

(No Model.)

T. RYAN.
Smut Mill.

No. 230,343.

Patented July 20, 1880.

Fig. 1.

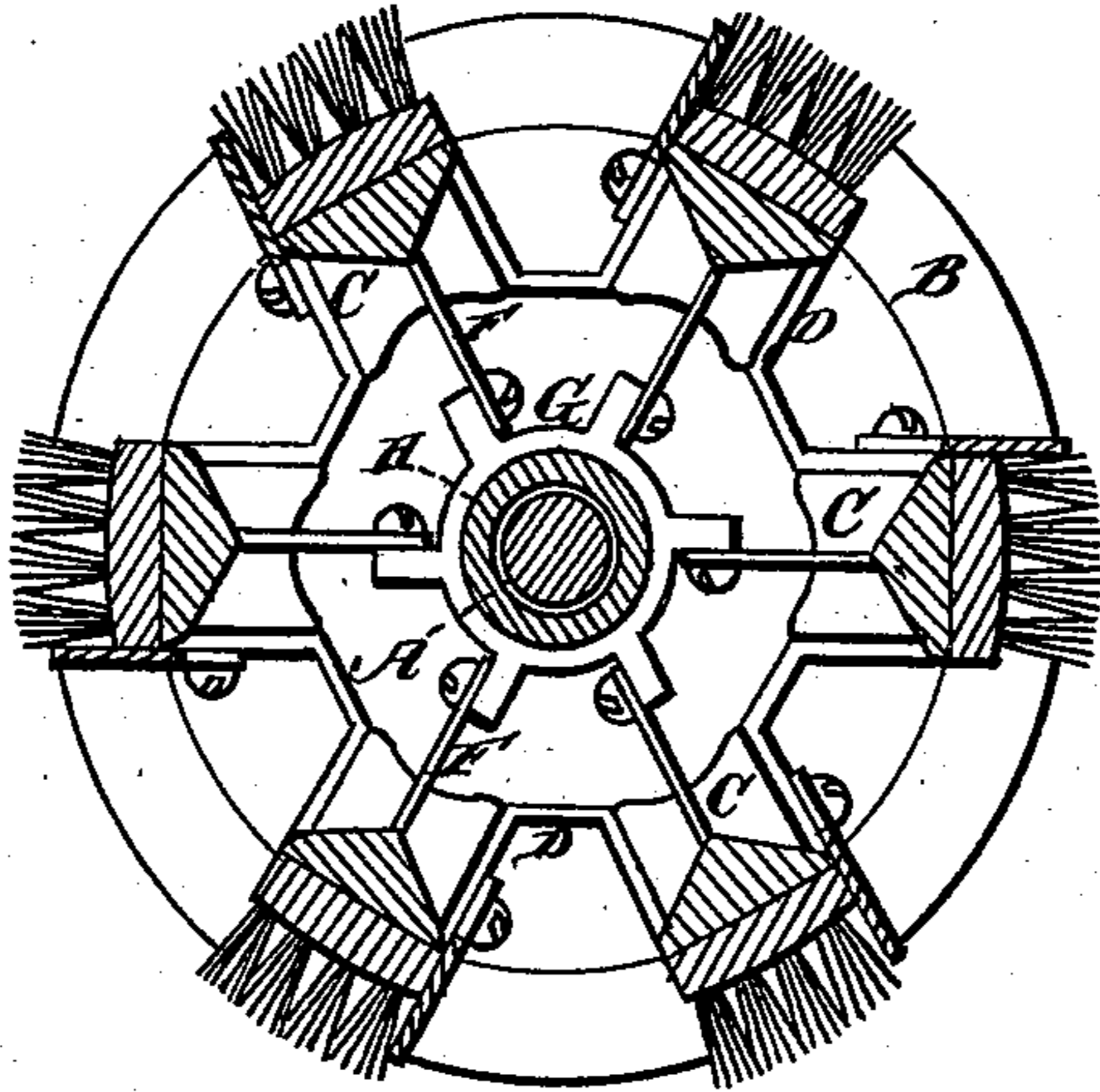
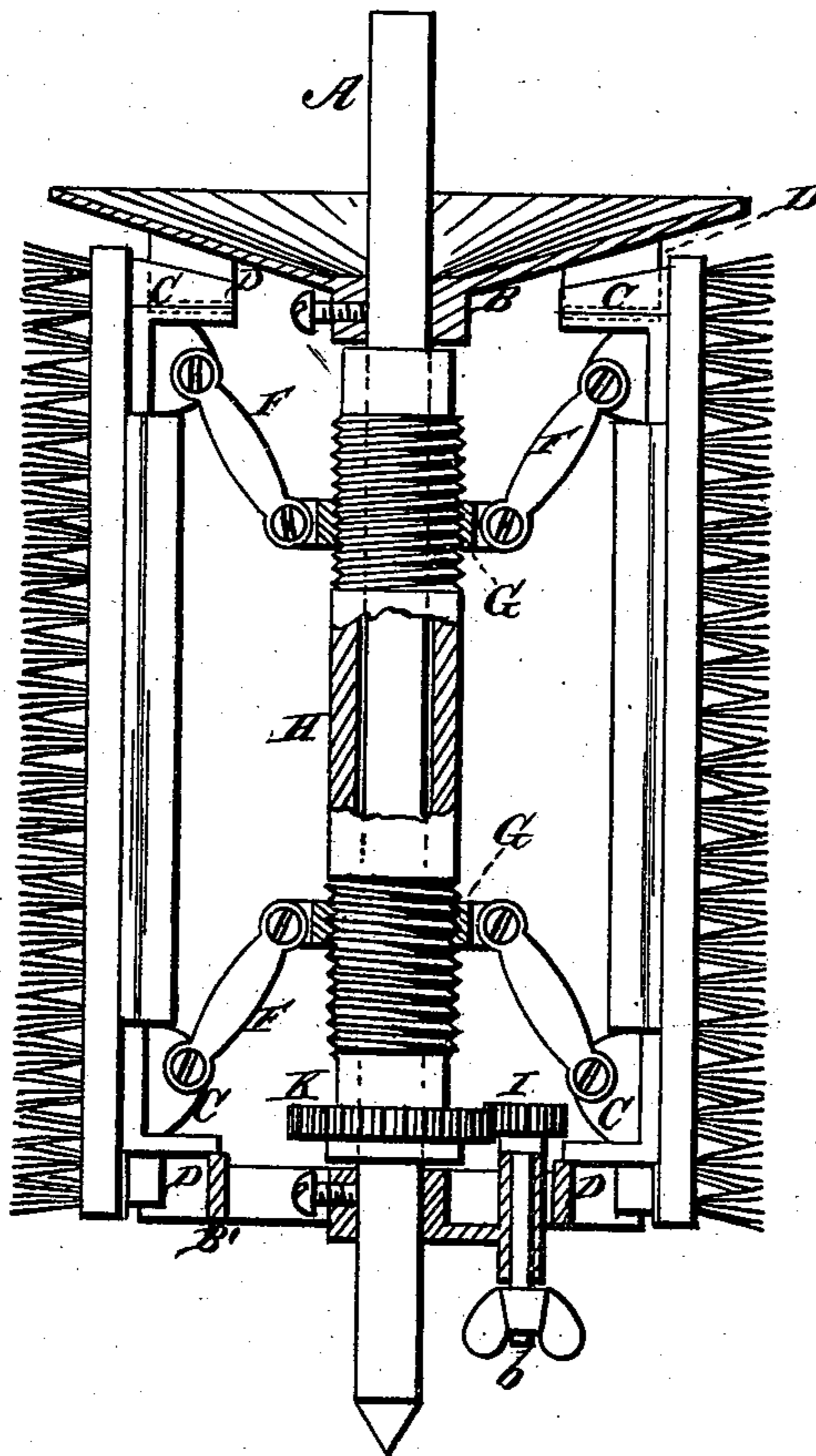


