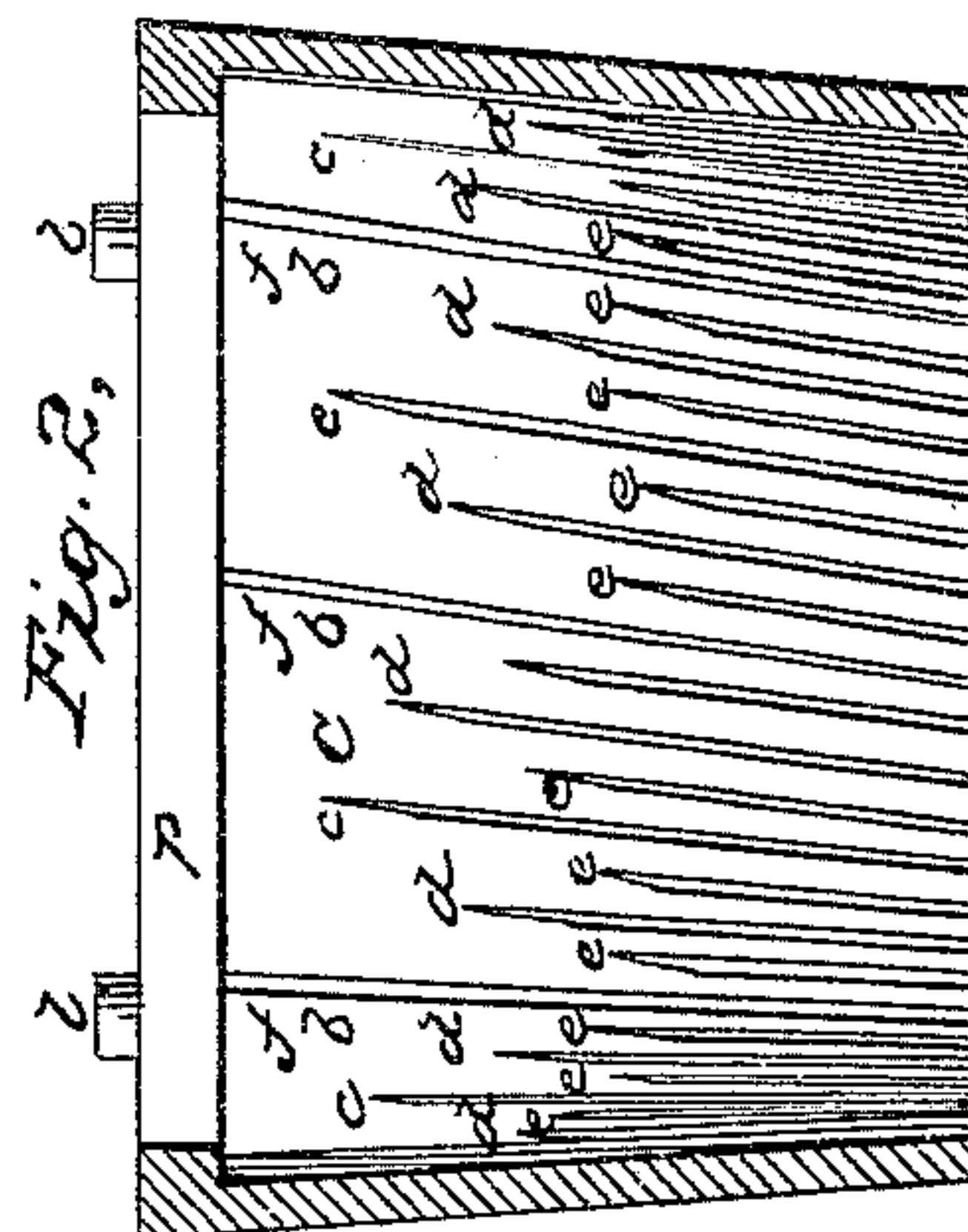
