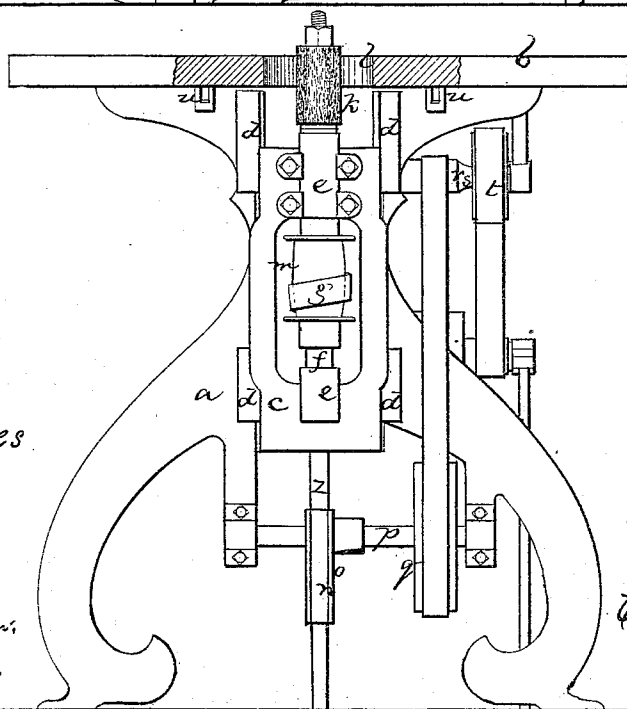
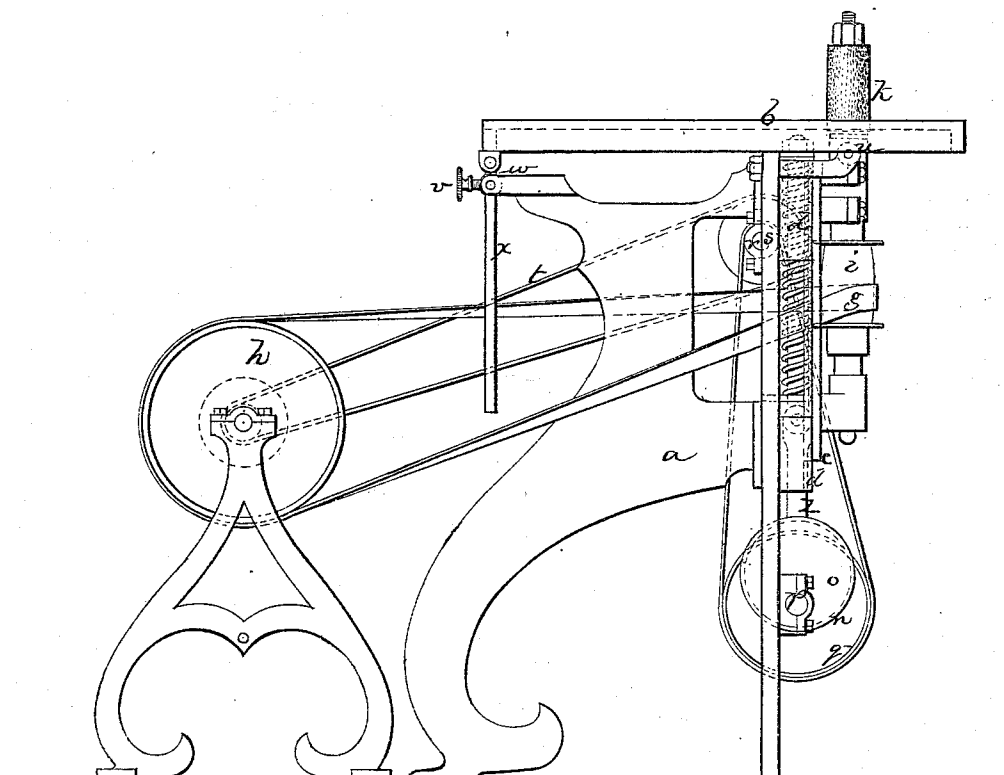


A. S. GEAR.

Machines for Trimming Castings.

