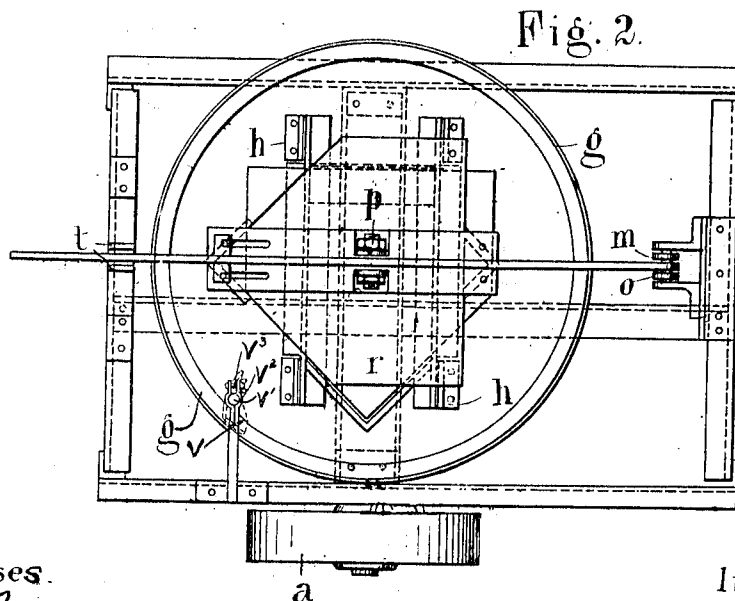
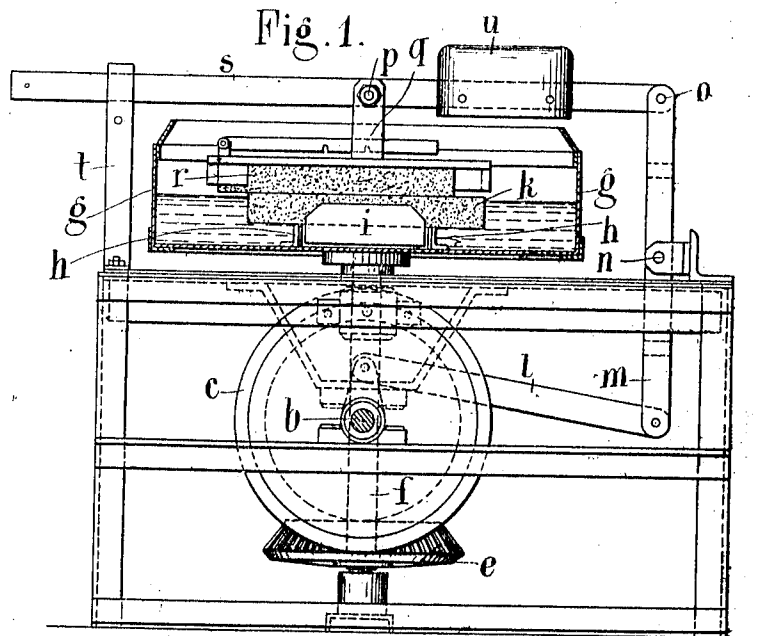


F. FLORSTEDT.
 DEVICE FOR GRINDING ARTIFICIAL STONE PLATES.
 APPLICATION FILED NOV. 15, 1909.

1,035,562.

Patented Aug. 13, 1912.

2 SHEETS-SHEET 1.



Witnesses.

D. E. Barkley
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Inventor.

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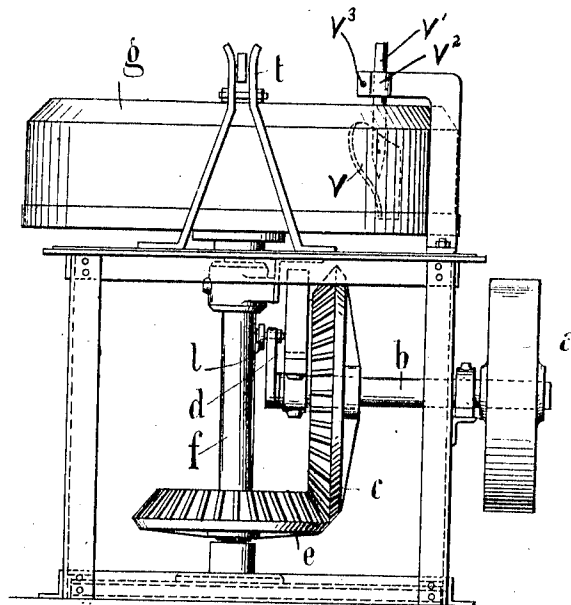
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Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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DEVICE FOR GRINDING ARTIFICIAL-STONE PLATES.

1,035,562.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed November 15, 1909. Serial No. 523,051.

To all whom it may concern:

Be it known that I, FRIEDRICH FLORSTEDT, a subject of the German Emperor, and resident of Berlin, Germany, have invented certain new and useful Improvements in Devices for Grinding Artificial-Stone Plates, of which the following is a specification.

This invention relates to a device primarily designed for grinding artificial stone plates.

Apparatuses for the grinding of artificial stones have been heretofore devised, but this invention is for a new device for grinding artificial stones upon each other.

