

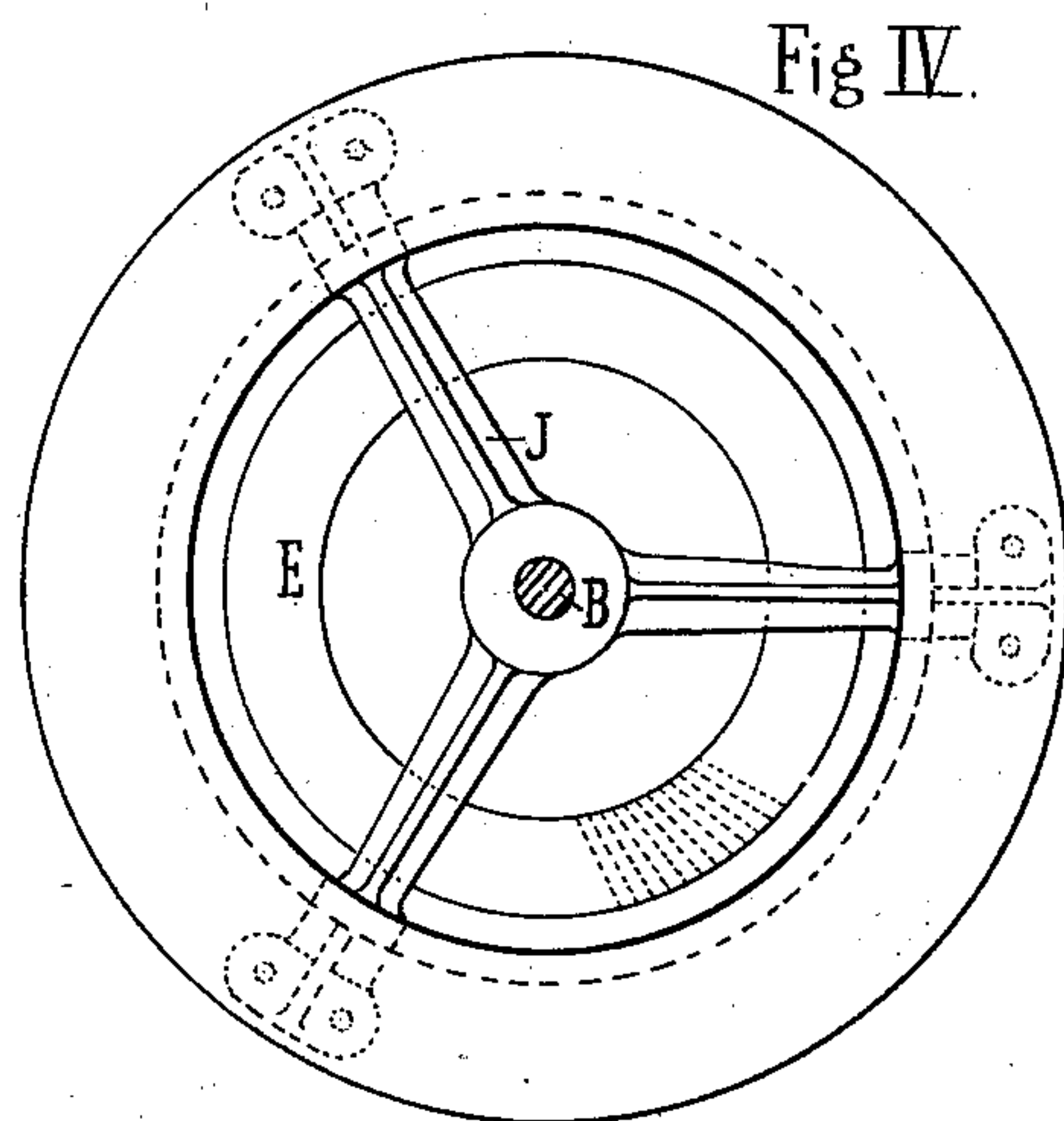
