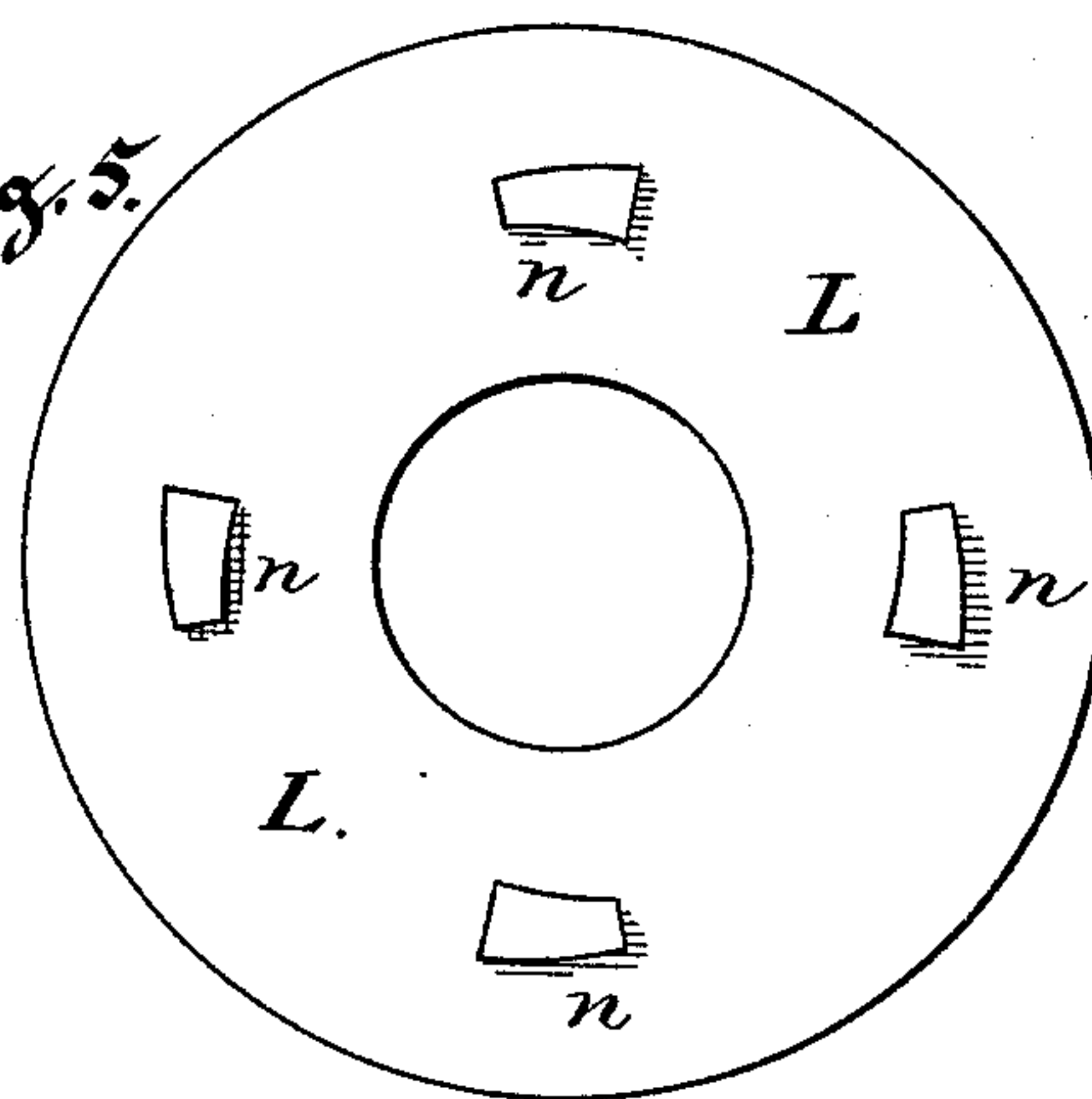
