

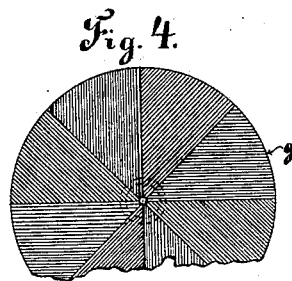
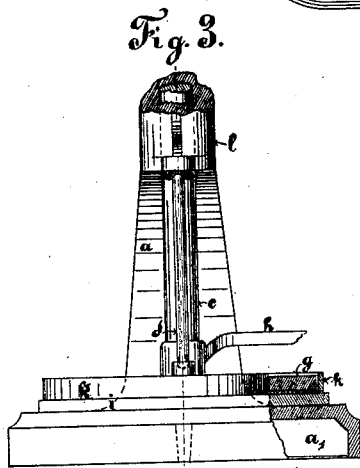
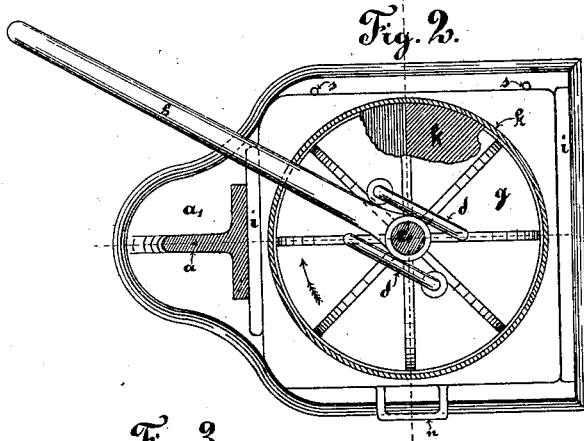
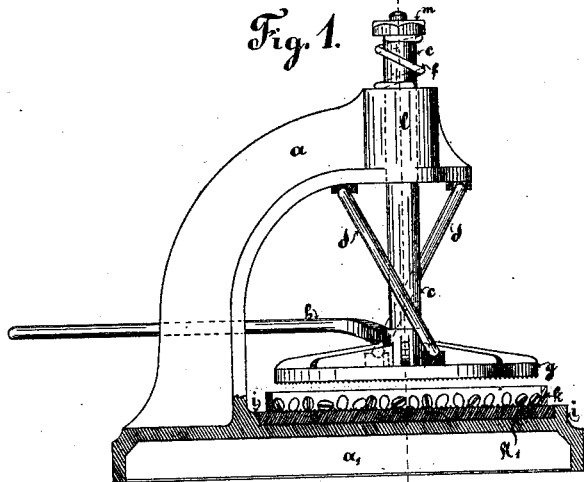
(No Model.)

O. UNGER.

MILL FOR GRINDING OR PRESSING COFFEE, SPICES, &c.

No. 310,336.

Patented Jan. 6, 1885.



Witnesses:
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J. A. Rae

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UNITED STATES PATENT OFFICE.

OSCAR UNGER, OF LEIPSIC, SAXONY, GERMANY.

MILL FOR GRINDING OR PRESSING COFFEE, SPICE, &c.

SPECIFICATION forming part of Letters Patent No. 310,336, dated January 6, 1885.

Application filed February 23, 1884. (No model.) Patented in Germany January 1, 1884, No. 28,118; in Belgium January 4, 1884, No. 63,757; in France January 5, 1884, No. 159,571; in England January 18, 1884, No. 1,711; in Austria-Hungary February 23, 1884, No. 1,028 and No. 7,957; in Sweden March 26, 1884, and in Norway May 16, 1884, No. 227.

To all whom it may concern:

Be it known that I, OSCAR UNGER, of Leipzig, in the Kingdom of Saxony, Germany, have invented a new and useful Improvement in Mills for Grinding or Crushing Coffee, Spice, Fruit, and other Articles, of which the following is a specification.

My invention relates to mills for grinding or crushing coffee-beans, spices, fruit, and other articles, and has for its object to construct a simple apparatus by which these operations may be carried out efficiently without requiring much power.

In describing the invention, reference will be made to the accompanying drawings, in which Figure 1 is partly a vertical section and partly an elevation, Fig. 2 a horizontal section, and Fig. 3 an end elevation, partly in section, of an improved mill, while Fig. 4 shows the nature of the grinding-surfaces.

From a base-plate, *a*, extends upward a stand, *a*, cast together or otherwise connected with the base-plate, which has also a pair of lugs, *i*, adapted to receive between them a rectangular plate, *k*, in the center of which may be formed a circular receptacle, *k*, said plate being introduced between the lugs *i* as far as to abut against the pins *s*. In this position the center of the circular receptacle *k* is placed perpendicularly under the center of the disk *g*, mounted at the lower end of the shaft *c*, and connected with a hand-lever, *h*. The under surface of the disk *g* and the bottom of the receptacle *k* may be provided with grooves, serrations, or ridges, the shape of which varies according to the nature of the material to be ground or crushed. The shaft *c* is held in the guide *l* of the stand *a*, and is adapted to be lifted, with the disk *g*, by means of the helical spring *f*, placed between the bearing *l* and the nut *m*, screwed to the upper end of the shaft *c*.

The disk *g* and shaft *c* may be cast together, or they may be connected as represented in the drawings.

Between the guide *l* and the disk *g* are mounted the rods *d*, held at both ends in ball-and-socket joints, and arranged in such manner that on turning the disk *g* by means of the lever *h* in the direction of the arrow the rods

d, which are represented in Fig. 1 in a slanting position, are placed perpendicular, as may be seen in Fig. 3, whereby the distance between the bearing *l* and the disk *g* is increased—that is to say, the disk *g* is pressed downward until it comes almost in contact with the bottom of the receptacle *k*. On turning the lever *h* in the opposite direction the disk *g* is lifted out of the receptacle *k* by means of the spring *f*, and the rods *d* are replaced in their previous position. (Represented in Fig. 1.)

The apparatus works as follows: The receptacle *k* is removed from the base-plate *a* and filled with the material to be ground or crushed, after which the receptacle is replaced between the lugs under the disk *g*, so as to rest against the pins *s*. Subsequently the disk *g* is turned down into the filled receptacle *k*, whereby its contents are ground or crushed.

For emptying the receptacle *k* the disk *g* is turned back and the receptacle *k* removed from the base-plate *a*.

What I claim is—

1. In grinding or crushing mills, the combination of a fixed plate, *k*, serving as a receptacle for the raw material, with a disk, *g*, and shaft *c*, adapted to receive simultaneous rectilinear and rotary motion, a fixed guide, *l*, rods *d*, connected by ball-and-socket joints with the disk *g* and with the guide *l*, and a helical spring, *f*, adapted to draw the disk *g* away from the plate *k*, substantially as described.

2. In grinding or crushing mills, the combination of fixed plate *k*, forming a flanged receptacle, *k*, with a disk, *g*, and shaft *c*, guide *l*, rods *d*, and spring *f*, substantially as described.

3. In grinding or crushing mills, the combination of fixed plate *k* with disk *g* and shaft *c*, hand-lever *h*, guide *l*, rods *d*, and spring *f*, substantially as described.

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

OSCAR UNGER.

Witnesses:

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