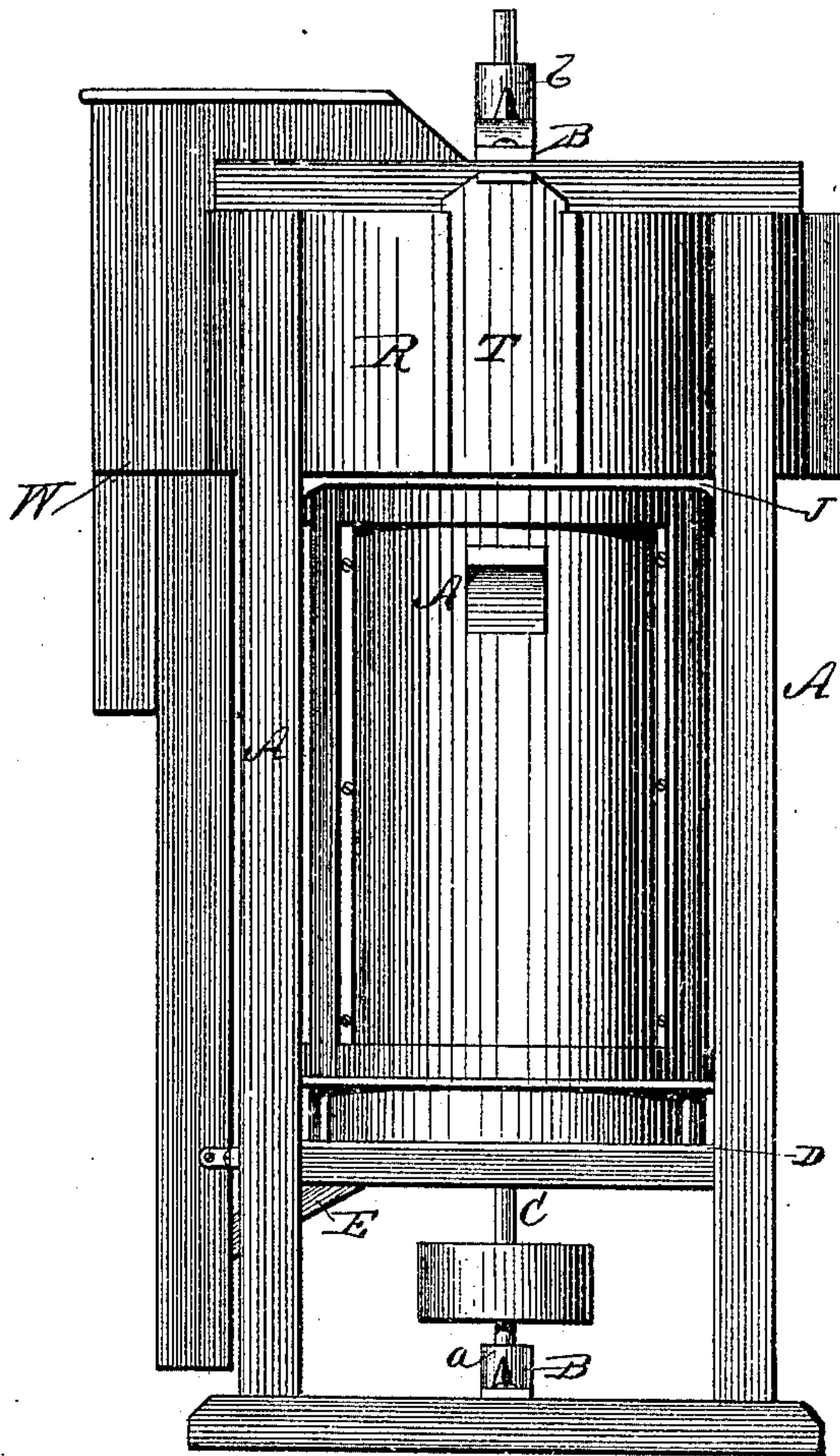


J. S. LEAS & S. HANSON.
Apparatus for Scouring Grain.

No. 232,986.

Patented Oct. 5, 1880.

Fig. 1.