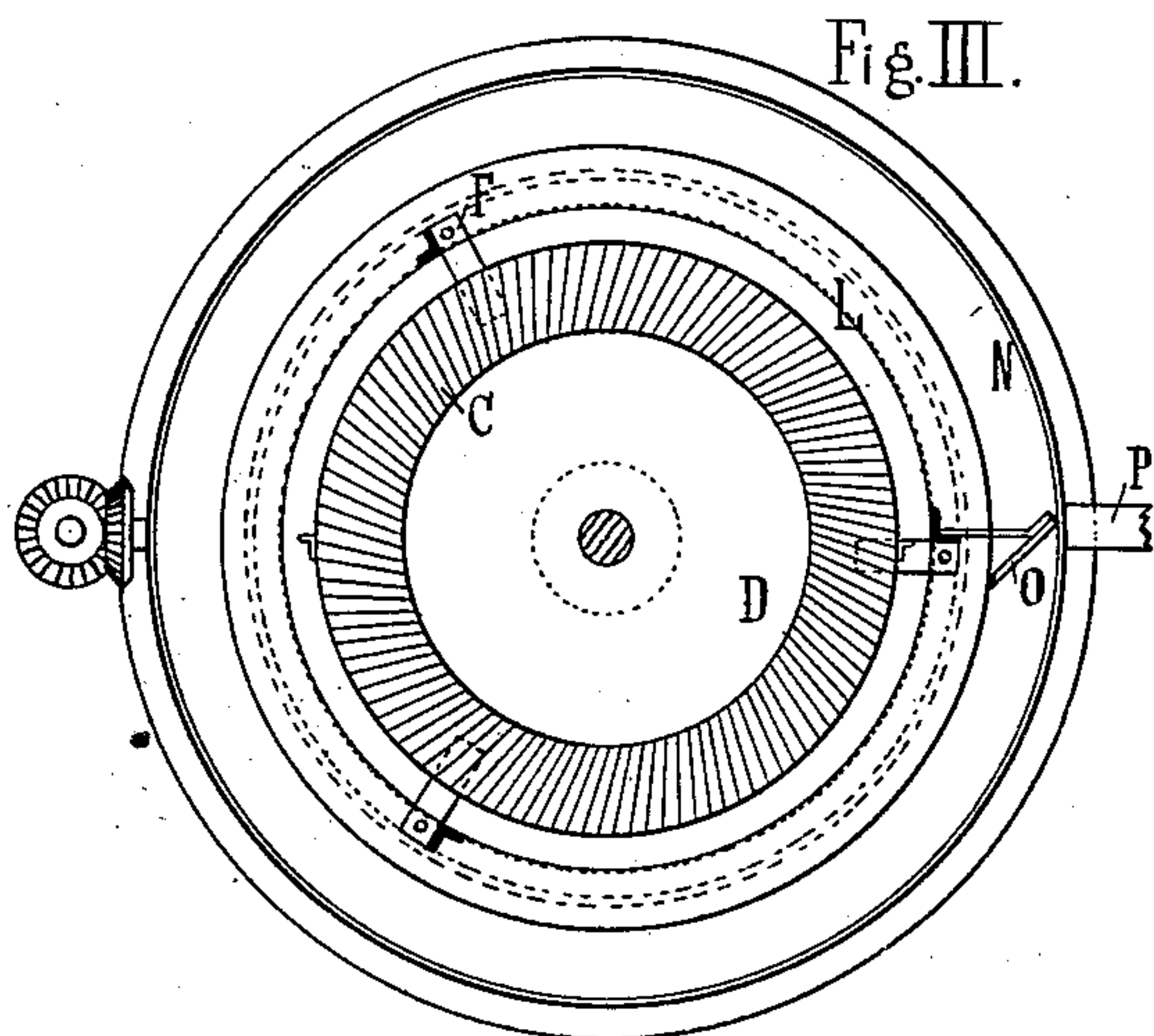