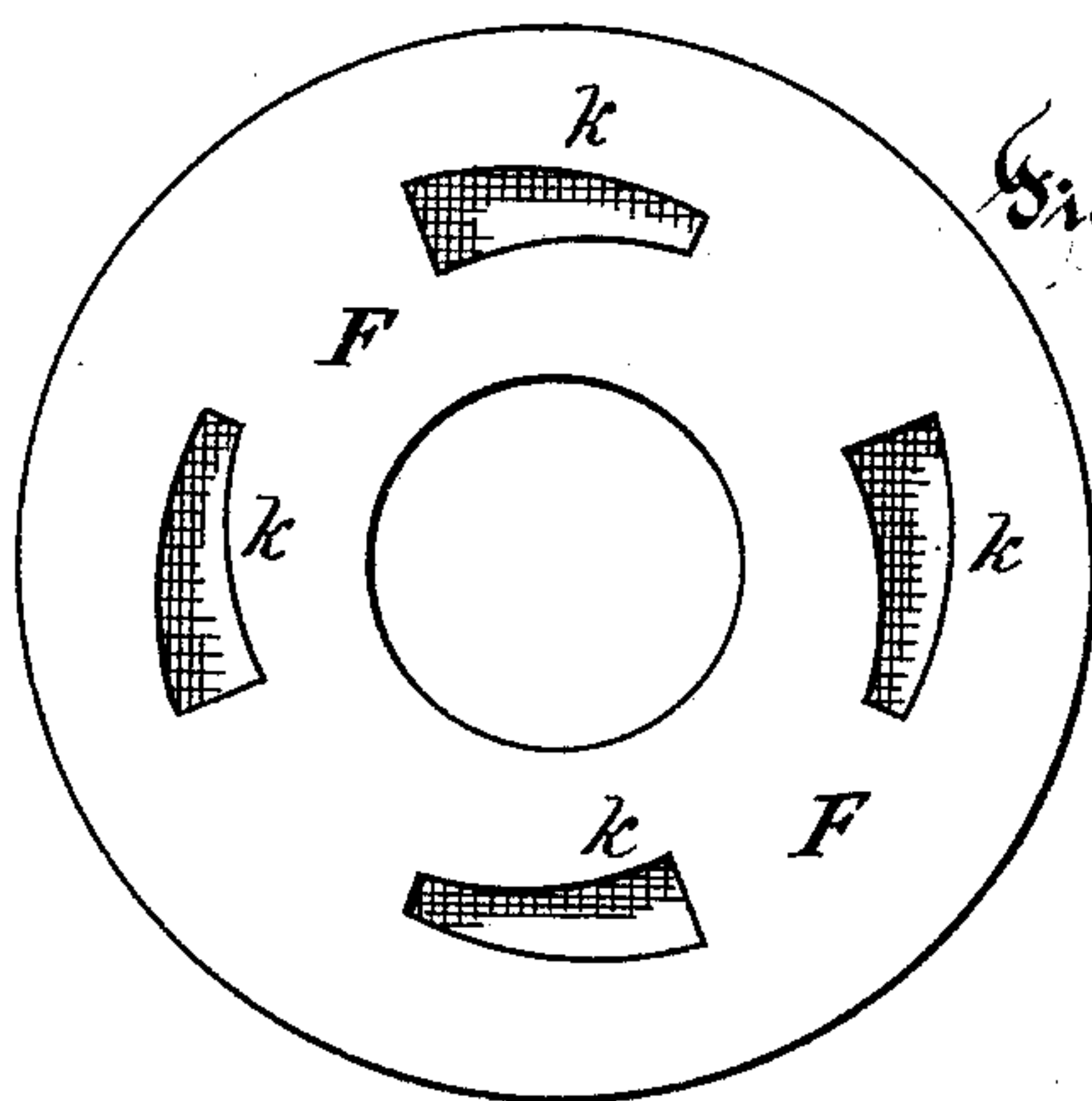
