J. C. Beach.

Pulp Grinder.

No. 63,832. Patented Apr. 16, 1867.

Fig. 1

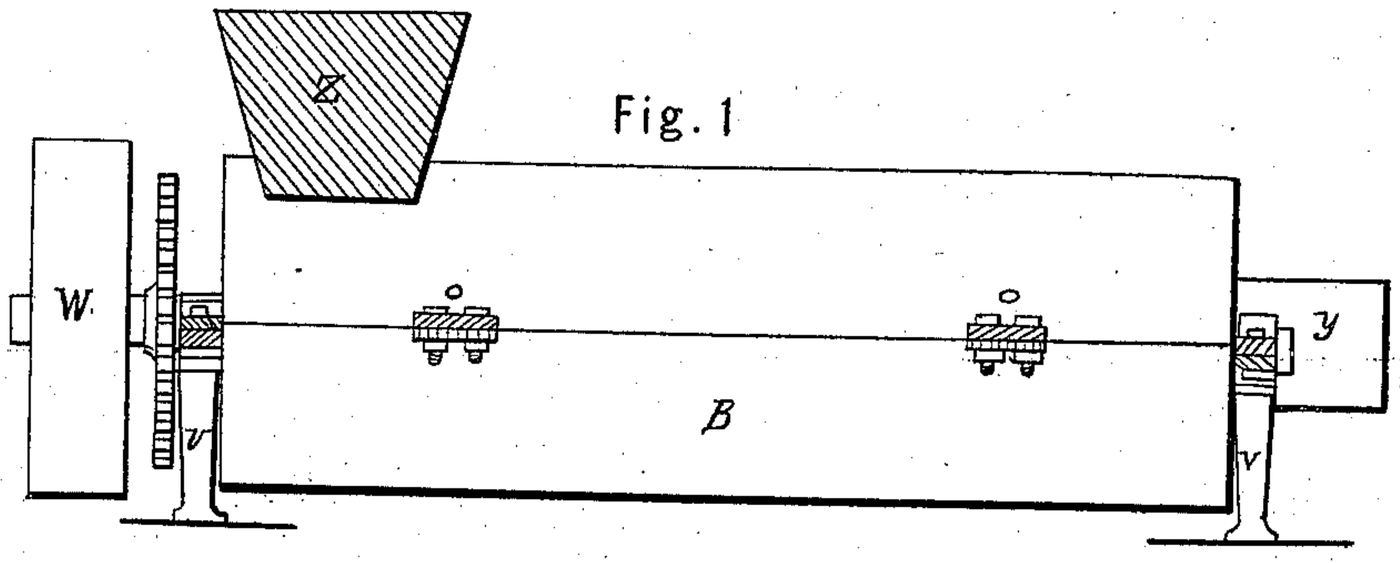


Fig. 2.

