(No Model.)

J. B. SHEPLER.

MACHINE FOR GRINDING PAPER PULP.

No. 294,689. Patented Mar. 4, 1884.

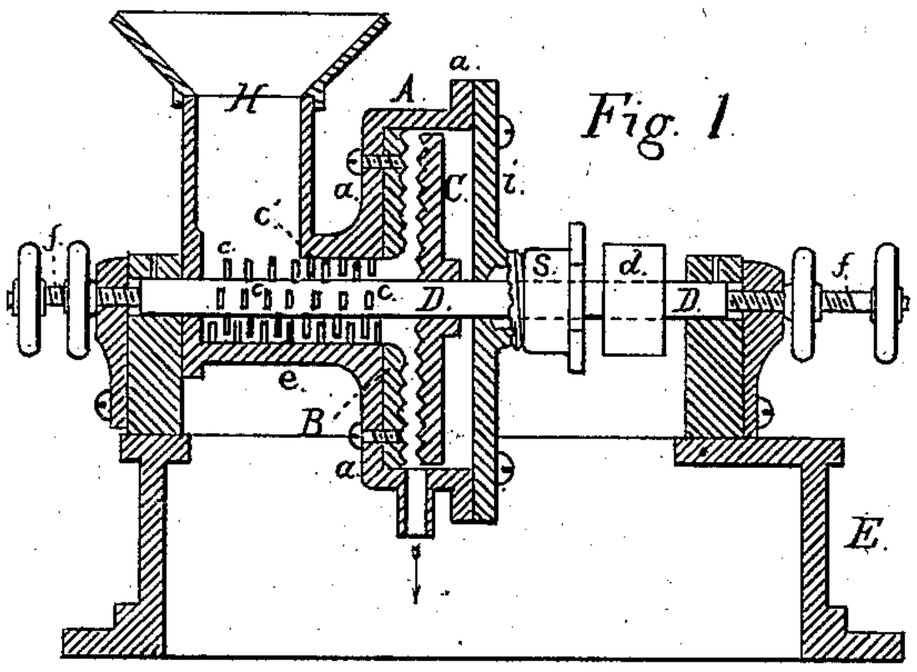

Fig. 1

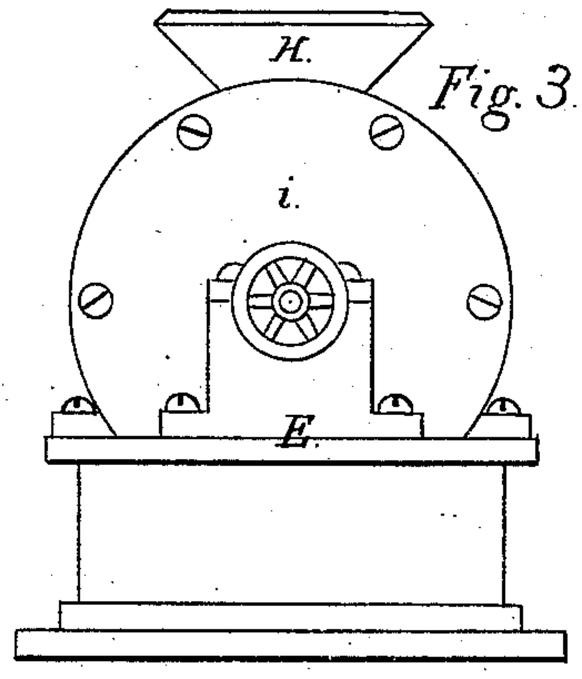

Fig. 3

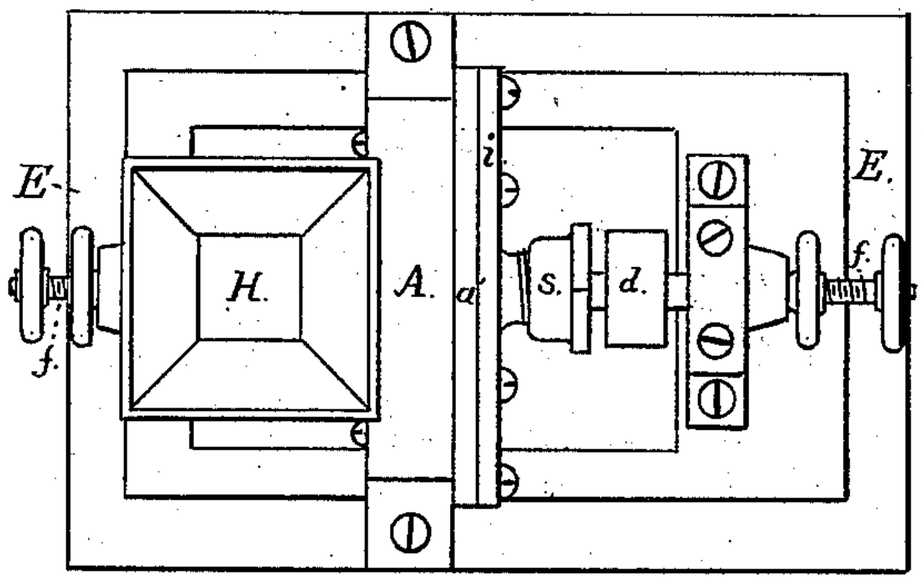

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN B. SHEPLER, OF TOLEDO, OHIO.