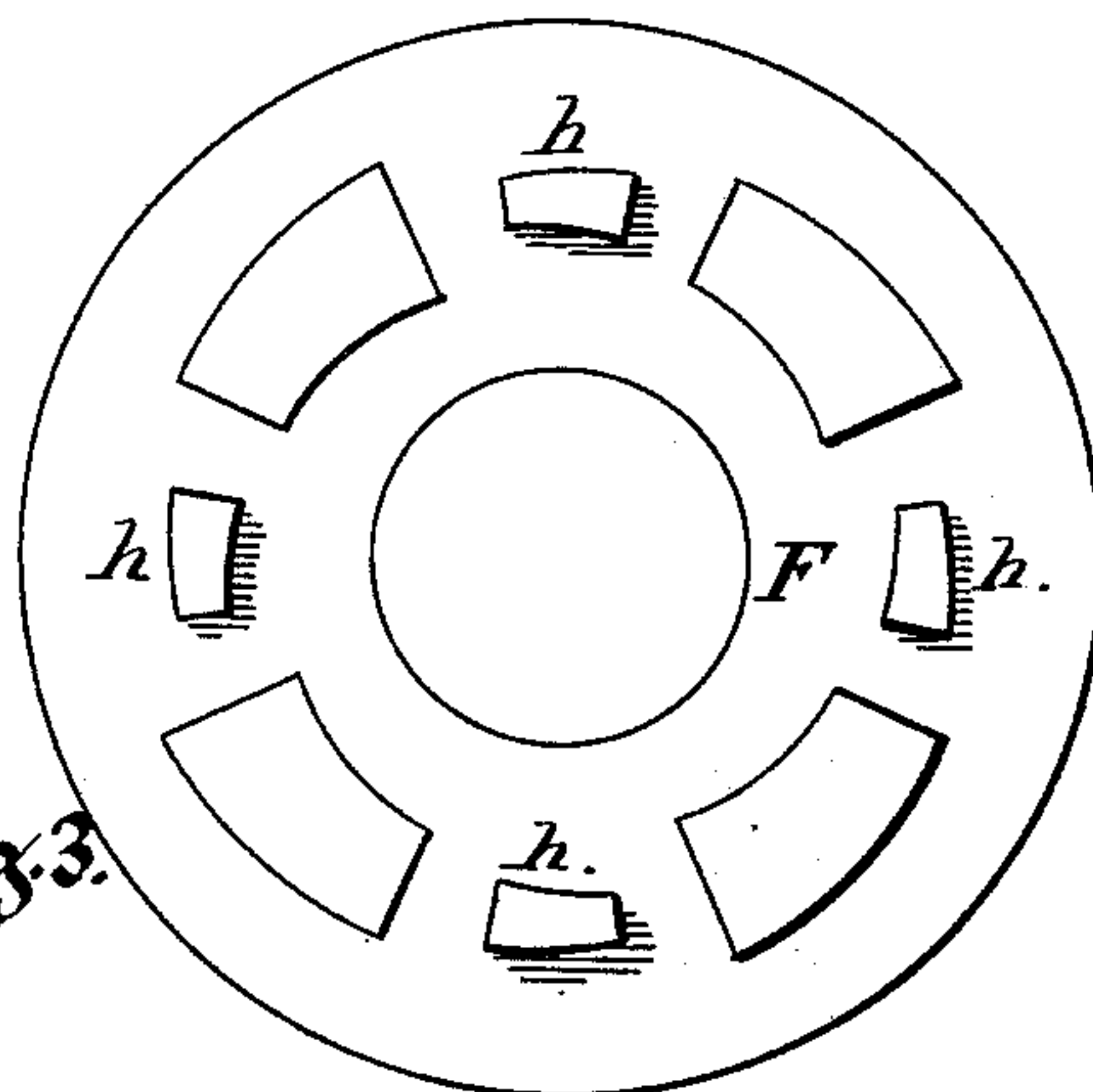