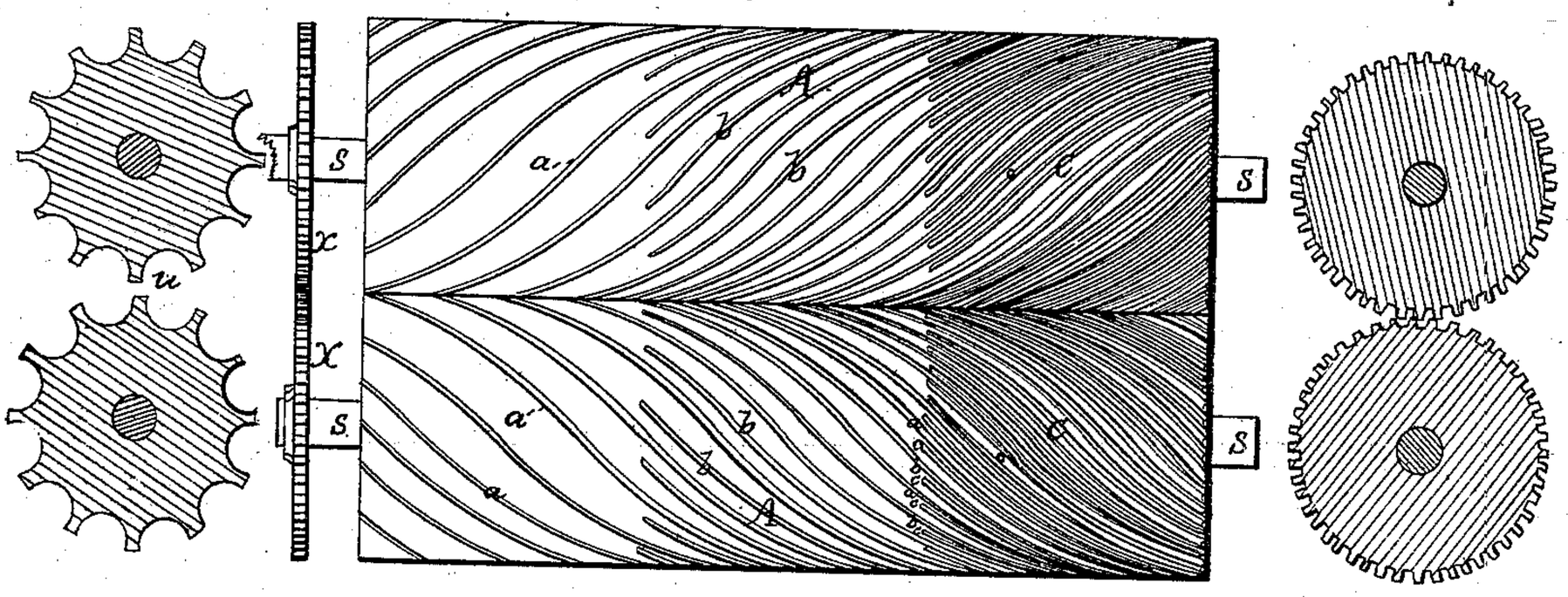
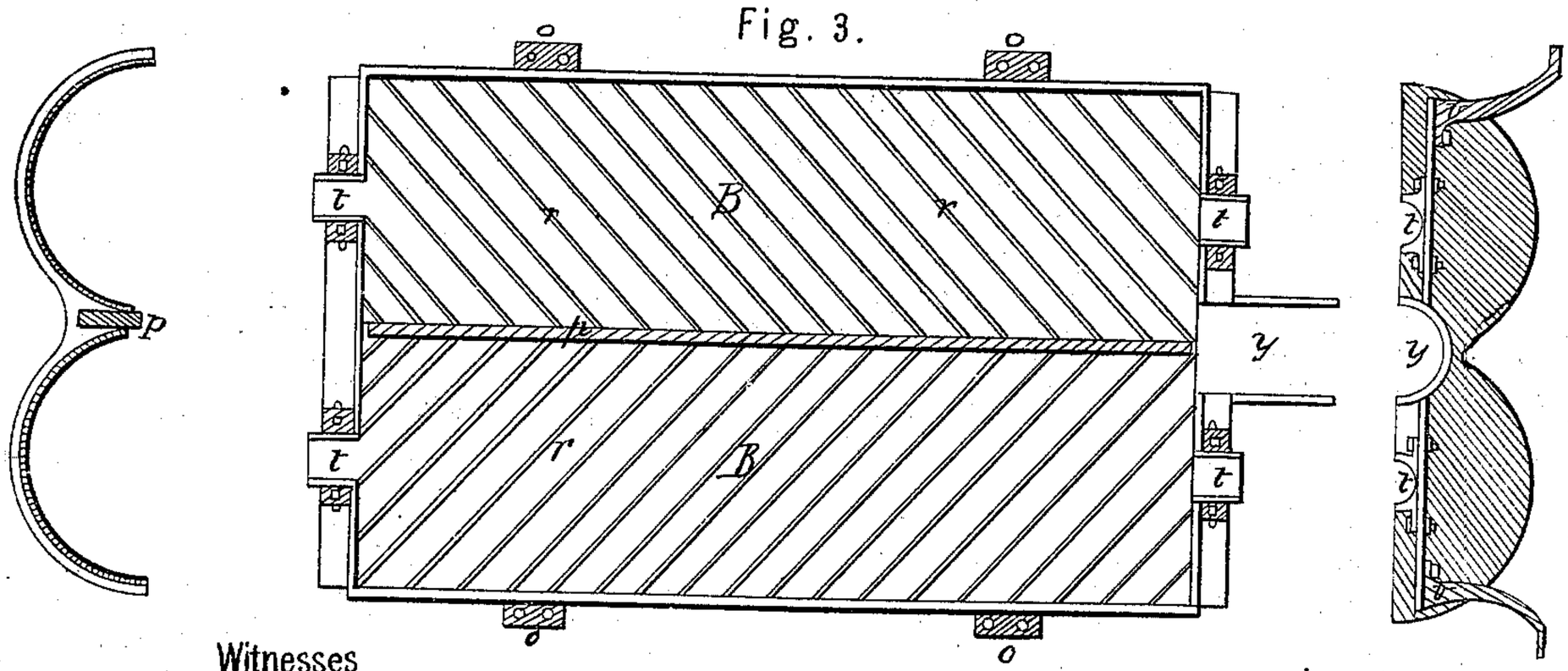