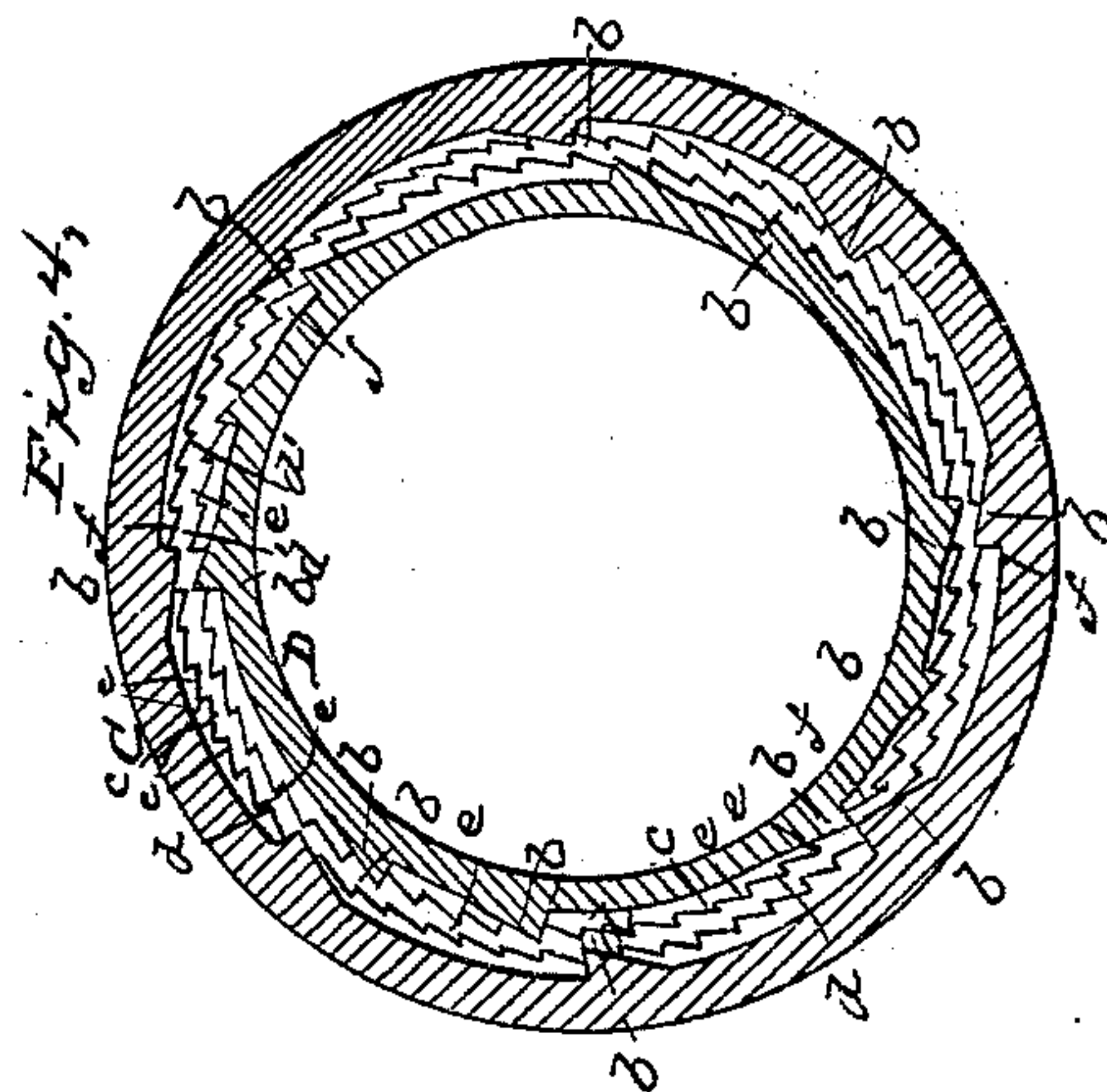