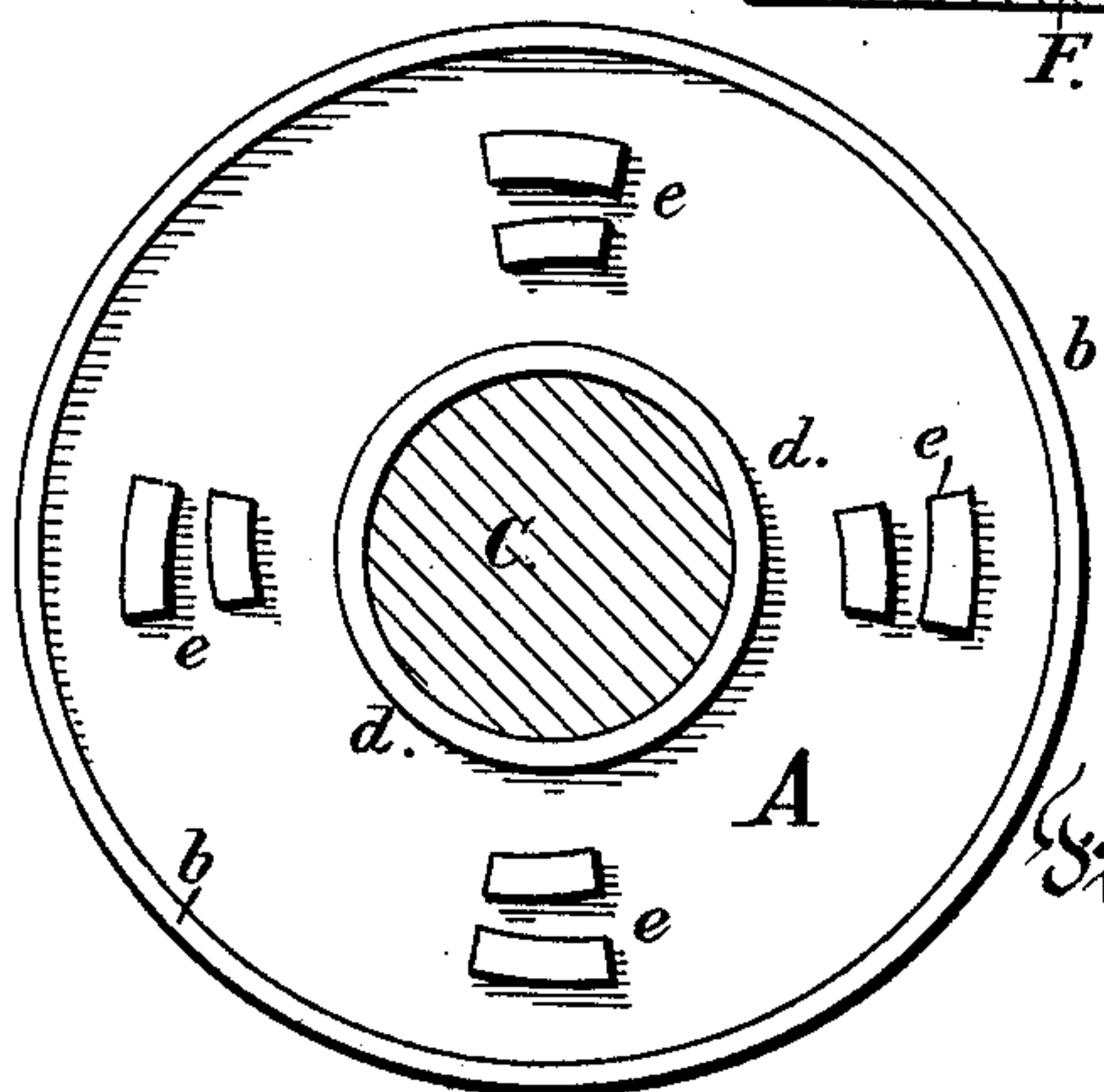