Fig. 3.



Witnesses

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Letters Patent No. 63,832, *dated April* 16, 1867.

IMPROVEMENT IN MACHINES FOR DISINTEGRATING AND PULPING FIBROUS MATERIAL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JAMES C. BEACH, of the town of Bloomfield, and JOHN ABBEY, of the town of Orange, both of the county of Essex, and State of New Jersey, have invented certain new and useful improvements in Machinery for Disintegrating and Pulping Fibrous Materials; and we do hereby declare the following to be a full and exact description of the same, reference being had to the drawings that accompany this specification, and making a part of the same.

The nature of the improvement consists in the adaptation of spiral ribbed or screw cylinders for the purpose of disintegrating and pulping fibrous materials. In the drawings—

Figure 1 shows a side view of the machine, Z being the feeding-hopper and Y the discharge pipe, X the gearing connecting the two rolls or cylinders, W the driving-pulley, and V the feet.

Figure 2 shows the construction of the two cylinders and their position in relation to each other when in place, and also views of each end of the grooved or ribbed cylinders.

Figure 3 represents the under part of the box or case in which the cylinders revolve, with an end view of the same, and also a section through the middle of the case.

The same letters refer to the same parts in each figure.

The two spiral grooved or screw cylinders A, fig. 2, are each provided with three sets of spiral ribs or projections extending at different lengths longitudinally on their surfaces. The main set of ribs *a a* are, in this example, twelve in number, and extend from end to end of the cylinders. The second set *b b* are twenty-four in number, formed midway between the ribs *a a*, and extend from the discharging end of the machine to about two-thirds the length of the cylinders, and the third set of ribs *c c* are forty-eight in number, and are placed between the sides of ribs *a* and *b*, and extend from the discharging end of the machine about one-third the length of the cylinders. We do not wish to confine ourselves to just this number of ribs, as more or less ribs are necessary for coarse or fine pulping. The spiral ribs or threads are formed in opposite directions on the two cylinders. The ribs or threads are set so as to have their edges impinge at their sides, as shown at *u* in end view, fig. 2. The journals of the cylinders rest in adjustable boxes *t t*, and the cylinders are operated in unison by the gearing X. The boxes *t t* for the journals *s s* are made adjustable in order that the depth of the side touch of the ribs can be regulated at pleasure. In the bottom case or box B, fig. 3, there are transverse bars *r* laid in an opposite angle to the spiral on the roll or cylinder. Along the middle, between the two cylinders, is placed the flat bar *p* so as nearly to touch the edges of the spiral ribs on the cylinders. The top case is the same as the lower case B, with the exception of the bar *p*. The two parts of the case are held together by the lugs and bolts O.

What is claimed, and desired to be secured by Letters Patent, is—

1. The combination of the two spiral ribbed cylinders A A, constructed and operating together in the manner and for the purpose set forth.

2. The flat-faced bar *p* and the adjustable boxes *t*, either or both of them, when used in combination with spiral ribbed or grooved cylinders constructed and operated as shown.

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Witnesses:
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