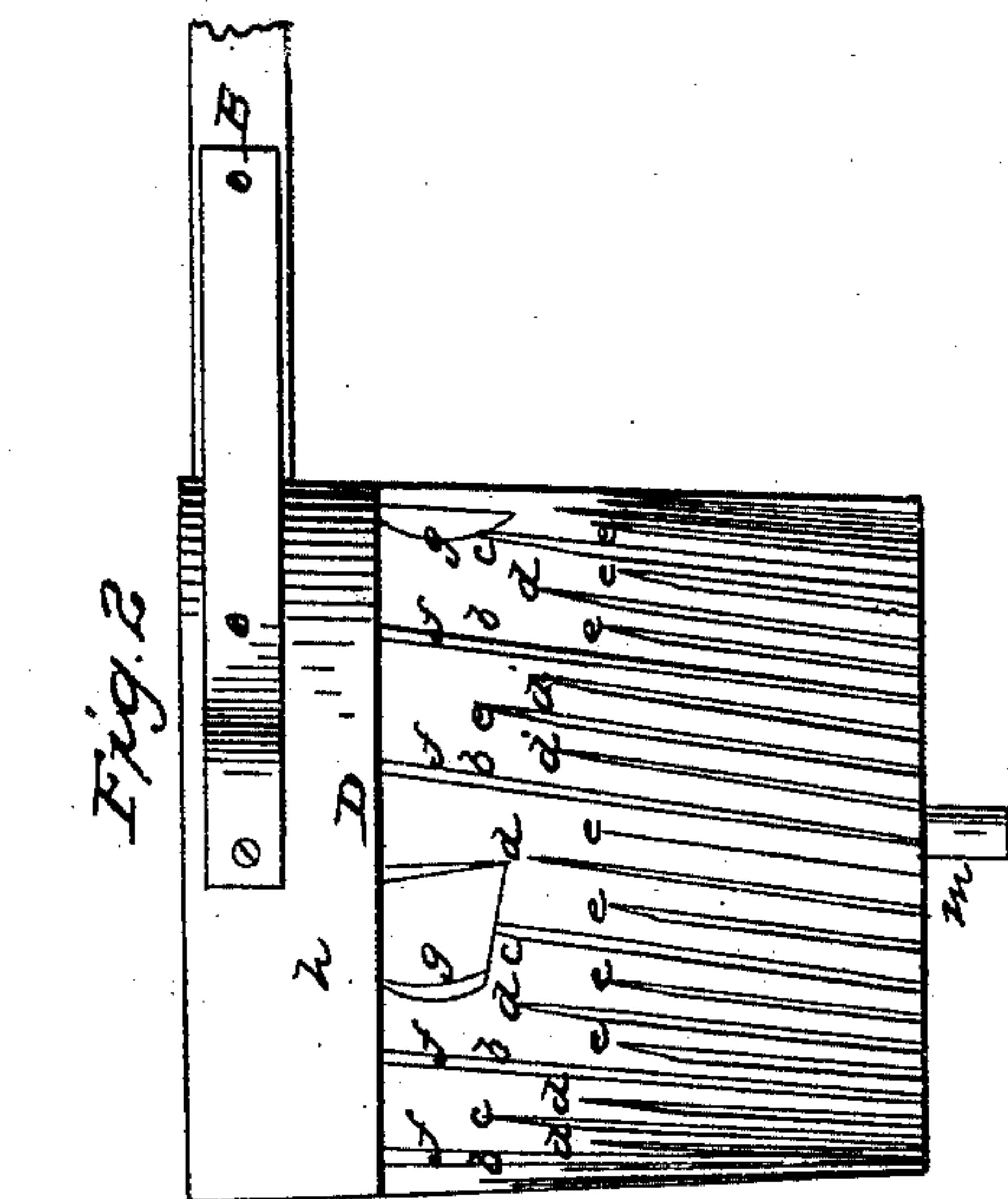