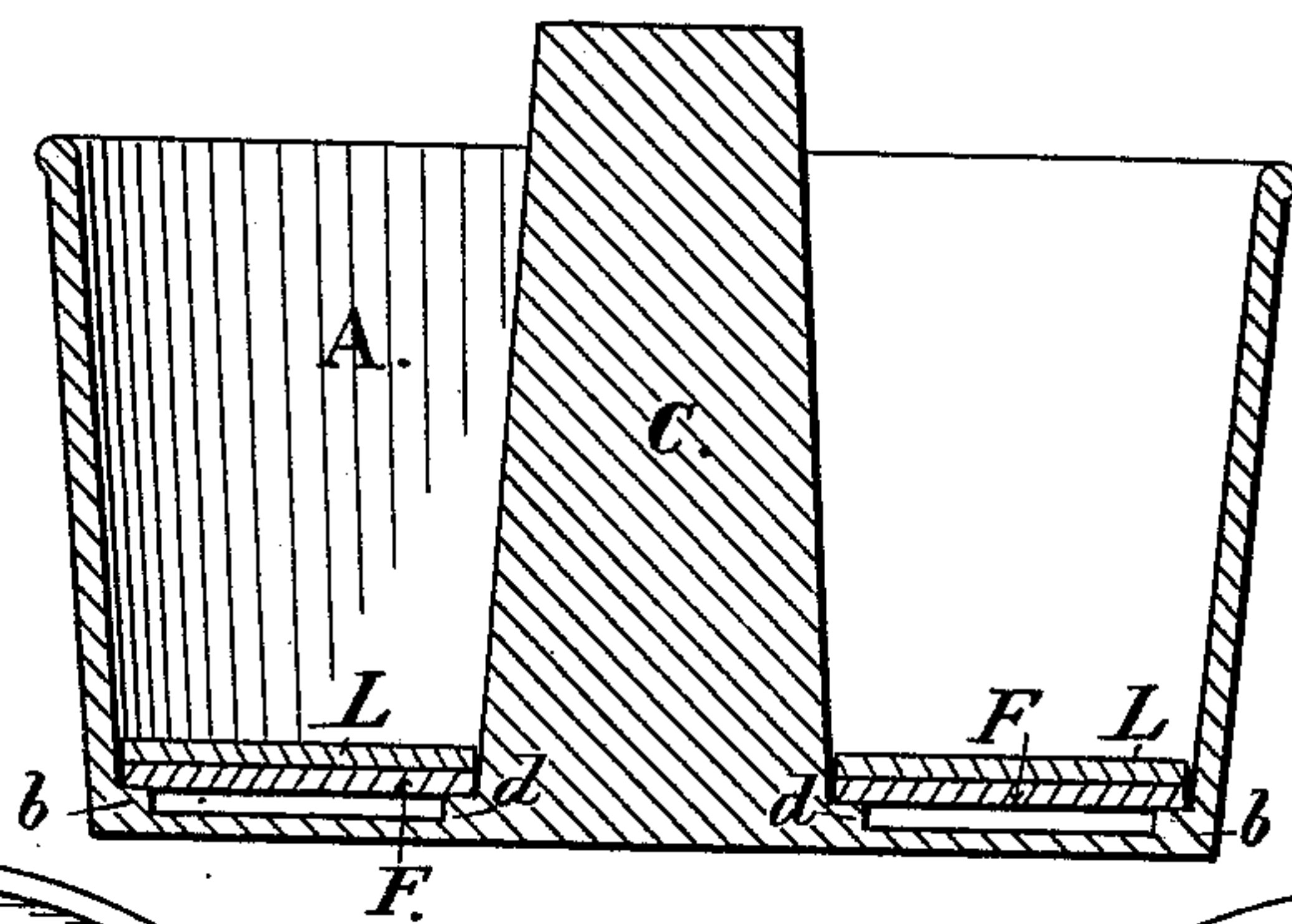