Witnesses

W. C. Fox Arthur

Jos. M. Madingan

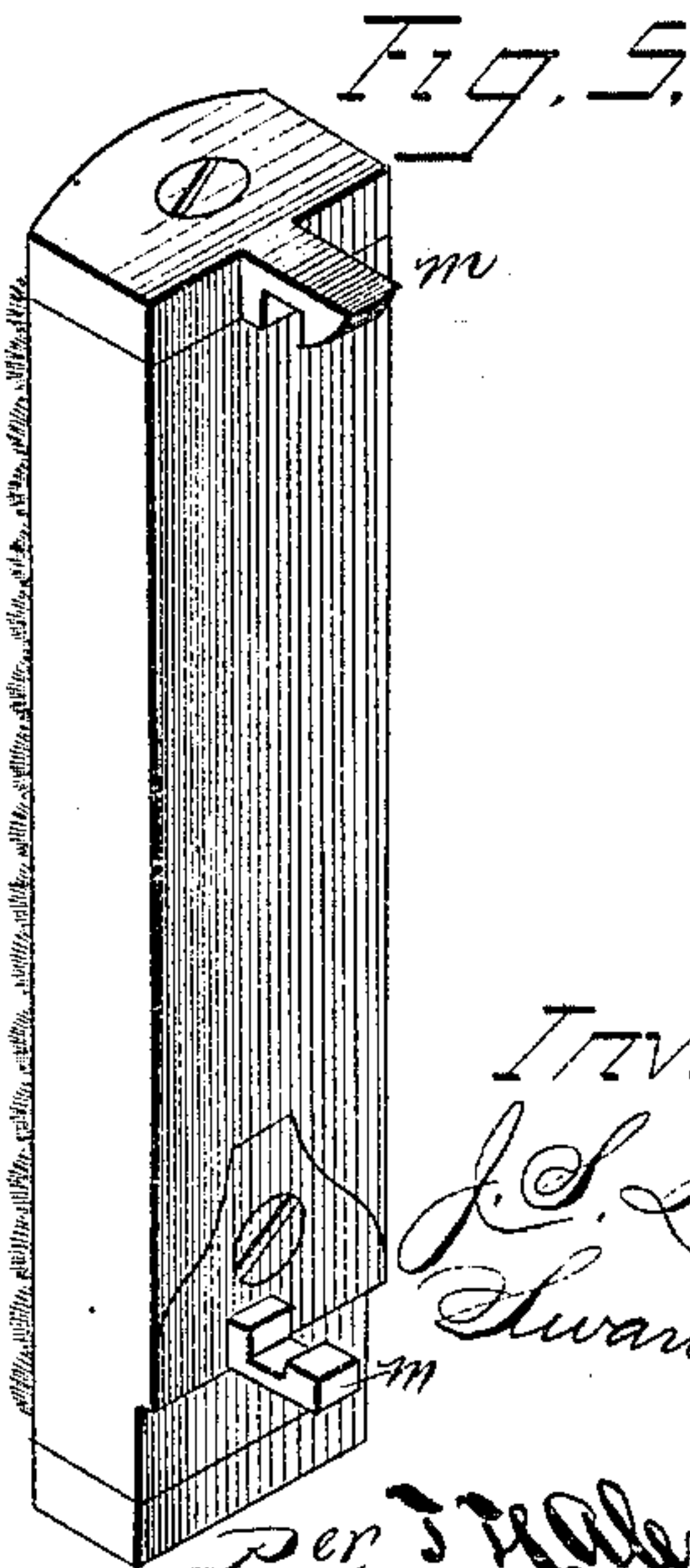