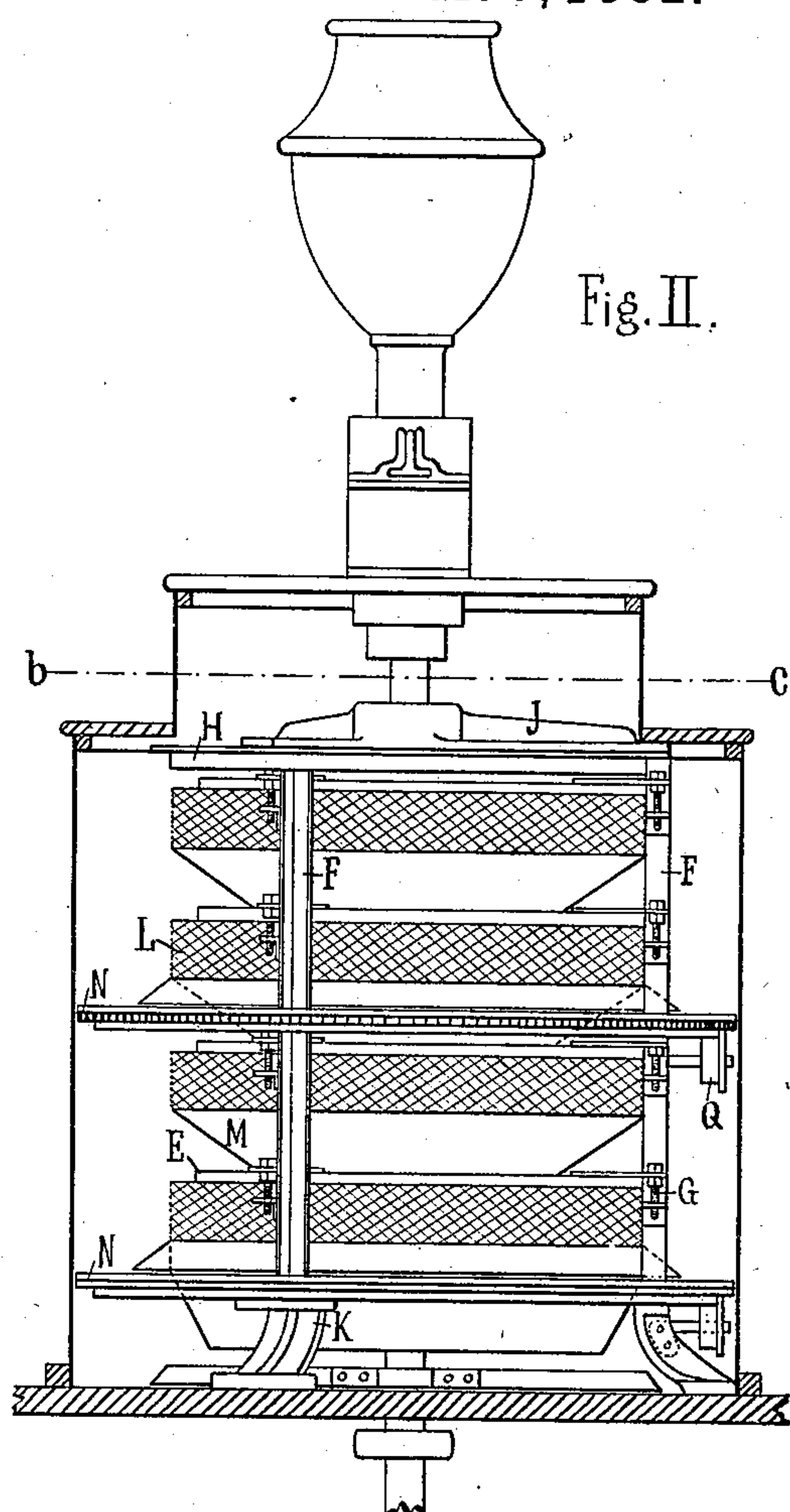