E. COLEMAN.
Amalgamating-Pan.

No. 219,912.

Patented Sept. 23, 1879.

Fig. 1.



Witnesses:

W. Lloyd Duckett
D. B. Lawler

Inventor:

Ezra Coleman
per *Jno L. Boone*
Attorney.

UNITED STATES PATENT OFFICE.

EZRA COLEMAN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN AMALGAMATING-PANS.

Specification forming part of Letters Patent No. **219,912**, dated September 23, 1879; application filed June 30, 1879.

To all whom it may concern:

Be it known that I, EZRA COLEMAN, of the city and county of San Francisco, in the State of California, have invented certain Improvements in Amalgamating-Pans; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates, first, to an improved arrangement for applying and securing steam-bottoms in amalgamating-pans; and, second, to the application of a removable wearing-bottom above the steam-bottom, by means of which the steam-bottom is protected from wear, all as hereinafter specified.

Referring to the accompanying drawings, Figure 1 is a view of an amalgamating-pan provided with my improved steam-bottom. Fig. 2 is a plan view of the bottom of said pan. Fig. 3 shows the under side of the steam-bottom. Fig. 4 shows the upper side of the steam-bottom, and Fig. 5 shows the under side of the false bottom.

Let A represent an amalgamating-pan. Inside of the pan I form a shallow ledge, *b*, which extends entirely around the outer edge of the bottom, close to the side of the pan, and around the base of the boss or central standard, C, I make another ledge, *d*, as shown. These ledges form supports for the inner and outer rims of the steam-bottom F to rest upon. I then form two or more tapering dovetail grooves, *e e*, in the bottom of the pan, between these ledges, and on the under side of the steam-bottom I form a like number of tapering dovetail ribs, *h h*, which will enter and lock into the dovetail grooves when the steam-bottom is properly placed and slightly rotated, so as to turn the ribs into the grooves.

The most convenient arrangement for forming the grooves in the bottom of the pan is to cast two lugs close together on the bottom wherever a groove is required, and then form their inner edges into the proper form of groove, as represented in the drawings. These lugs should not be as high as the supporting-ledges *b d*, so that the tightening of the dovetail ribs in the grooves will draw the steam-bottom down and clamp its edges upon the ledges.

The space between the pan-bottom and attached steam-bottom will then form the steam-space, and this space can be made perfectly tight by packing the space between the edge of the false bottom and the side of the pan and hub.

L is a false wearing-bottom, which I secure upon the steam-bottom by dovetail fastenings in a manner similar to that above described for the steam-bottom, only no ledges are used between them, so that the false bottom will lie close against the steam-bottom.

In the upper side of the steam-bottom I make two or more tapering dovetail grooves, *k k*, and on the under side of the wearing-bottom I form or secure tapering dovetail ribs or pins *n*, so that they will enter the grooves *k k* and turn into them, thus securing the false bottom close against the steam-bottom. The wear of the muller will then come upon the false or wearing bottom, which can be worn completely out without injury to the steam-bottom, and when worn out it can be removed and a new one substituted. This is of great importance, as heretofore the steam-bottom formed the wearing-surface, and it soon wore out, so that an entire new steam-bottom had to be substituted.

My arrangement, however, gives a plain disk for a wearing-bottom, and it can easily be removed and another substituted.

The taper of the dovetails is in the direction of the rotation of the muller, so that the tendency of the pressure is to keep the parts tightened together.

I am thus able to greatly economize in the wear of amalgamating-pans, and at the same time save the trouble and annoyance arising from the destruction of the pan.

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

1. The amalgamating-pan constructed with the ledges *b d*, and the projections forming dovetail grooves on the bottom, in combination with the false bottom, having dovetail tongues to fit the grooves, substantially as described.

2. In combination with the amalgamating-

pan A, provided with the bottom F, the false or wearing bottom L, for the purpose specified.

3. The false or wearing bottom L, secured to the steam-bottom F of an amalgamating pan by means of tapering dovetail ribs and grooves, substantially as specified.

In witness whereof I have hereunto set my hand and seal.

EZRA COLEMAN. [L. S.]

Witnesses:

W. FLOYD DUCKETT,

D. B. LAWLER.