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS RYAN, OF LOCKPORT, NEW YORK, ASSIGNOR OF ONE-HALF OF HIS
RIGHT TO WILLIAM RICHMOND, OF SAME PLACE.

SMUT-MILL.

SPECIFICATION forming part of Letters Patent No. 230,343, dated July 20, 1880.

Application filed May 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS RYAN, of Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Smut-Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a transverse section of my smut-mill, and Fig. 2 is a longitudinal sectional view of the same.

The nature of this invention relates to an improvement on Patent No. 167,788, of September 14, 1875, for a smut-mill.

The object of such patent was to produce an accurate and even adjustment of the brushes to or from the inside of the scouring-case, thereby adapting the device to be used in cleaning different varieties of grain.

In such patent a screw-threaded rod, independent of the central shaft, passed through projecting portions of two spiders, the adjustment of which by the rotation of the right and left hand screw-threaded rod effected the adjustment of the brushes through the medium of slides and connecting-rods; also, a collar was employed upon the main shaft and connected with the rod aforesaid for the purpose of holding the rod against endwise displacement.

In the present invention the improvement consists in substituting for said rod and collar a right and left hand screw-threaded sleeve arranged to be rotated upon the main shaft by suitable gearing and adapted to actuate the spiders which cause the lateral movements of the slides through the medium of the connecting-rods.

In the drawings, A designates the central or main shaft; B B', the heads or spiders fixed upon said shaft; C, the slides connecting with the brushes and working in guides D; E, the connecting-rods which connect the slides with the two spiders G G, the endwise movement of which causes the actuation of the connecting-rods and slides, and consequently the adjustment of the brushes.

Thus far the devices resemble those found in the aforesaid patent, and hence need no further description.

Upon the central shaft, A, is arranged a loose sleeve, H, which extends from the hub of the spider B to the hub of the spider B'. On one half of the length is formed an external right-hand screw-thread, and on the remaining half of said sleeve is formed an external left-hand screw-thread, said threads fitting the corresponding female threads in the movable spiders G G, in order to draw them closer together, or to move them farther apart, according to the direction in which the sleeve is rotated, thus moving the brushes to or from the shaft.

The rotation of the sleeve is accomplished by means of a short rod, b, having its bearing in the bottom spider, B', and being provided on its upper end with a pinion, I, which engages a gear, K, upon the sleeve.

What I claim, and desire to secure by Letters Patent, is—

1. In a smut-mill in which the brushes are moved toward and away from the central shaft by means of spiders arranged to move parallel with the axis of the shaft and connected by suitable operative devices with the brushes, a right and left hand screw-threaded sleeve arranged loosely upon the central shaft, and adapted, by its rotations, to move the spiders in order to adjust the brushes, substantially in the manner herein set forth.

2. In a smut-mill, the combination of the central shaft, A, with the slides C, the brushes, the connecting-rods connecting the slides with the movable spiders G, the right and left hand screw-threaded sleeve H, arranged loosely upon the central shaft, a gear-wheel secured upon the sleeve, and a pinion secured upon a rotary rod, b, and arranged to intermesh with the gear upon the sleeve, substantially as herein shown and set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS RYAN.

Witnesses:

JOHN MCLEAN,
FRED J. MCGILL.