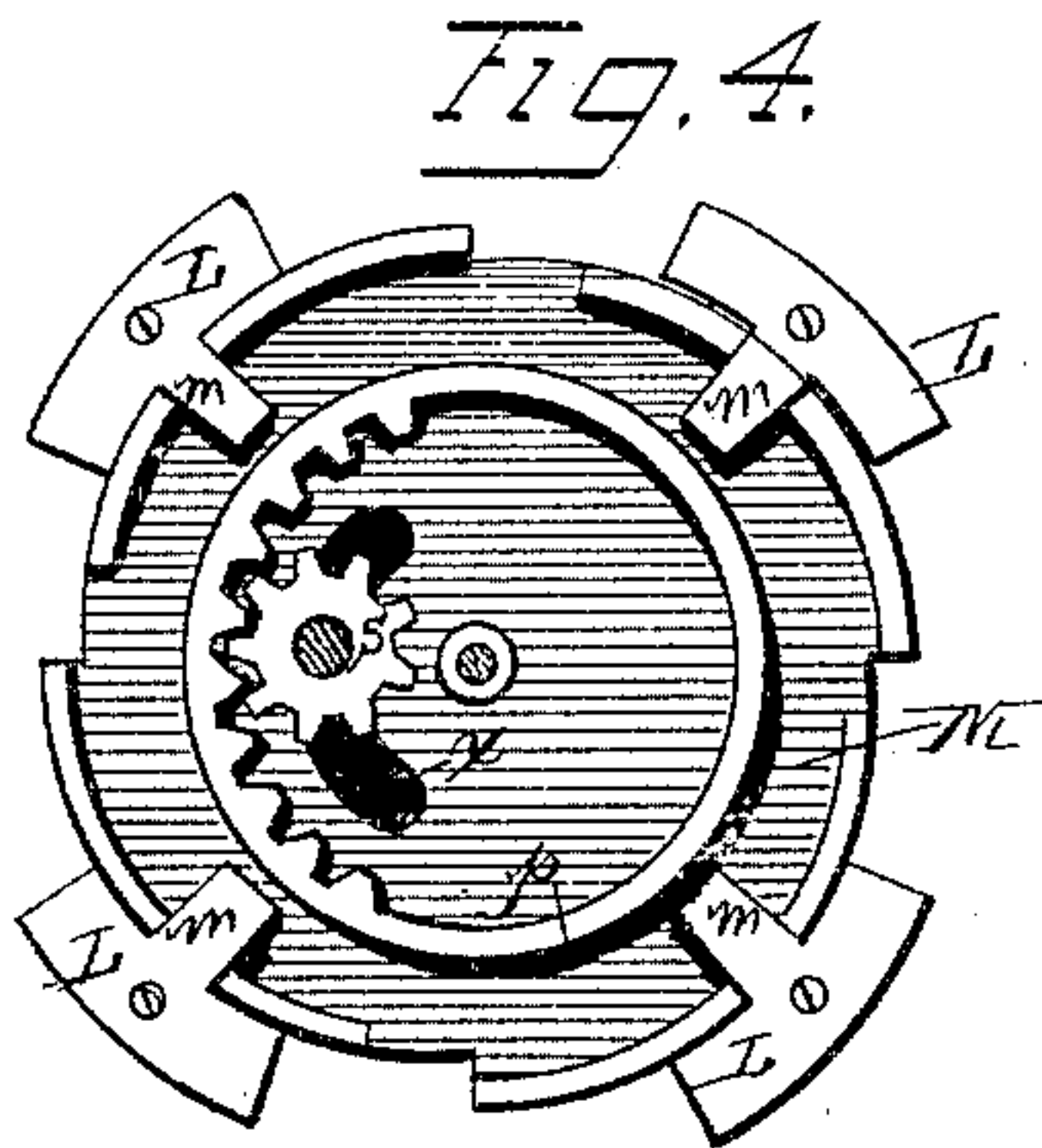
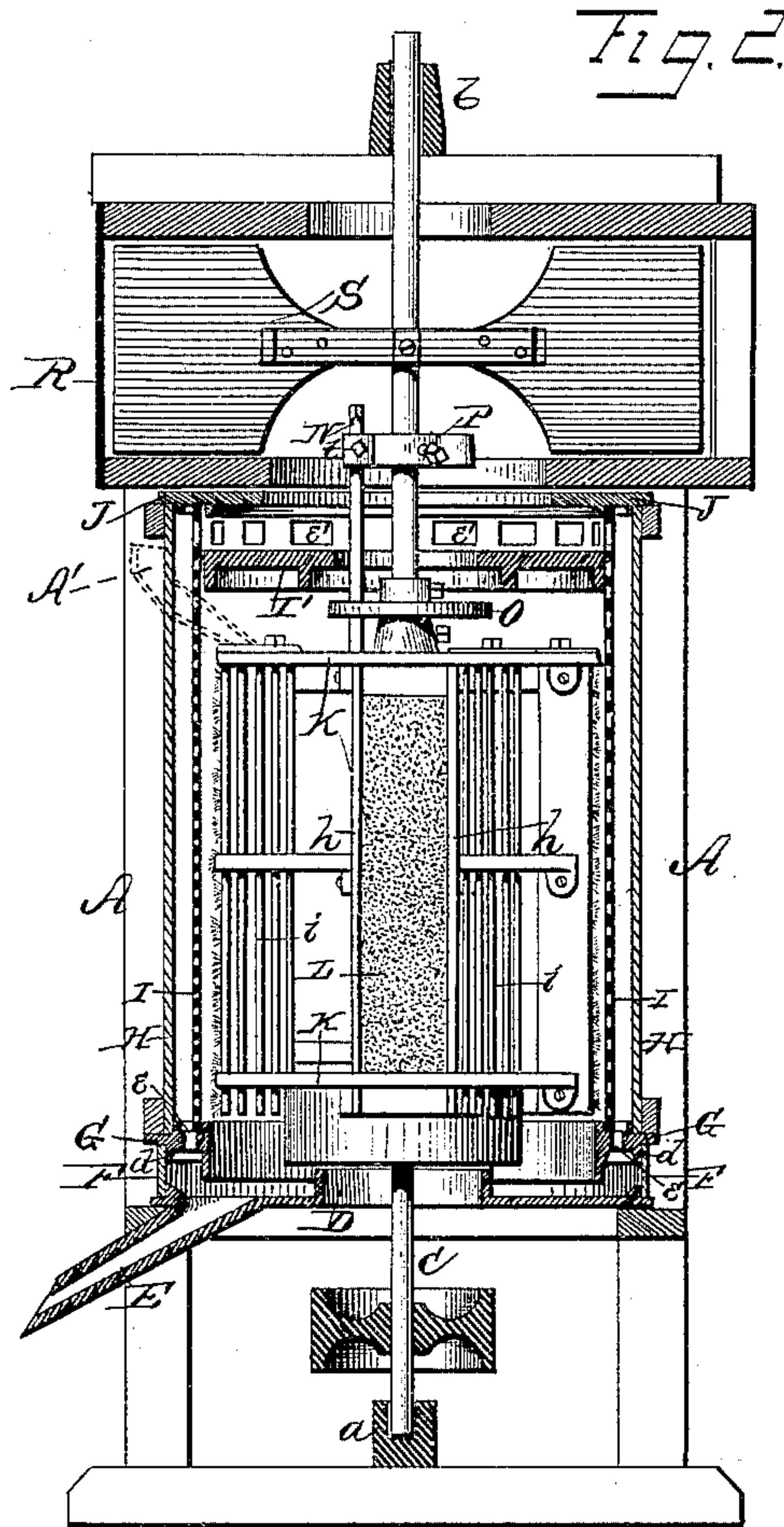
Inventors:

