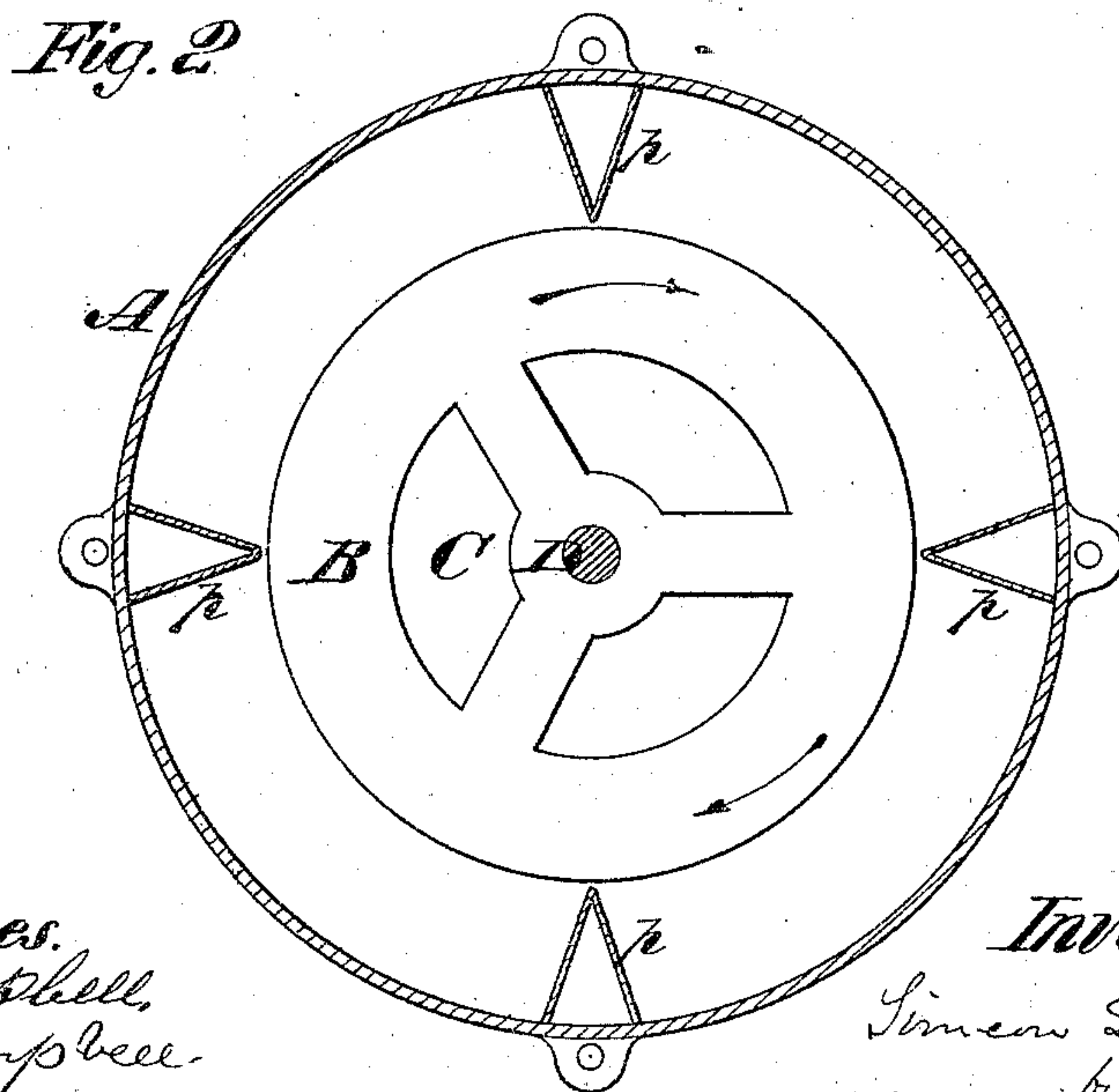
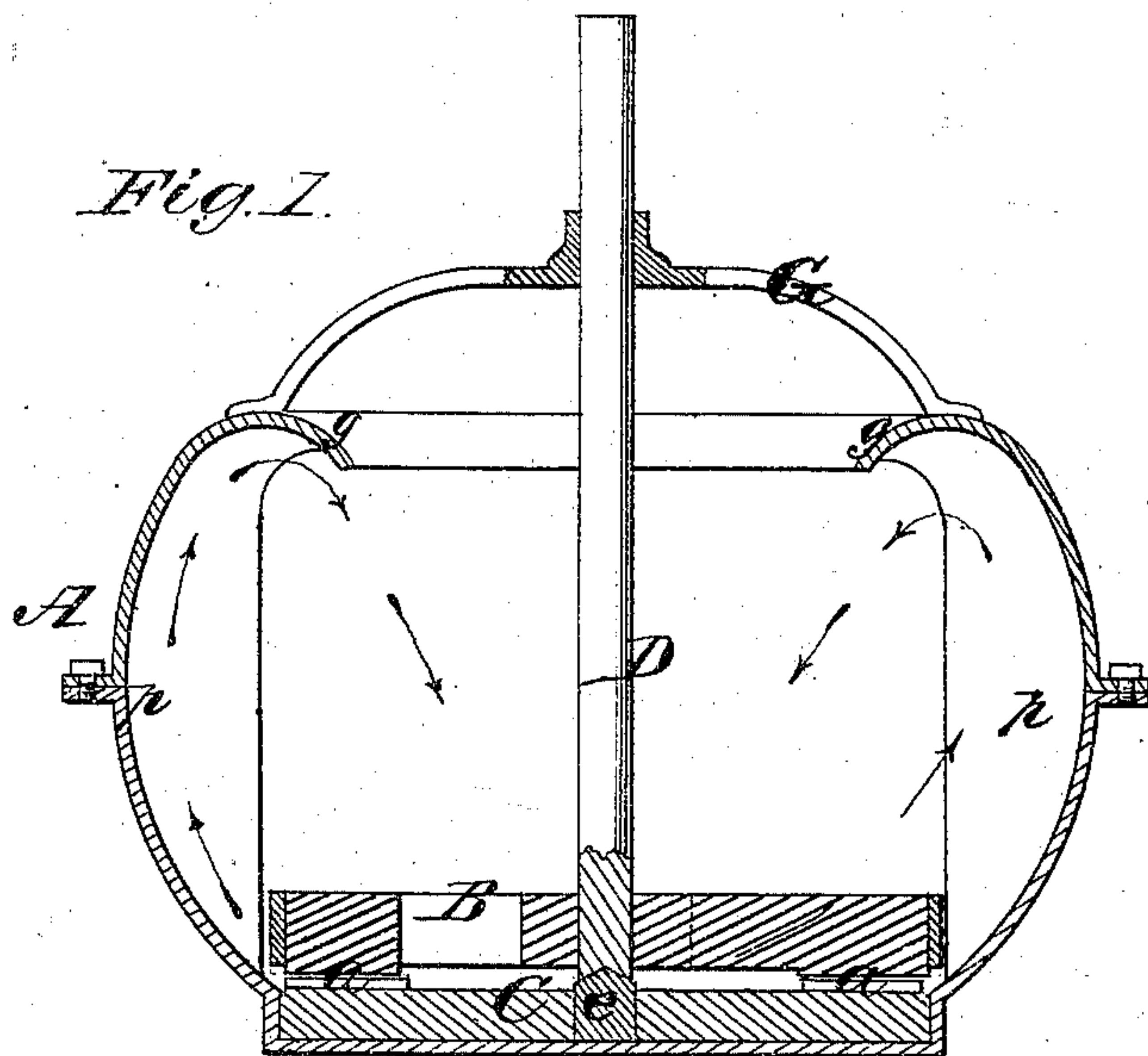