No. 125,948.

Patented April 23, 1872.



Witnesses

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ALONZO S. GEAR, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR TRIMMING CASTINGS.

Specification forming part of Letters Patent No. 125,948, dated April 23, 1872.

To all whom it may concern:

Be it known that I, ALONZO S. GEAR, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Machine for Trimming Castings; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In finishing metal castings small spurs or fins have often to be removed from the edges thereof, this being generally effected by hand-filing. To expedite this finishing process I make use of a grinding-cylinder or lap, (preferably an emery lap,) mounted on a rotary vertical spindle, this spindle extending through a work-supporting table, and the spindle having a reciprocating vertical movement, by which, although a thin edge is presented to the wheel, yet the whole surface, and not a single line or plane only of the wheel, is brought into action against the edge to be finished, the grinding being by this method very rapidly effected. To adapt the machine to the presentation of other than right-angular edges, or edges more or less beveled, I hinge the table, and so mount it upon its frame that it may be raised or tipped on its hinges to any desirable inclination with respect to the grinding-cylinder to properly present a beveled edge to the cylinder. It is in a machine in which the work-presenting table has extending through it a rotary and vertically-reciprocating grinder-cylinder or lap, and in the combination with the grinding-cylinder of a table having means for raising it into inclined position and supporting it in such position, that my invention primarily consists.

The drawing represents, in side and end elevations, a machine embodying my invention. *a* denotes a vertical frame or stand, upon which is mounted the horizontal work-supporting table *b*. At the front of the stand *a* is a vertical slide, *c*, mounted in guides or ways *d*, in which it reciprocates freely, there being at the front of the slide boxes or bearings *e*, in which is journaled the vertical cutter-spindle *f*, rotary motion being imparted to the cutter-spindle by a belt, *g*, running from a driving-pulley, *h*, around a pulley, *i*, on the cutter-spindle. At the upper end of the cutter-spindle is the

rotary grinder or cylinder *k*, said cylinder extending through an opening, *l*, in the table *b*, as seen in the drawing. The driving-belt *g* passes through an opening, *m*, in the slide *c*, and jointed to the bottom of the slide is a link, *z*, extending from an eccentric strap, *n*, which encircles an eccentric, *o*, said eccentric *o* being on a shaft, *p*, bearing a pulley, *q*, which pulley is banded to a pulley, *r*, on a shaft, *s*, connected by a band, *t*, and suitable pulleys with the driving-shaft. It will be obvious that the rotation of the driving-shaft will not only rotate the grinder, but, through the eccentric connection, will also vertically reciprocate the grinder, the extent of vertical movement being, preferably, such as to bring the whole length of grinding-surface of the cylinder into the plane of the table, so as not only to greatly increase the extent of available abrading surface over what can be attained by a grinder which has only a rotative movement, but also to give a compound movement to the abrader, which movement will produce a smoother and better finish. The table *b* is pivoted at or near its front side to bearings *u*, and from its rear side a pivoted rod or prop, *x*, extends, this rod passing through a swivel-bearing, *w*, through which passes a set-screw, *v*. By means of the hinges and prop and set-screws the table may be raised to and retained at any suitable inclination.

It will readily be seen that by means of a machine thus organized stove-castings and other thin castings, and the inner edges of perforated castings, as well as the outer edges of imperforated castings, may be very rapidly finished so far as relates to grinding such edges for removal of spurs or fins therefrom.

I claim—

1. The rotary and vertically-reciprocating grinder-cylinder, in combination with the work-supporting and presenting table, substantially as described.

2. In combination with the rotary and vertically-reciprocating grinder-cylinder, the work-supporting table, when so hung as to be capable of being set in inclined positions, substantially as and for the purpose specified.

ALONZO S. GEAR.

Witnesses:

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