

(No Model.)

2 Sheets—Sheet 1.

C. C. L. LUCHT.
GRINDING MILL.

No. 482,873.

Patented Sept. 20, 1892.

Fig. 1.

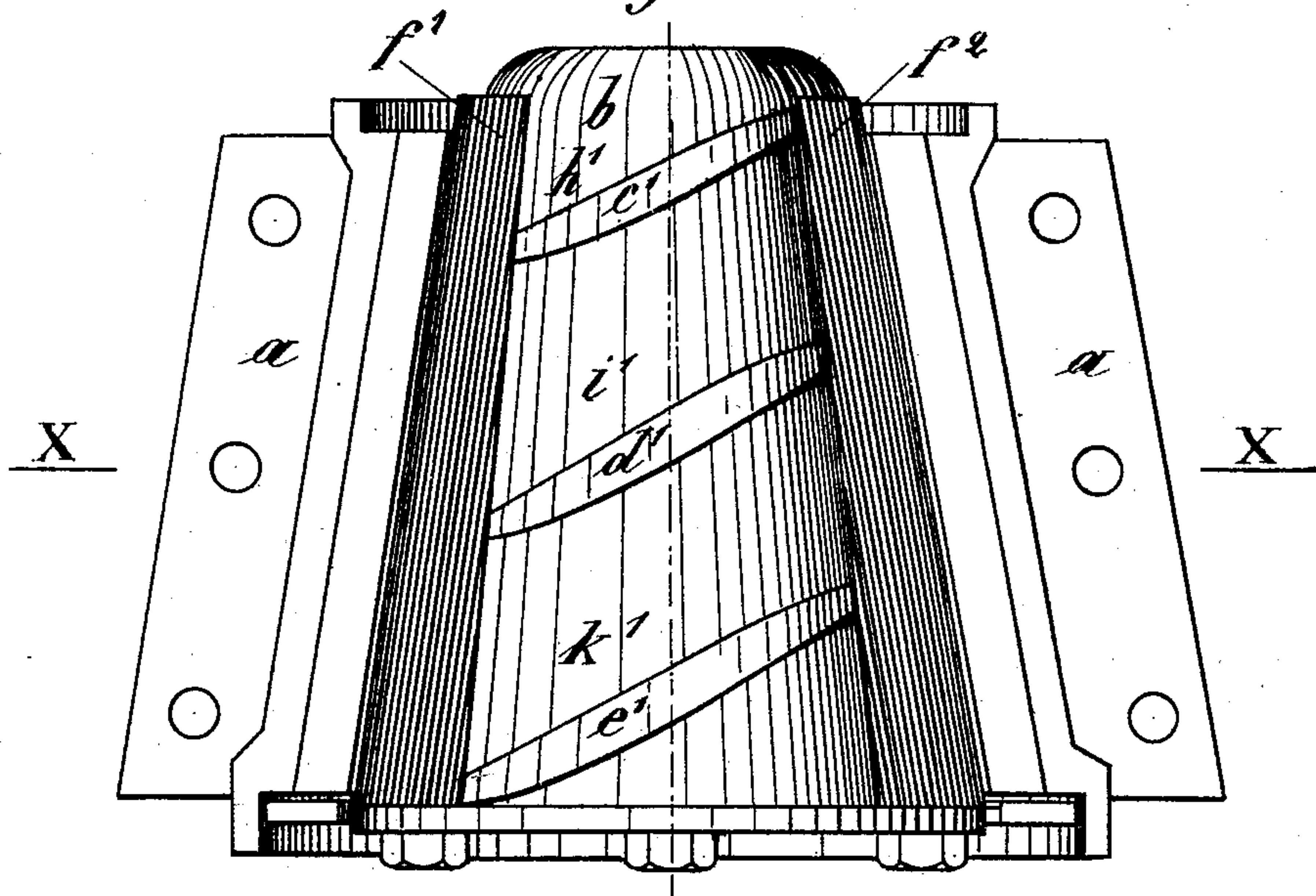
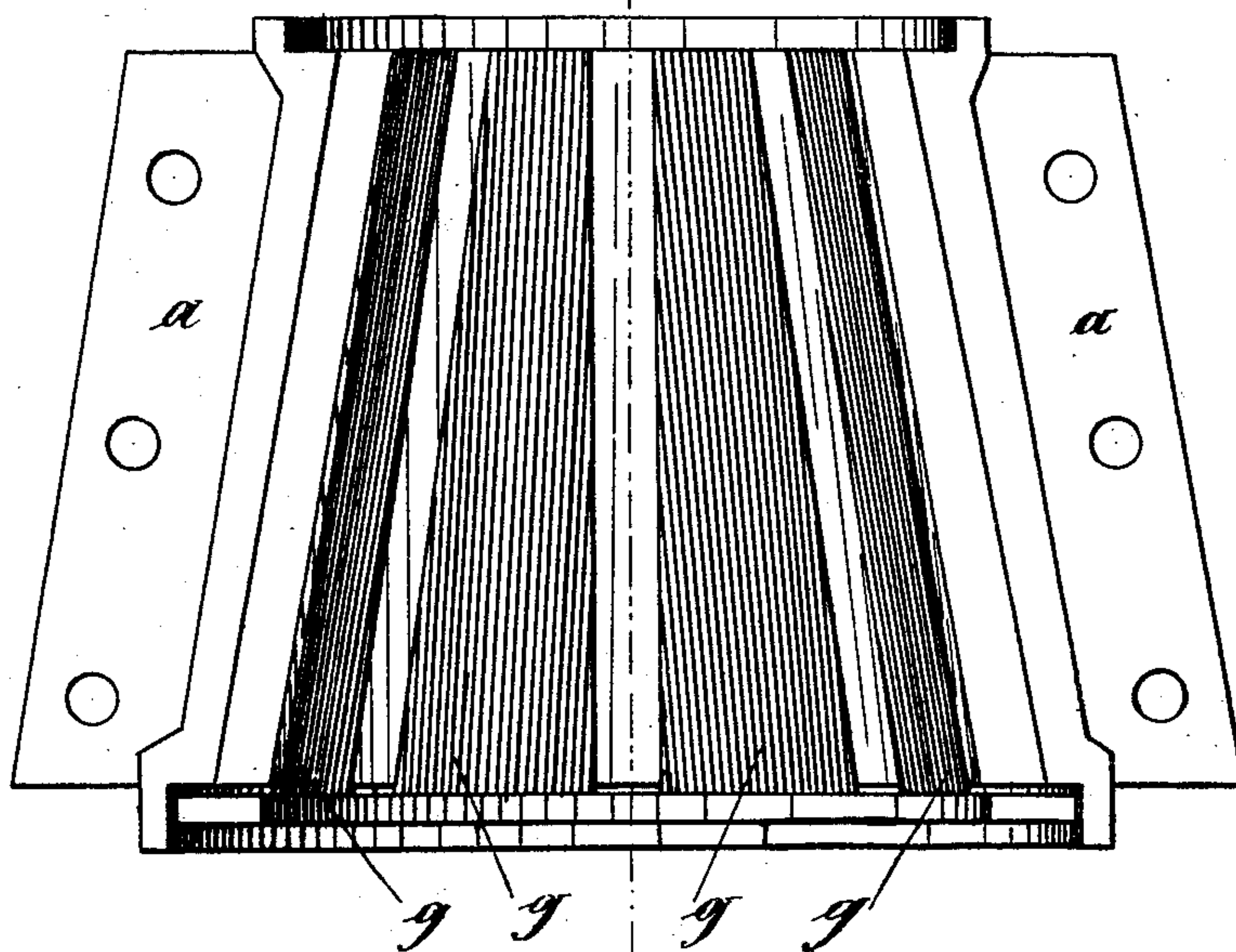