MACHINE FOR GRINDING PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 294,689, dated March 4, 1884.

Application filed April 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. SHEPLER, a citizen of the United States, residing at Toledo, Lucas county, Ohio, have invented certain new and useful Improvements in Machines for the Manufacture of Paper-Pulp, of which the following is a specification.

My invention relates to improvements in that class of machines for reducing straw and other material to pulp in the manufacture of paper and boards in which the stock, in the process of grinding, passes between two plates with suitable grinding-surfaces, one of said plates being fixed and the other revolving. In machines of this class heretofore in use the circular case or drum containing the grinding-plates has consisted of a hoop at its circumference, provided with flanges, to which have been bolted plates, constituting the ends of the drum, the inner side of one of said plates serving as the fixed grinding-surface of such machine, the bolts by which this plate is fastened to the flange of the hoop being also used to adjust and set the fixed plate so that its grinding-surface shall at all points be equidistant from the grinding-surface of the revolving plate. This form of machine is objectionable on account of the nicety of adjustment required and the liability of the fixed plate so arranged to lose its adjustment, and the frequent breakage of this plate and its bolts. The revolving plate of such machines has heretofore been set relatively to the fixed grinding-plate by means of a set-screw attached to the other fixed plate of the drum, which screw is set against the end of the shaft carrying the revolving plate. This method is objectionable, as imposing an undue strain upon the plates of the drum, causing frequent breakages.

The object of my invention is to obviate the objections above indicated. I attain this object by means of the mechanism hereinafter described, and illustrated in the accompanying drawings, constituting part hereof, in which—

Figure 1 is a central longitudinal vertical section of my device; Fig. 2, a plan, and Fig. 3 an end elevation, of the same.

Similar letters refer to similar parts throughout the several views.

The drum or cylinder containing the circular grinding-plates B and C consists of hoop A, back plate, *a*, flange *a'*, and plate *t*, bolted to flange *a'*.

D is a shaft, to which are attached revolving plate C and fingers or "knockers" *c c*, revolving within a cylinder, *e*, (which forms a shoulder for plate *a*,) from the inner surface of which project fingers *c'*, and which cylinder opens into hopper H.

My invention consists, in part, in forming this last-mentioned cylinder *e*, back plate, *a*, hoop A, and flange *a'* of one piece, in order to give greater strength and weight to this part of the machine. The surfaces of back plate, *a*, and of stationary grinding-plate B, which are in contact, are planed or ground perfectly smooth and flat, and plate B is bolted rigidly to back plate, *a*, the adjustment, being once made, remaining until plate B is worn out, obviating the necessity for frequent adjustment. This arrangement not only strengthens the drum, but adds strength to plate B and renders it less liable to crack, and facilitates the removal and renewal of worn-out grinding-plates.

My machine is provided with a heavy bed plate or frame, E, to which the drum is securely bolted. Shaft D passes through stuffing-box *s*, and is provided with pulley *d*. At each end of shaft D, passing through bed-plate E, or pieces attached thereto, are adjusting-screws *f f*, by means of which shaft D is moved longitudinally, carrying with it plate C, so as to adjust and set the revolving plate at any required distance from fixed plate B. By this arrangement the strain of the adjusting-screws, instead of being upon the plate of the drum, as in pulp-machines in use, is upon the bed-plate of the machine.

I am aware that burr-stones have been adjusted in the manner described, and I do not claim, broadly, the adjustment of a grinding-disk by means of screws placed at either end of its shaft; but

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

1. In a machine for reducing paper-pulp, the combination of the bed plate or frame E, hopper H, cylinder *e*, having fingers *e'*, back plate *a*, hoop A, having flange *a'*, plate *i*, and grinding-plate B, secured to the back plate, in combination with the shaft D, mounted in the bed-plate, and provided at each end with adjusting-screws *f*, a grinding-plate, C, mounted on the shaft, pulley *d*, stuffing-box *s*, and fingers *e*, as set forth.

2. In a machine for reducing paper-pulp, the combination of the bed plate or frame, hopper H, cylinder *e*, back plate, *a*, provided with the grinding-plate B, secured thereto, the front plate, *i*, and hoop A, with the shaft D, mounted in the bed-plate, and having adjusting-screws *f*, a grinding-plate, C, mounted on the shaft, and means for operating the same, as set forth.

JOHN B. SHEPLER.

Witnesses:
H. E. KING,
FRANK B. SWAYNE.