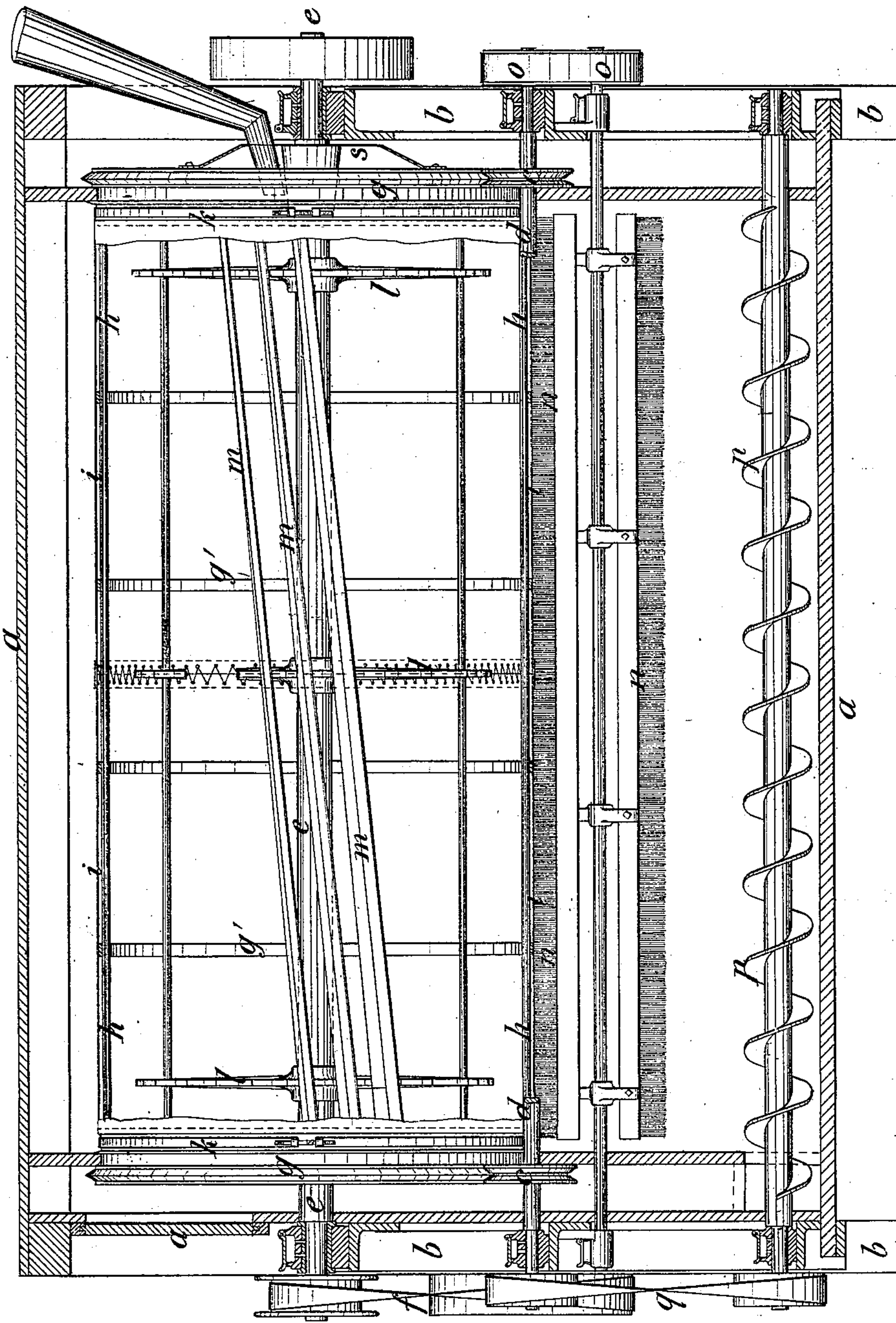


A. CRABTREE.
Machine for Dressing Middlings.

No. 234,968.

Patented Nov. 30, 1880.

FIG. 1.