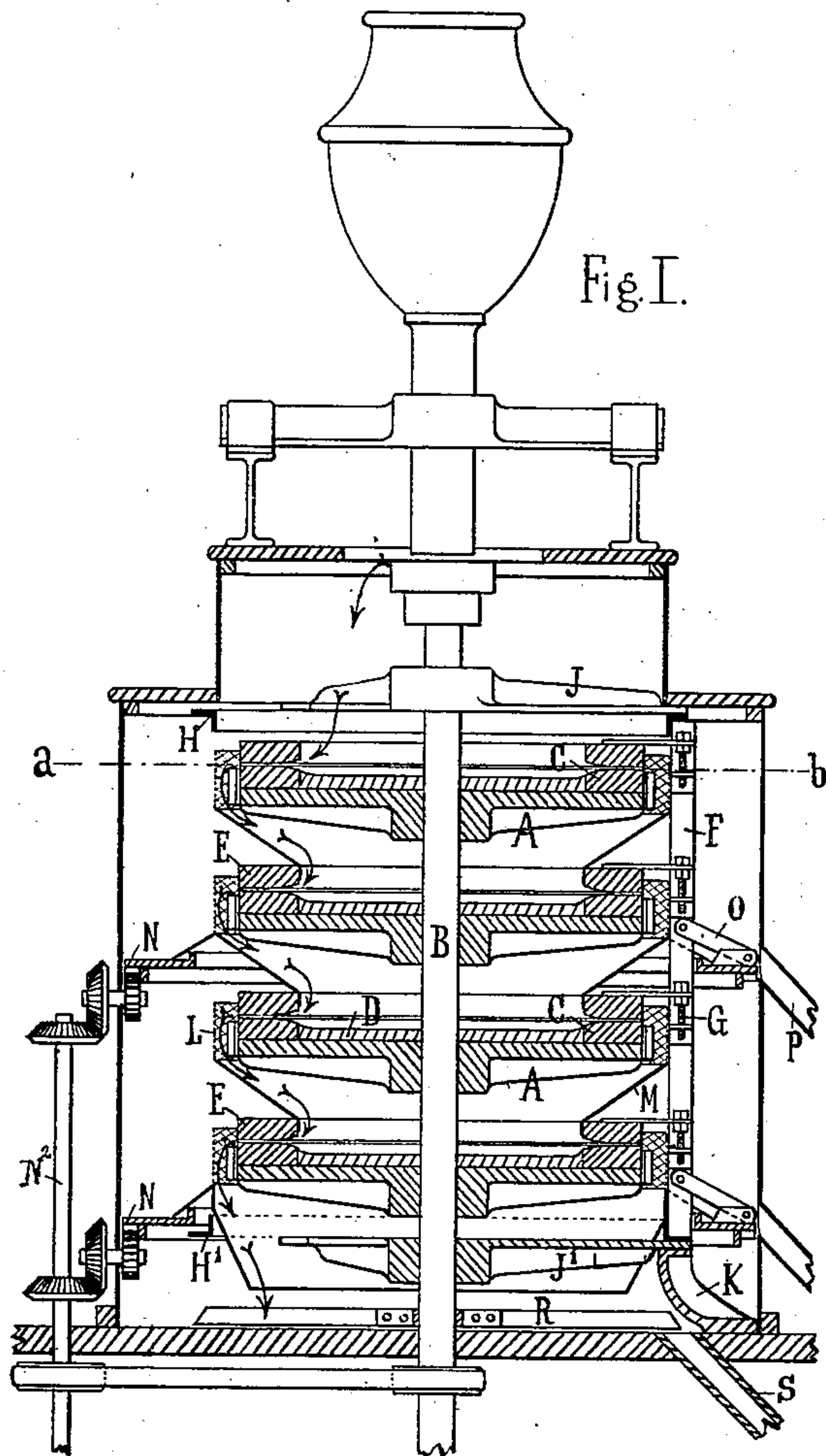
(No Model.)