T. B. STOUT.  
Grinding Mill.

No. 16,249.

Patented Dec. 16, 1856.





# UNITED STATES PATENT OFFICE.

THOS. B. STOUT, OF KEYPORT, NEW JERSEY.

## GRINDING-MILL.

Specification of Letters Patent No. 16,249, dated December 16, 1856.

*To all whom it may concern:*

Be it known that I, THOMAS B. STOUT, of Keyport, in the county of Monmouth and State of New Jersey, have invented a new and Improved Grinding Mill; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, Figure 1, being a plan of the mill; Fig. 2, a side elevation of the inner bur; Fig. 3, a central vertical section of the outer bur or shell; Fig. 4, a horizontal section of both burs.

Like letters designate corresponding parts in all the figures.

The outer bur, or shell, C, is secured in a suitable frame A, by ears *i, i*, (Fig. 1,) or any other suitable means. The inner bur D, is caused to revolve in the bur C, by means of a sweep or lever, B, if horses or other animals are employed to drive it; only any suitable arrangement, of steam, water, or any similar power as applied. The said inner bur is supported at the bottom by a journal *m*, (Fig. 2,) which rests in an adjustable bridge-tree, so that the bur may be adjusted to any desired position within the outer bur. Instead of employing a journal and bush at the top, I make the upper portion *h*, (Fig. 2,) of the inner bur cylindrical, and cause it to fit and turn within the ring or flange *p*, (Fig. 3,) projecting inwardly from the top of the outer bur C. If it is desired to avoid the full amount of friction which so much bearing surface might occasion, anti-friction rollers *l, l, l*, may be located upon the top of the outer bur, in such positions as to bear against the said cylindrical portion of the inner bur D, as shown in the drawings. The burs are represented but slightly conical; but any degree of taper may be given them, which may be desired.

In order to crush the cobs, when corn and cobs are to be ground together, I make use of the sides of the inner bur itself, in connection with the peculiar construction of the feeding boxes, or hoppers, and the form of dies given to the outer bur as follows: A number of feeding cavities, or hoppers, *a, a*, are formed in the top of the inner bur D, of such a shape that one side shall be radial and vertical, or nearly so, while the bottom slopes down from the other radial side gradually to the abrupt or vertical side. This arrangement is designed to cause the ears of corn to descend to the feeding

blades *g, g*, (Fig. 2,) through the sides of the bur, while at the same time, the vertical or abrupt, sides which follow the cavities, as the bur revolves, serve to hold the ears of corn to the work when the burs are crushing them.

The dies on the surfaces of the burs, is formed in the following manner:—At suitable intervals, to be determined by the number and fineness of the intermediate ridges, (presently to be specified) I form a series of ridges *b, b*, running up and down the whole length of the grinding surface of each bur. At the top, between these cutting ridges the spaces *f, f*, are destitute of ridges and are considerably deeper than the furrows between the ridges below. These deep spaces receive the whole grains of corn, and the pieces of cobs, as they are cut off by the joint, shearing action of the edges of the feeding holes *g, g*, in the inner bur, and the ridges *b, b*, of the outer bur. Below these spaces *f, f*, are formed the fine ridges and furrows for grinding. Of these intermediate ridges, there is to be an odd number, say three, or seven, between each two adjacent long furrows *b, b*. The middle ridges *c, c, c*, of each set extend upward about as high as the bottoms of the feeding apertures *g, g*. Then, if there are seven ridges in the set, the middle ones *d, d*, between the ridges *c, c*, and *b, b* extend upward not so high as said ridges *c, c*, by a few inches; and the remaining intermediate ridges *e, e*, reach upward not so far as the ridges *d, d*, by a few inches. If there are but three ridges in each set, then the ridges *d', d'* extend upward about half way between the height of the ridges *d, d*, and *e, e*. The whole arrangement of these ridges and furrows is clearly shown in Figs. 2, and 3. This arrangement of the fine ridges together with the breaking ridges *b, b*, and feeding spaces *f, f*, causes the feeding and grinding to proceed without clogging.

A mill constructed in the above manner, serves both for grinding corn and cobs, and also shelled corn; and is cheaper than any mill of equal efficiency, heretofore invented, within my knowledge.

I do not claim simply feeding the corn or grain through the sides of one of the burs nor do I claim a dress composed of alternate long and short ridges, together with feeding spaces in themselves, separately; but

What I do claim as my invention and desire to secure by Letters Patent is—

The arrangement and combination of the feeding cavities *a, a*, feeding apertures *g, g*, and the form of dress given to the grinding surfaces, substantially as herein specified.

The above specification, signed and witnessed this twenty-sixth day of August, 1856.

THOS. B. STOUT.

Witnesses:

ANDREW T. SERVEN,  
JOHN L. SERVEN.