SIMEON L. GOULD.

Improvement in Paper Pulp Engines.

No. 120,265.

Patented Oct. 24, 1871.



Witnesses.
R. T. Campbell,
J. N. Campbell.

Inventor
Simeon S. Gould
by
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Received July 16th 1872.

120,265

UNITED STATES PATENT OFFICE.

SIMEON L. GOULD, OF SKOWHEGAN, MAINE.

IMPROVEMENT IN PAPER-PULP ENGINES.

Specification forming part of Letters Patent No. 120,265, dated October 24, 1871.

To all whom it may concern:

Be it known that I, SIMEON L. GOULD, of Skowhegan, in the county of Somerset and State of Maine, have invented an Improvement in Pulping-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a diametrical section through the mill. Fig. 2 is a section taken horizontally through the mill.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement in the construction of the shell or casing of a pulping-engine, whereby the material while being disintegrated will be repeatedly thrown off by the centrifugal action of a rotary disintegrator, and immediately returned and delivered into the center of the latter by the peculiar shape given to the shell or case of the engine, thereby effecting a repetition of the disintegrating process as long as may be desired with no other expenditure of power than that required to rotate the disintegrator, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents the case or shell of the pulping-engine or mill, at the bottom of which is a horizontal bed, C, having on its upper surface a number of blades, *a*. B represents a wheel, which is open through its center, and which is applied on a vertical shaft, D, rising from a step, *e*, and having its upper bearing in an arch, G, made fast on top of the case A. On the under surface of wheel B is a number of blades, *a*, thickly set and arranged so as to operate with a shear-cut on the blades of the bed C for reducing, disintegrating, and separating the fibers of straw, wood, and rags, and other fibrous substance.

The drawing does not show means for rotating the shaft D, nor for adjusting this shaft up and down, as such means are well known, and therefore unnecessary to be particularized here.

The feature which I desire to particularly call

attention to is the shape of the shell, case, or curb A. It will be seen that its sides are bulging, and they terminate above in a curved overhanging contracted portion, *g*, the form of which is such as will turn and direct downward toward the center of the case the substances which rise in contact with its bulging sides. The general shape of the case below the concave contracted portion *g* is preferably that of a hyperboloid, which I believe to be the best adapted for directing upwardly the substances which are thrown against its interior surface by the centrifugal action of the disintegrating-wheel B. I do not, however, confine myself to the hyperboloidal shape, as other forms approaching thereto may be adopted. At suitable intervals, inside of the case A, I arrange vertically four, or more or less, partitions, *p*, which will resist the tendency of the substances being carried around with wheel B after they are thrown off therefrom.

The operation of my mill will be fully understood from the foregoing description. The pulp is thrown off by the centrifugal action of the wheel B; then directed upward to the concave contracted portion *g* of case A, which portions turn the pulp downward, and direct it into the center of the wheel B, from whence it is immediately brought between the disintegrating surfaces again, and again thrown off and returned as before, thus keeping up a continuous rotation, circulation, and disintegration of the pulp until it has been reduced to the degree of fineness required.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The case A *g*, in combination with the centrifugal disintegrator B, substantially as described.

2. The partitions *p*, arranged in the case A *g*, in combination with a centrifugal disintegrator, substantially as described.

SIMEON L. GOULD.

Witnesses:

JAMES BELL,
ISAAC DYER.

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