Witnesses,

Henry Howson Jr.
Harry Smith

Inventor,

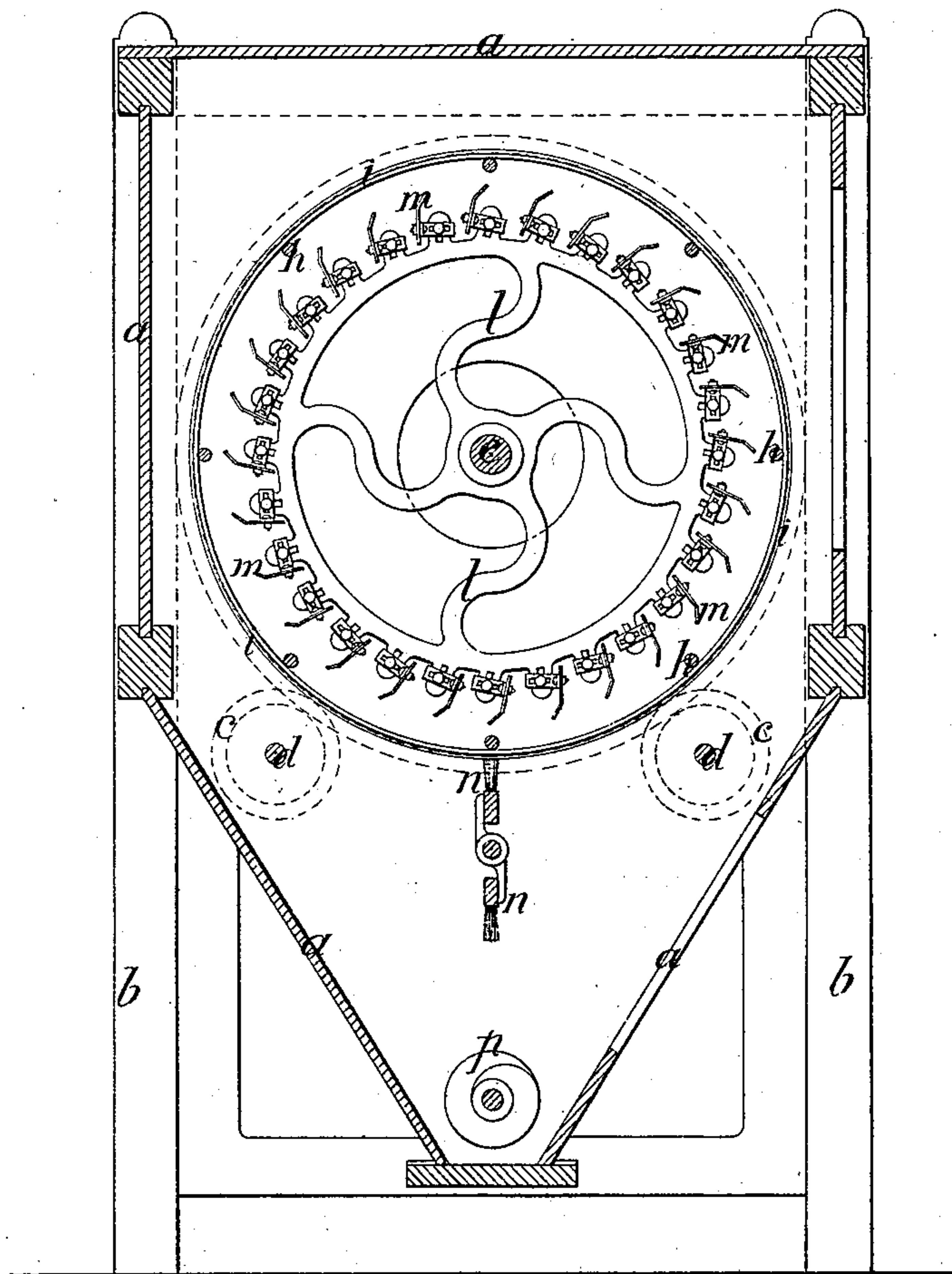
Abraham Crabtree
by his Attorneys
Howson & Son

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FIG. 2.



Witnesses
Henry Howson Jr.
Hardy Smith

Inventor,
Abraham Crabtree
by his Attorneys
Howson & Son

UNITED STATES PATENT OFFICE.

ABRAHAM CRABTREE, OF BACUP, COUNTY OF LANCASTER, ENGLAND.

MACHINE FOR DRESSING MIDDINGS.