Fig. 2.



WITNESSES

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2 Sheets—Sheet 2.

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Fig. 3.

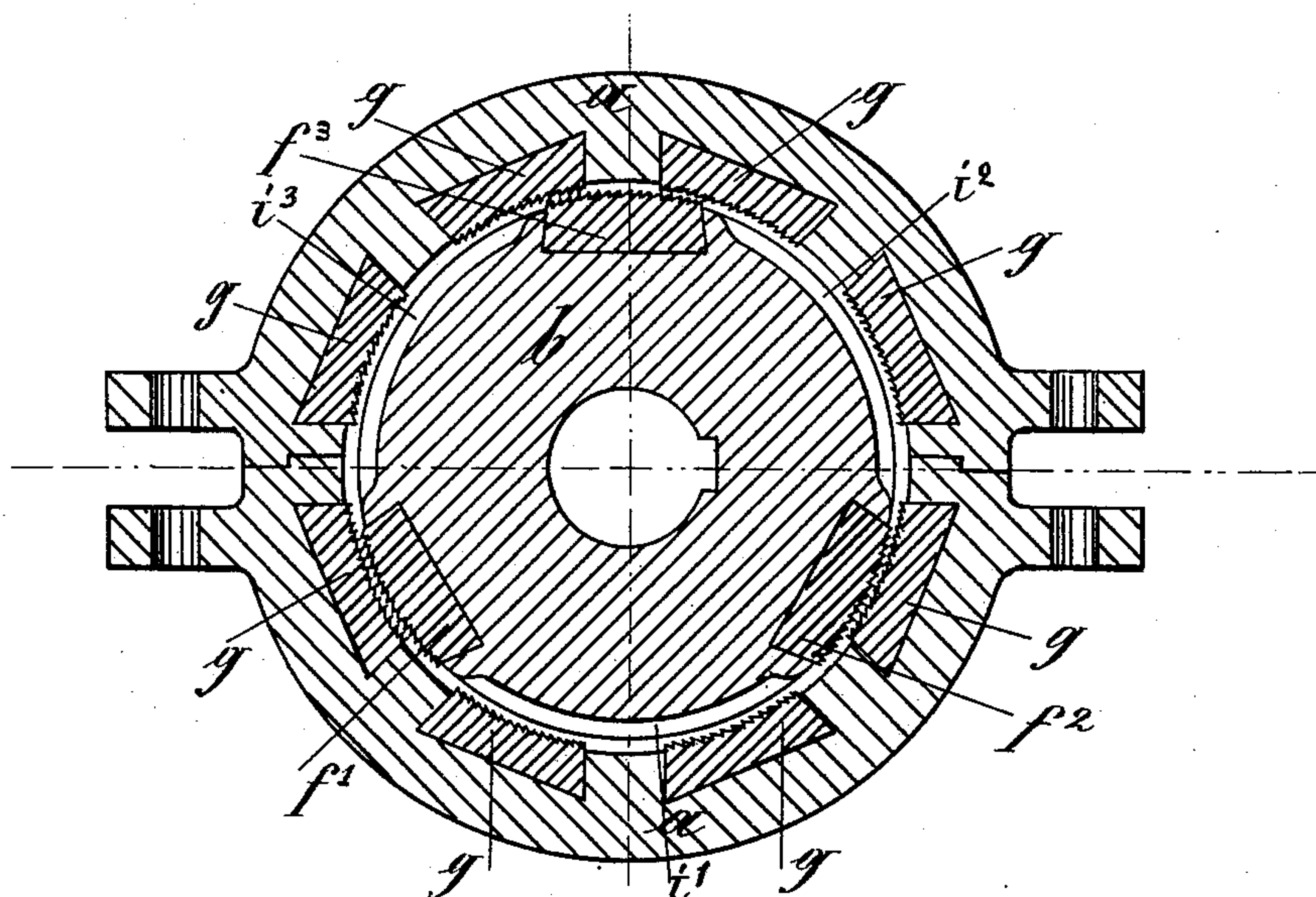
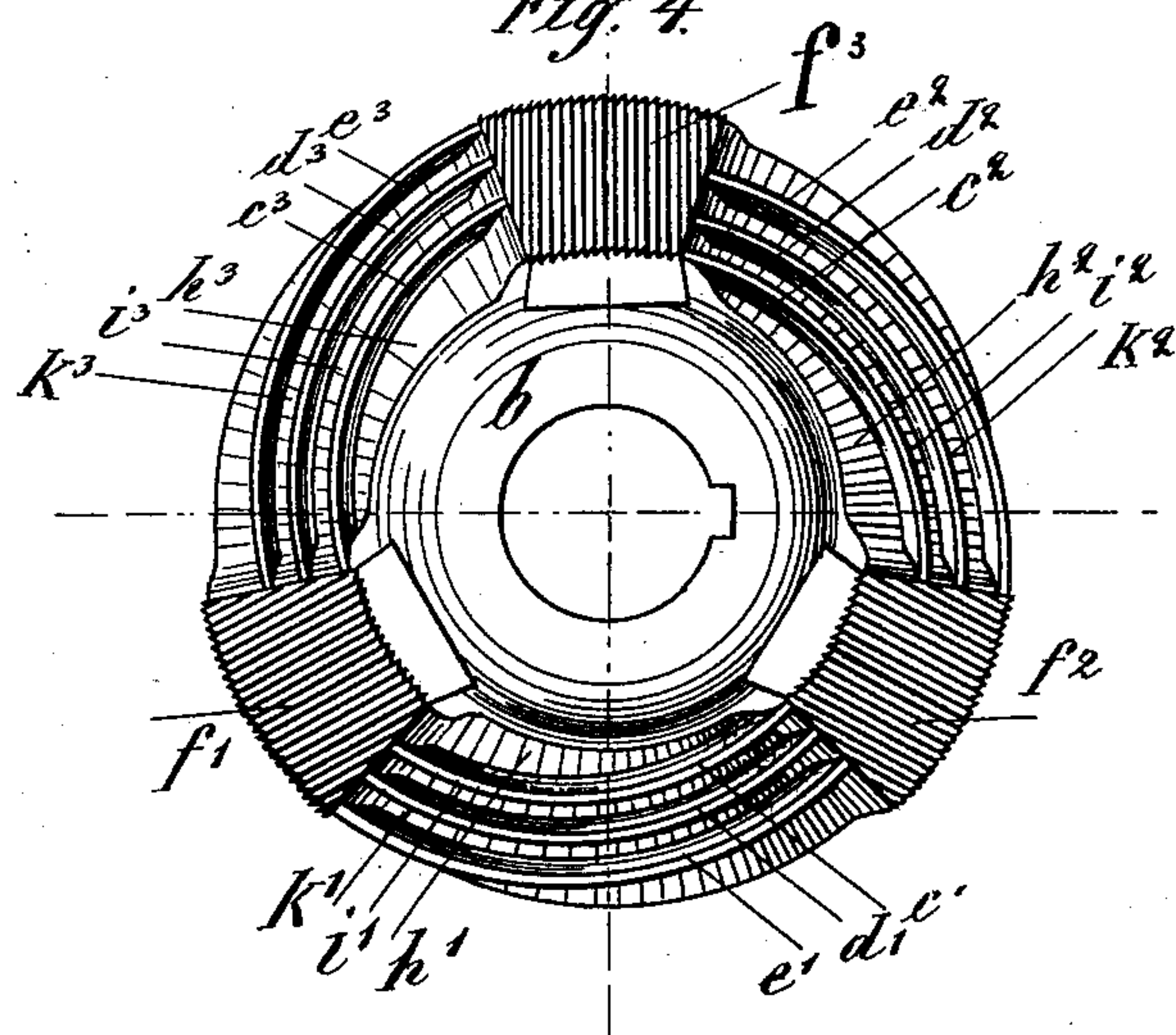