Until now and even up to the latest times, large steel grinding disks have been employed, which rotating at about 60 turns a minute caused the objects to be ground and which were held in a suitable manner, to rotate in an irregular manner. This method has two drawbacks: In the first place the steel grinding disks wear and require to be turned again on the lathe and in the second place the waste or dust produced by the centrifugal action of the relatively hard steely grinding disks, is so great that it becomes injurious to the person operating the grinding machine.

Now, the present invention relates to a device for grinding plates made of natural or artificial stone (artificial granite, terrazzo) as well as of other grindable materials by rubbing upon each other two of said plates to be worked so that both are ground at the same time, work piece and tool. The upper plate receives to this effect advantageously a reciprocating motion. The lower plate can besides be arranged in a receptacle intended to receive the grinding means (sand and water), and be rotated at the same time as said receptacle.

The accompanying drawings given by way of example show one form of embodiment of the invention and in these drawings: Figure 1 is a side view of the grinding machine. Fig. 2 is the top plan view of the same and Fig. 3 shows again a side elevation of the machine but at 90° with reference to the view shown by Fig. 1.

In the drawings the main parts or members of the machine are designated in their order by the letters of the alphabet used as reference letters.

The machine comprises a shaft *b* driven by the pulley *a*. On said shaft is a bevel

toothed wheel *c* and crank *d*. The first rotates, through the medium of a second bevel wheel *e*, a vertically arranged shaft *f* on which is keyed the working tub *g*. Secured to the bottom of said tub are abutments *h* formed of angle irons and intended to receive frames *i* which have the shape of the stone plate *k* which they are intended to receive. The stone plate *k* forms one of the work pieces.

The crank *d* provided on shaft *b* causes, through the medium of a connecting rod *l*, a lever *m* to oscillate, which lever *m* has its fulcrum at *n*. The free end *o* of the lever *m* is hingedly connected with the horizontally guided reciprocating rod *s* to which a frame *q*, intended to receive the stone plate *r*, is secured at the point *p*. This stone plate *r* forms the second work piece. The reciprocating rod *s* is extended beyond *p* and its extension is guided by means of two flat irons *t* so as to avoid lateral deviations.

When the shaft *b* is rotated, the bevel wheel causes the tub *g* and, with it, the first stone plate *k*, to rotate while at the same time the second stone plate *r* receives a rectilinear reciprocating motion through the medium of the crank *d*, the connecting rod *l*, the lever *m* and the reciprocating rod *s*. The mass contained in the tub and formed of grinding sand and water is raised by a stationary baffle plate or shovel *v* and is projected on or between the stone plates so that the desired grinding action is obtained. In order to increase the pressure of the stone plate *r* on the stone plate *k* a weight *u* has been provided which is carried in an adjustable manner by the reciprocating rod *s* on which it can be secured by means of screws.

With my apparatus waste of the grinding sand is considerably reduced as the same sand can be used about six times and when it has been reduced too fine it can be used in making mortar.

The baffle plate or shovel *v* has for its object to cause the grinding means to accumulate in front of it and to be thrown between the surface of the two stones to be ground. The baffle-plate or shovel *v* is provided with an upstanding arm *v*¹ which is slidably mounted in a clamp *v*² and secured by a screw *v*³ to permit the vertical adjustment of the shovel. It may be added that the base frame work of the machine which in the drawing has been shown as being com-

posed of angle iron and sheet metal, can also be made of cast iron.

It is needless to say that the above described device is mainly employed for artificial stone plates, but that there is nothing which would prevent its application to natural stone plates.

I claim:

1. A device of the character described, comprising a rotary receptacle provided with a holding member upstanding from the inner surface of its bottom, a lower grinding member received by said holding member, a horizontally reciprocating frame arranged above and out of contact with said holding member, and an upper grinding member received by said reciprocating frame, and means for actuating said rotary receptacle and said grinding members including intergeared beveled wheels, the shaft of one wheel carrying said rotary receptacle, a shaft of the other wheel being provided with a crank, a centrally pivoted lever, a link-connection between said crank and said lever, a reciprocating rod also connected to said lever and pivoted to said upper grinding member holding frame, and a guide receiving between its members said reciprocating rod, the last named being weighted intermediate of said lever and the point of connection therebetween and said holding frame.

2. In a machine for grinding artificial stone plates the combination with the framework of a tub adapted to receive the grinding material and one of the two stone plates to be ground, means for rotating the said tub and first stone plate, means for applying the second stone plate on the first one and for reciprocating it, a stationary shovel projecting in said tub and adapted to gather the said grinding material and to project it on the surface to be ground, and means for adjusting the said shovel vertically, substantially as and for the purpose set forth.

3. In a machine for grinding stones, a rotatable tub adapted to receive a grinding medium, means for rotating said tub, means for supporting a stone in said tub, the said stone adapted to rotate with said tub, a reciprocating carriage adapted to maintain a second stone above and in contact with said first-mentioned stone, and an adjustable baffle plate comprising a curved blade adapted to deliver the said grinding medium onto the surface of the rotating grinding stone.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

FRIEDRICH FLORSTEDT.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.