SPECIFICATION forming part of Letters Patent No. 234,968, dated November 30, 1880.

Application filed February 12, 1879.

To all whom it may concern:

Be it known that I, ABRAHAM CRABTREE, of Bacup, in the county of Lancaster, England, have invented certain Improvements in Machines for Dressing Middlings, of which the following is a specification.

My invention relates, principally, to a combination of apparatus for the above purpose, consisting of a revolving cylinder covered with silk cloth and a beater of peculiar construction which revolves inside the cylinder (in the same direction but at a greater speed,) together with a revolving brush, which constantly cleans the outside of the cylinder, and a screw to deliver the flour or meal which has been worked by the beater through the silk cloth.

Such being the nature and object of my said invention, I will now proceed to describe in detail the manner in which the same is to be or may be performed or carried into practical effect; and in order that the same may be clearly understood I have annexed hereunto two sheets of drawings illustrative thereof, and have marked the same with figures and letters of reference corresponding with those in the following explanation thereof.

Figure 1 in the annexed drawings represents a longitudinal section, and Fig. 2 a transverse section of my improved apparatus or machine.

The whole apparatus is inclosed in a casing, *a a*, and suitable framing *b b*.

The cylinder is carried upon and driven by small friction-pulleys *c c*, mounted upon two shafts, *d d*, running beneath the cylinder, one of these shafts being driven from the main or beater shaft *e e* by the crossed strap *f f*. The cylinder is formed of two end rims, *g g*, and a suitable number of intermediate rims, *g' g'*, according to its length, all the said rims being connected together by longitudinal bars or rods *h h*, fastened thereto so as to form a kind of cage or skeleton-cylinder. The silk *i i* is stretched over this cage in the following manner: The ends or rims *g g* of the cylinder which run on the friction-pulleys *c c* are provided with annular grooves, in which the edges of the silk *i i* are placed and tied round with a cord, over which is passed a thin hoop of steel, *k k*, the ends of which are drawn tight

by means of screws. The central portions or edges of the silk are provided with eyelet-holes, by means of which these edges are laced together, and a strip of calico or other suitable material is then pasted or otherwise cemented over this joint. The silk is thus well secured and strained perfectly tight over the skeleton-frame. Inside this cylinder, and passing through the center thereof, is the main shaft or axle *e e*, revolving in the same direction but at a quicker speed. On this shaft is mounted a series of narrow drums or wheels, *l l*, having nibs or projections round the circumference, to which are attached the beaters or distributors *m m*, formed of long narrow strips or blades of metal or other suitable material set on edge in almost a radial position, their outer edges being bent to a considerable angle, so as to throw the middlings or meal outward against the silk or sieve *i i*. These strips or blades *m m*, being placed at a slight inclination or angle to the center-line of the shaft *e e*, as seen at Fig. 1, at the same time propel the bran and all the coarse meal or other matter that does not pass through the silk forward to the delivering end of the cylinder.

The air enters with the meal at the central opening, *s s*, round the axis at the feeding end of the cylinder, and passes out at the delivery end through several openings near the circumference.

The outside of the silk cylinder is kept clean by means of a flat brush, *n n*, which is kept constantly revolving in contact therewith by means of the strap *o o*.

p p is a worm or screw kept revolving by means of the crossed strap *q q*, for the purpose of impelling the fine sifted flour or meal toward the delivering end of the machine.

I am aware that it is not new to combine an external brush with an internal beater in middlings-purifiers; but the external brush in my machine is of a peculiar construction—that is, it consists of a shaft carrying flat brushes, which act by a succession of blows, and not only beat the meal thoroughly out of the meshes, but the brush itself does not become choked.

I claim as my invention—

1. The combination of the rotating cylinder

of a middlings-cleaner with an external rotary shaft carrying flat brushes *n n*, as and for the purpose set forth.

2. The combination of the revolving cylinder having an internal revolving beater with an external shaft carrying flat brushes, as and for the purpose set forth.

3. The within-described rotary beater, consisting of a series of wheels or drums carrying a series of longitudinally-inclined blades, *m*,

arranged nearly radially, and having their outer edges bent to an angle, as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABRAHAM CRABTREE.

Witnesses:

GEORGE DAVIES,

CHARLES DAVIES.