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

CARL CHRISTOPH LUDWIG LUCHT, OF COLBERG, GERMANY.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 482,873, dated September 20, 1892.

Application filed April 6, 1892. Serial No. 428,073. (No model.)

To all whom it may concern:

Be it known that I, CARL CHRISTOPH LUDWIG LUCHT, a subject of the King of Prussia, residing at Colberg, in the Kingdom of Prussia, Germany, have invented new and useful Improvements in Mills for Coarse-Grinding Corn, of which the following is a specification.

My invention refers to a mill for coarse-grinding grain, the construction of which has for its purpose to lead the grains and parts of grains during their passage through the mill in quite a predetermined manner, so that the material to be treated runs quickly through the mill without becoming heated, as is the case in other similar constructions.

The construction of the mill is shown in the accompanying drawings.

Figure 1 is a front view of the apparatus, the front half of the casing being removed. Fig. 2 shows an elevation of the inside of the casing. Fig. 3 is a section on line $x x$ in Fig. 1. Fig. 4 is a plan view of the grinding-cone.

The grinding-body consists of three cast-iron main parts, the two casing-halves $a a$ and the body b of conical shape and tapered from below upward. The inside of the casing is turned out and provided with dovetail grooves, into which are inserted toothed steel blades g . (In the machine shown in the drawings there are four blades in each casing-half.) The two casing-halves are connected to each other by means of screws, and may at any moment easily be taken apart. The casing is stationary, and within it revolves on a vertical shaft the cone b , into which are inserted in dovetail grooves, as in the casing, toothed steel blades f (there are three blades shown in the drawings) at equal distances from each other. The space between each two blades f , having a breadth equal nearly to two and one-half times that of the blade and above which project the blades, is divided into three chambers h' , i' , and k' , h^2 i^2 k^2 , &c., by three ribs c' d' e' , c^2 d^2 e^2 , &c., helicoidally running in determined distances from each other from above downward, the said ribs carrying the material to be treated in the different chambers and leading the latter from one chamber into the other. The material fed to the cone b falls down into the first upper chambers h , the ribs c preventing the same from falling through

the grinding-body. When the cone revolves, the grains are carried with the same and conducted in such a manner that they are gradually reduced and discharged at the bottom end of the mill.

The working of the apparatus is as follows: The grains introduced, for instance, into the chamber h' arrive gradually to the blade f' , by which they are seized. Then they are rubbed against the blades g and fall into the chamber i^2 . Hence the parts of the grains are led against the blade f^2 , by which they are pressed against the blades g , and still more reduced. Then they arrive to the chamber k^3 of the third compartment, in which the same process takes place for the third time. The grains are finally ground by the blade f^3 and the blades g , and as they leave the blade f^3 they fall into a receiver arranged underneath the grinding-body, and from which the ground grain is discharged into a sack or vessel.

Owing to the partition of the cone into several chambers, as above described, and to the arrangement of the ribs c' , d' , and e' , c^2 d^2 e^2 , &c., each grain comes during its passage through the mill only once into the scope of each blade f , which rubs it against the blades g of the casing. The grain passes from the first chamber of the first partition into the second chamber of the second partition, and so on, taking, therefore, the shortest possible way. It remains nowhere unnecessarily lying in the grinding-body, and is not all uselessly carried round in the latter. During the whole duration of its passage through the grinding-body the material to be treated is either continuously rubbed as long as it is between the cone and the blades of the casing, or it is continuously led downward toward the outlet of the mill.

The object of the mill—to maintain the grain by means of a rapid passage through the machine always in a cold condition; to grind a large quantity of grains without any interruption, and to obtain always a free and easy working of the mill—is attained by the above-described construction.

The number of the blades of the casing may be a large one; but that of the blades of the cone depends on the circumference of the grinding-cone, and the number of chambers

and ribs in the partitions between the blades of the cone depends upon the size of the mill and the desired fineness of the groats.

5 As the casing is constructed in such a manner that at any moment it can easily be taken apart, hard or in general foreign substances which accidentally may have entered the mill can rapidly be removed.

10 Having now fully described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

15 A mill for coarse-grinding grain, consisting of a cast-iron conical casing *a*, composed of two parts and provided with toothed steel blades inserted into dovetail grooves, in which casing revolves a cast-iron cone *b*, carrying also toothed steel blades *f*, which are inserted

in such a manner that between each two blades always the same free deepened space 20 is produced, which is divided by ribs *c' d' e'*, &c., conically running from above downward into several chambers, so that in consequence of the revolution of the cone the material to be treated passes from the first chamber of 25 the first partition into the second chamber of the second partition, and so on, meeting only once each blade *f*, substantially as set forth, and shown in the accompanying drawings.

In testimony whereof I have signed my 30 name to this specification in the presence of two subscribing witnesses.

CARL CHRISTOPH LUDWIG LUCHT.

Witnesses:

EMIL PÜHL,

ALBERT WOLFF.