L. HOTTMANN.

GRAIN MILL.

No. 254,551.

Patented Mar. 7, 1882.



Witnesses: *Eduard Reithich.*
Emil Eberhard.

Inventor: *Louis Hottmann.*

UNITED STATES PATENT OFFICE.

LOUIS HOTTMANN, OF GRUNBACH, WÜRTEMBERG, GERMANY.

GRAIN-MILL.

SPECIFICATION forming part of Letters Patent No. 254,551, dated March 7, 1882.

Application filed December 28, 1881. (No model.) Patented in Germany August 11, 1880.

To all whom it may concern:

Be it known that I, LOUIS HOTTMANN, of Grunbach, Würtemberg, in the Empire of Germany, a German subject, have invented certain new and useful Improvements in Grain-Mills, (for which I have obtained a patent in Germany, No. 14,348, dated August 11, 1880,) of which the following is a specification.

My said improvements are shown in the drawings hereunto annexed, in which is shown a grain-mill constructed according to my invention.

Figure I is a sectional elevation. Fig. II is a front elevation. Fig. III is a horizontal section through the operative parts. Fig. IV is a plan of the frame and cross-pieces.

Like letters refer to like parts in each of the figures.

Four rotating disks, A, are fixed to a driven vertical shaft, B. Each disk A bears upon its upper face and has secured thereto a chilled hard cast-iron ring, C, grooved on its grinding-face, of similar diameter to and concentric with itself. The space between the rings C is fitted with a suitable table, D, of wood or other suitable material. Above each revolving ring is a corresponding chilled hard cast-iron ring, E, (forming therewith a pair of grinders,) firmly secured to the frame F, and which is adjustable to the corresponding rotating ring by means of adjusting-screws G. The frame F is strengthened by two hoops, H H', of angle-iron, one at the summit and the other at the base, and to these are fitted the two cross-pieces J J', which contain bearings for the journals of the vertical shaft. Surrounding the outlet from each pair of grinders is a wire cage, L, of fine or coarse mesh, and which is secured to the outer frame, F.

The grain under operation, as it falls through the wire mesh, is directed by coned hoppers M onto the table of the next revolving disk, to pass through another pair of grinders, and ultimately onto the floor of the mill. The direction of the falling grain is shown by arrows. Two tables, N, at different altitudes, catch material flying outward through the wire mesh. These tables are revolved by gearing N² from

the shaft B, and fixed scrapers O direct their contents through the delivery-chutes P. Flanged rollers Q support the tables N, so that the latter rotate freely. Fixed to the said shaft and over the floor is a revolving scraper, R, to direct the ground material through the delivery-chute S. The whole is inclosed in a suitable casing.

My improvements as aforesaid are designed, first, to grind the grain more effectually than at present in one operation; second, by my wire cage to obviate the employment of several cylinders and to sort out the material directly from the grinding-surfaces; third, to produce a relatively larger proportion of fine flour.

Having now fully described the nature and objects of my invention, be it known that what I desire to claim as my invention, and secure by Letters Patent, is—

1. In a mill for reducing grain to flour by a series of grindings and separations at one continuous operation, the combination, substantially as hereinbefore specified, of a vertical power-shaft carrying a series of horizontal disks, a series of rotary grinding-rings carried concentrically by said disks, a like series of non-rotary grinding-rings supported adjustably above the former, wire cages surrounding the respective rings to permit the flour produced at each grinding to escape from the residue of the grain by centrifugal force, means for conducting said residue downward for the succeeding grindings and final discharge, and means for collecting and carrying off the flour from outside each of said wire cages, for the purposes set forth.

2. The annular tables N and means for rotating the same, in combination with stationary scrapers O and means for receiving and carrying off the removed flour, substantially as hereinbefore specified, for the purpose set forth.

Stuttgart, 14 November, 1881.

LOUIS HOTTMANN.

Witnesses:

EDUARD RETTICH,
EMIL EBERHARD.