

Fig. 1.

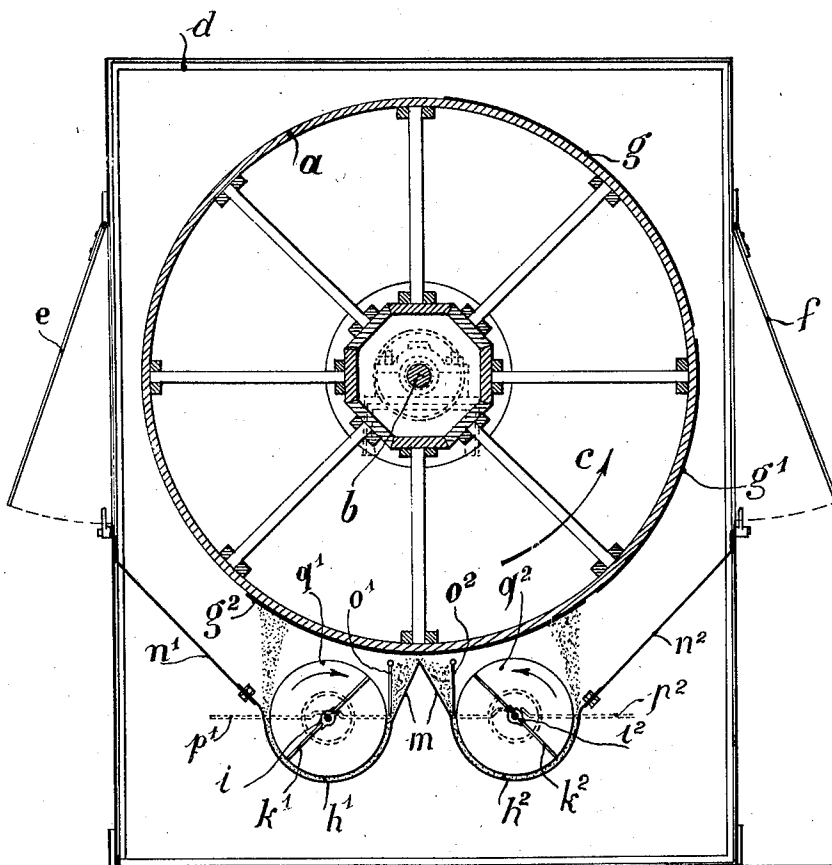
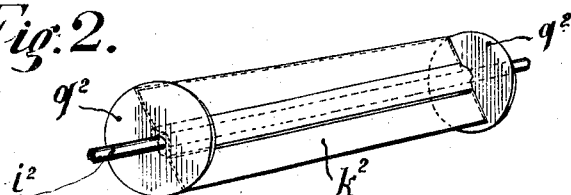


Fig. 2.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR CLEANING AND GRAINING LITHOGRAPHIC STONES, ZINC, &c.

1,091,036.

Specification of Letters Patent.

Patented Mar. 24, 1914.

Application filed November 4, 1912. Serial No. 729,497.

To all whom it may concern:

Be it known that I, JEAN BOUILLET, a citizen of the French Republic, residing at Levallois-Perret, in the Republic of France, have invented certain new and useful Improvements in Machines for Cleaning and Graining Lithographic Stones, Zinc, &c., of which the following is a specification.

The accompanying drawing represents in a transverse and diagrammatic section a machine for graining zincs and other flexible supports.

Figure 1 is a cross section; Fig. 2 represents a detail in perspective view.

This apparatus essentially consists of a drum *a* of wood conveniently carried by a shaft *b* to which is communicated, through the intermediary of any appropriate means, a comparatively slow revolving motion in the direction of the arrow *c*. This drum is located in a box *d*, the side walls of which have doors *e*, *f* designed to uncover the cylindrical surface of the drum *a* and to permit of fixing plates of zinc, such as *g*, *g*¹, *g*², etc., by means of nails or otherwise, so that these plates participate in the revolving movement of the drum, the surface to be grained being turned outward.

In the lower part of the apparatus a certain number, two for example, of semi-cylindrical troughs *h*¹, *h*² are arranged parallel with the shaft *b*. In the direction of the axis of these troughs two shafts *i*¹, *i*² are arranged which are conveniently connected with the driving device of the apparatus so that they are rapidly revolved in opposite directions. Upon each shaft a blade *k*¹, *k*² is fixed which extends over the entire length of the trough, the height of the two blades together being almost double the height of the trough.

The two troughs are connected with one another by inclined planes *m*, metal sheets *n*¹, *n*² being arranged between the outer edges of the troughs and the side walls of the box. Between the inclined planes *m* and the troughs vertical guide plates *o*¹, *o*² are suspended, which can be moved from outside the box by means of levers *p*¹, *p*², (shown in dotted lines) to regulate the distance between the lower edge of the plates and the inclined planes *m*. The blades *k*¹, *k*² have vertical disks *q*¹, *q*² (Fig.

2) at their ends which serve for preventing the air from moving along the shaft of the blade.

The sand is stored between the inclined planes *m* and the guide plates *o*¹, *o*² so that, by its own weight it falls through the gap left between the lower edge of each guide plate and the wall of the trough *h*¹, *h*². The sand runs in a thin layer along the entire length of each trough to the bottom of the same, from where the blades *k*¹, *k*² draw the sand along and throw it from below up against the surface of the zincs *g*, *g*¹, *g*², etc. The sand after having struck the zinc, falls back either directly into the trough from which it has come or into the space between the guide plates *o*¹, *o*². It has to be remarked that through the rotation of the blades the sand is thrown toward the wall of the troughs *h*¹, *h*², that is to say, tangentially to the cylinder described by the rotation of the blades and with the same speed at which move the outer edges of the blades.

With this apparatus a very regular grain- ing can be obtained without any complicated blast device, compressor, etc. The circumferential speed of the drum *a* is of about two centimeters per second and the blades turn with 1500 to 2000 revolutions per minute.

The apparatus could further be used for polishing wooden objects, and for engraving articles of glass or of metal. The apparatus could also be used for throwing sand against surfaces designed to retain part of the sand as for example for the manufacture of emery-paper, emery-cloth, carton-pierre for roofing or the like. The improved apparatus can be used for throwing other materials such as glasspowder, carborundum, metal filings, iron-sand or the like.

I claim:—

An apparatus for cleaning and for grain- ing lithographic stones, zinc, etc., comprising in combination a box, doors in the side walls of said box, a drum revolutely mounted in said box designed to carry the plates to be grained, troughs under said drum, revoluble blades extending through the entire length of said troughs and being of almost double the height of said troughs, a device for feeding sand to the inner sides of the troughs along the entire edge of the

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same, said sand to be seized by the blades and thrown from below up against the surface of the drum, and adjustable means for regulating the thickness of the layer of sand fed to the troughs, substantially as described and shown and for the purpose set forth.

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

JEAN BOUILLET.

Witnesses:

HANSON C. COXE,
ALFRED FREY.