J. S. Leas &
Swan Hanson

Per

J. H. Alexander
Attorney

J. S. LEAS & S. HANSON.
Apparatus for Scouring Grain.
No. 232,986.. Patented Oct. 5, 1880.



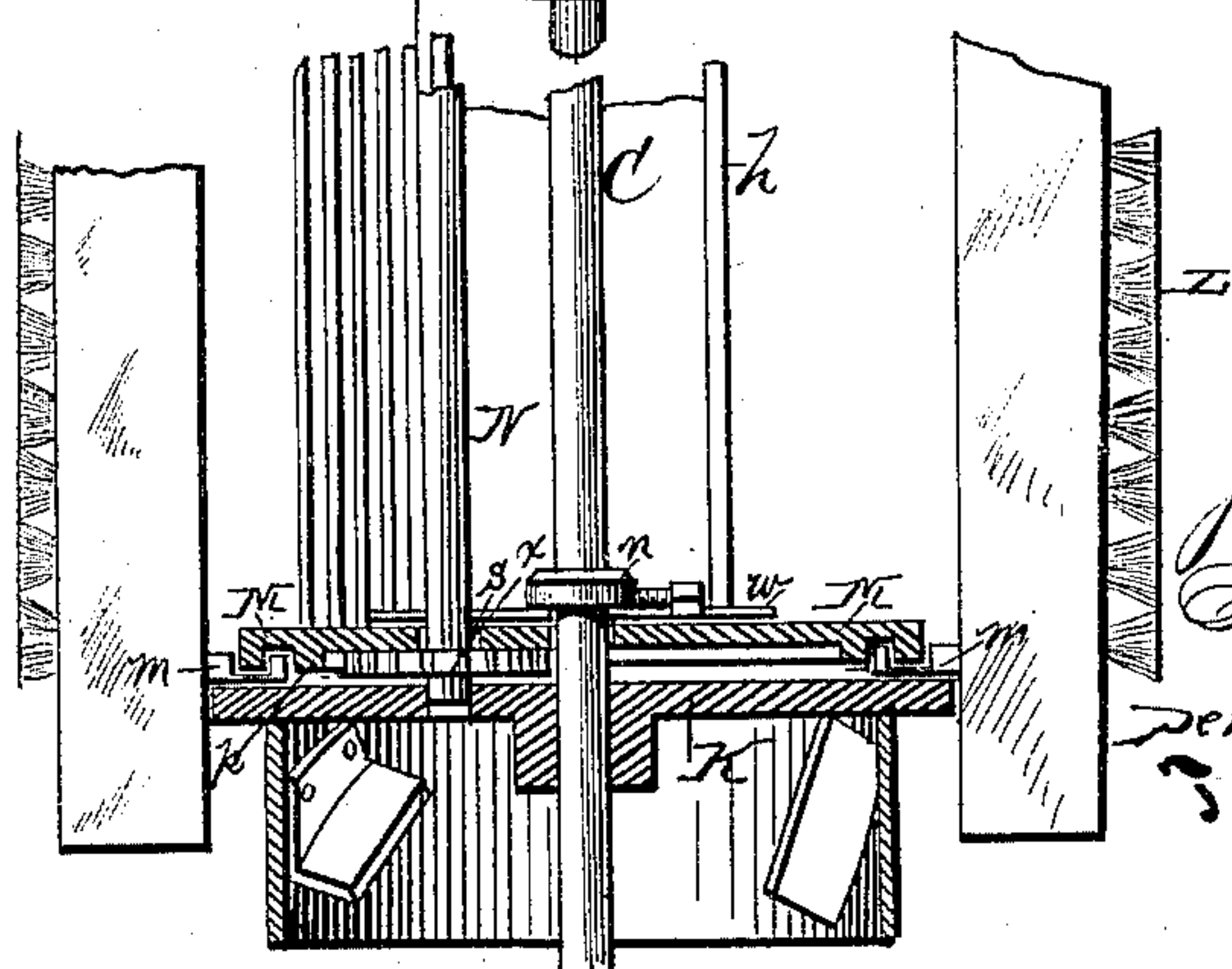
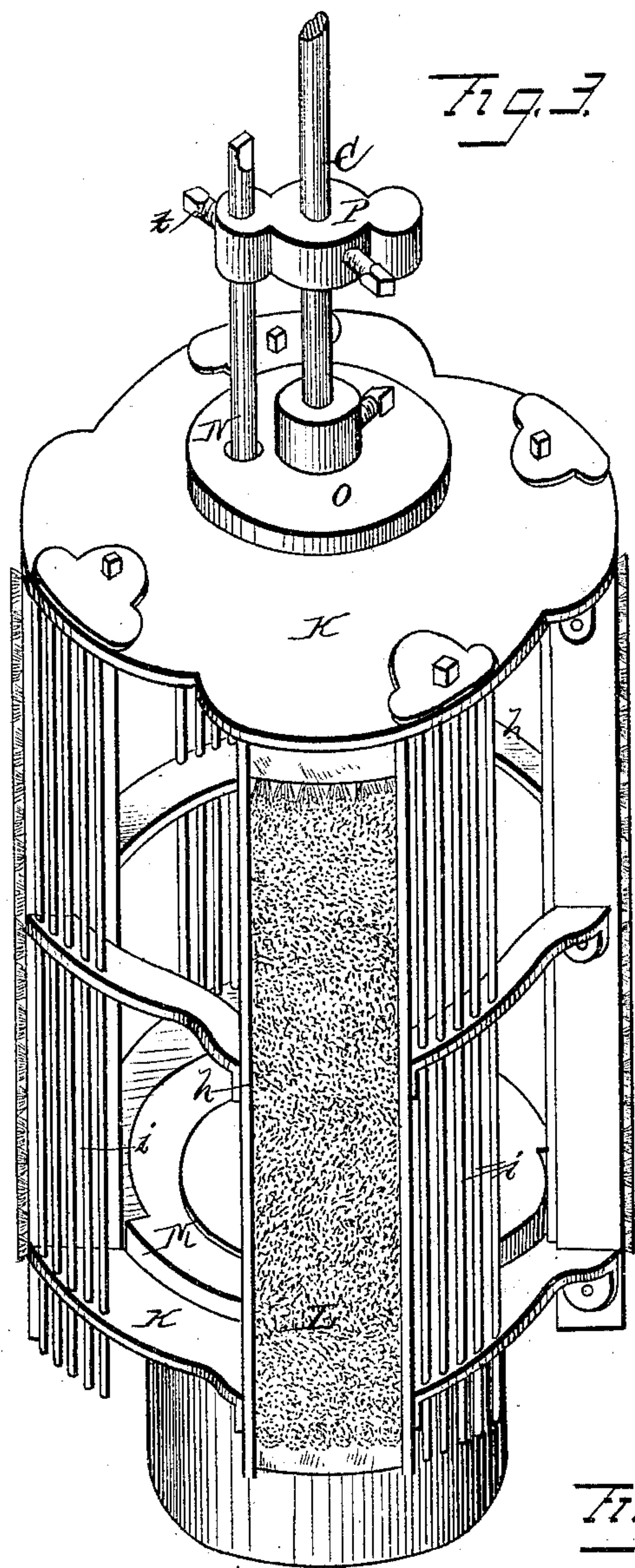
Witnesses:
H. C. McArthur
Jos. W. Madigan

Inventors:
J. S. Leas & S. Hanson
Per *J. H. Alexander*
Attorney;

(No Model.)

3 Sheets--Sheet 3.

J. S. LEAS & S. HANSON.
Apparatus for Scouring Grain.
No. 232,986. Patented Oct. 5, 1880.



Witnesses:

H. C. McArthur

J. M. Madigan

Inventors:

J. S. Leas &
Swan Hanson.

per
S. H. Alexander
Attorney.

UNITED STATES PATENT OFFICE.

J. SILAS LEAS, OF ROCK ISLAND, AND SWAN HANSON, OF MOLINE,
ASSIGNORS TO BARNARD & LEAS MANUFACTURING COMPANY,
OF MOLINE, ILLINOIS.

APPARATUS FOR SCOURING GRAIN.

SPECIFICATION forming part of Letters Patent No. 232,986, dated October 5, 1880.

Application filed May 15, 1880. (No model.)

To all whom it may concern:

Be it known that we, J. SILAS LEAS, of the city of Rock Island, and SWAN HANSON, of the city of Moline, all in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Brush-Scourers; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention relates to upright brush-scourers and smut-mills; and it consists in devices for adjusting the brushes out and in; in inclined beaters carrying the wheat up an incline to the face of the brushes; in the combination of rod-beaters with the brushes; and in the construction and combination of parts, as will be hereinafter more fully set forth, and pointed out in the claims.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation; Fig. 2, a central vertical section; Fig. 3, a perspective view of the beater; and Figs. 4, 5, and 6 are details of parts of our invention.

A represents the frame of the machine, in the top and bottom of which are suitable bridge-trees B B. The bottom bridge-tree forms a step, *a*, to receive the lower end of the central shaft, C, while the upper bridge-tree forms a bearing, *b*, for the upper end thereof. This shaft is, near its lower end, provided with a pulley, to which the power is applied. Above this pulley, attached to the frame, is the base-plate D, provided with the outlet-spout E.

Around a circular flange on the base-plate is fitted a rim, F, upon which is fitted the annular ring G, said ring forming around its inner circumference a downwardly-projecting flange, *d*, and on the upper surface it has two circular flanges to form guides for receiving the two casings H and I. Between these guide-flanges is made a series of slots, *e*, as shown.

The inner casing or cylinder is made of per-

forated sheet metal, and provided with a top plate, I', having a central aperture, and the cylinder itself extends a certain distance above said top plate, and this extension of the cylinder is provided with a series of slots, *e'*, which, with the slots *e* at the bottom, form a draft between the two casings to the fan above.

The outer casing or cylinder, H, is made of imperforate sheet metal, and the upper ends of both casings or cylinders are held by a plate, J, secured to the frame.

To the shaft C, within the cylinder I, are secured two heads, K K, between which, at proper intervals, are secured metal strips *h h*, dividing the outer circumference into alternate large and small spaces. In each of the smaller spaces is placed a brush, L, and in each of the larger spaces is placed a series of vertical rods, *i i*. Each series of these rods is placed upon the arc of a circle eccentric to a circle having the shaft C as a center; or, in other words, these rods in each series form an inclined rod-beater, by which the wheat is carried up an incline to the face of the adjacent brush.

The brushes L are on their inner sides, at both ends, provided with hooked arms *m*, which engage with grooved eccentrics M M, placed loosely on the shaft C, and held from moving up and down thereon by means of collars *n*, fastened to the shaft by set-screws.

The eccentrics M M are placed close to the inner sides of the heads K K of the revolving scourer, and the hooked arms *m* pass in between them, as shown. Each eccentric is provided with a raised flange, *p*, having a series of cogs, as shown, which mesh with a pinion, *s*, on an upright shaft, N, which has its journal-bearings in the heads K K and passes through slots *x* in the eccentrics M M. The shaft N also passes through a disk, O, attached to the shaft C below the top plate, I', of the inner perforated cylinder, I, and the shaft N extends still farther up and passes through a cross-head, P, secured on the shaft C, the shaft being fastened in said cross-head by a set-screw, *t*. By loosening this set-screw and applying a wrench to the upper end of the shaft N, said shaft may be turned, which, by means of the gears *s p*,

rotates the eccentrics M M, thereby adjusting the brushes L L out or in, according as the power may be applied either to the right or left.

5 The slots *x* in the eccentrics M are covered by means of loose plates *w*, interposed between said eccentrics and the collars *n*.

R represents the fan-case, containing the fan S, secured on the shaft C. In the side of the fan-case is a door or slide, T, which is to be
10 opened to gain access to the set-screw *t* and upper end of the shaft N.

The machine is provided with the usual separating-trunk W, the same as in other brush-
15 scourers of this class.

The operation is the same as is usual in this kind of machines. The interior scourer being rotated, the grain, as it is fed in through the hopper A', is thrown by centrifugal force to
20 the inside of the perforated casing and acted upon by the beaters and brushes, after which it falls to the bottom and is carried out through the spout, the fan in the meantime carrying off all dust and dirt. A spout leads from the
25 hopper through both casings and allows the grain to fall onto the top plate of the revolving cylinder.

We are aware the state of the art shows that a rod-beater arranged upon a curve is not new,
30 as seen, for instance, in Hinzey's patent of May 5, 1874, and we do not, therefore, lay any claim, broadly, to this feature.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a revolving scouring-machine, the combination of one or more eccentric-plates, M, each having one or more eccentrics on their edges, with brush or brushes L, provided with suitable means for securing them, and top and bottom plates of the beater, all constructed and arranged to operate substantially as and for the purpose set forth. 35 40

2. The combination of the eccentrics M M, gears *p s*, and shaft N with the brushes L, provided with hooked arms *m*, substantially as and for the purposes herein set forth. 45

3. The combination of the shaft N, eccentrics M M, having slots *x x*, gears *s p*, plates *w*, and collars *n*, substantially as and for the purposes
50 herein set forth.

4. The fan-case R, provided with the slide or door T, in combination with the shafts C N, cross-head P, and set-screw *t*, substantially as and for the purposes herein set forth. 55

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

J. SILAS LEAS.
SWAN HANSON.

Witnesses:

MORRIS ROSENFELD,
H. O. SLEIGHT.