

(No Model.)

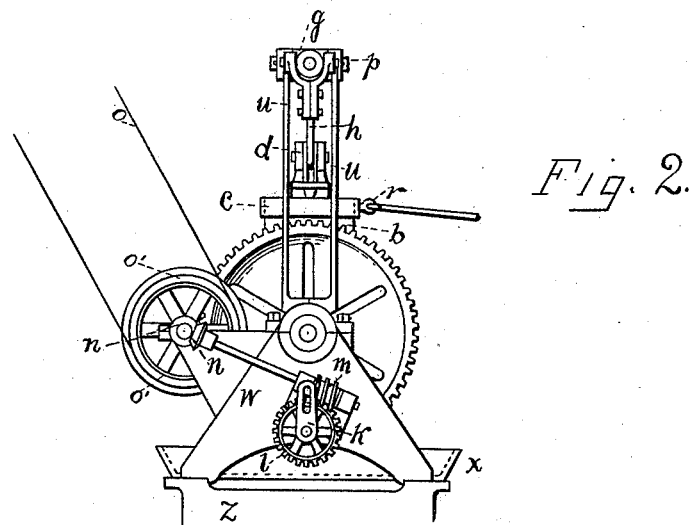
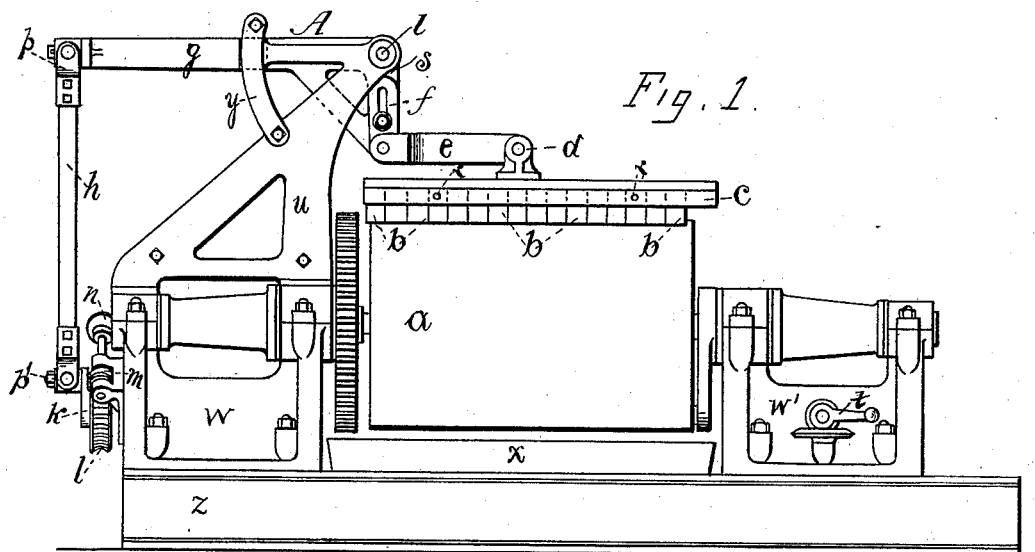
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H. H. SCOVILLE.

## POLISHING LATHE.

No. 382,909.

Patented May 15, 1888.



WITNESSES: *Belle Scoville.*  
*D. D. Drummond.*

INVENTOR,  
Hiram H. Scoville

(No Model.)

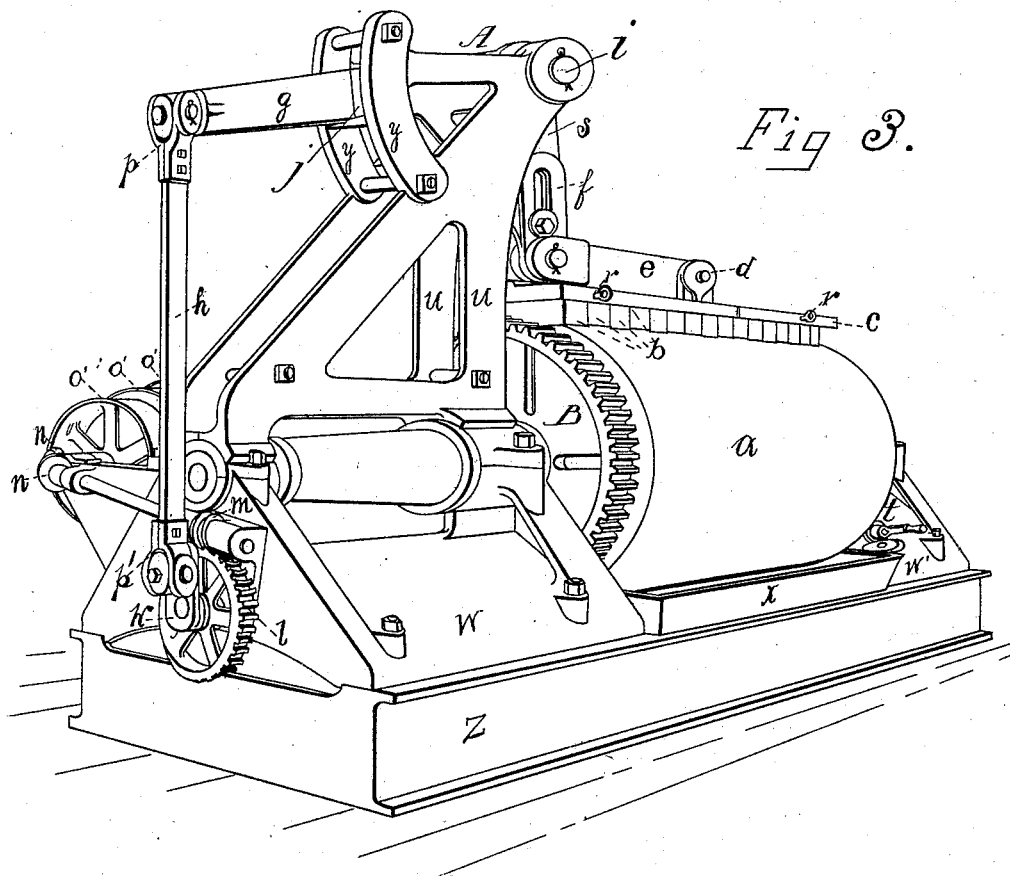
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*D. D. Drummond.*

Inventor.

*Hiram. H. Scoville*

# UNITED STATES PATENT OFFICE.

HIRAM H. SCOVILLE, OF CHICAGO, ILLINOIS.

## POLISHING-LATHE.

SPECIFICATION forming part of Letters Patent No. 382,909, dated May 15, 1888.

Application filed August 9, 1887. Serial No. 246,545. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM H. SCOVILLE, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Polishing-Lathes, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an end view, a portion of the upright connecting-bar *h* being removed. Fig. 3 is an enlarged perspective.

My invention relates to that class of machines which are used for polishing sections of stone columns, the piece to be polished being supported in a lathe; and the object of my invention is to provide devices by the use of which the polishing-surface will be automatically moved back and forth longitudinally while the piece which is being polished is rotated, which I accomplish as illustrated in the drawings, and hereinafter described. That which I claim as new will be set forth in the claim.

In the drawings, *Z* represents a bed upon which the machinery is supported.

*W W'* are the head and tail stocks of the lathe, which stocks support the centers on which the work is placed to revolve.

*a* is a piece of marble or other material supported in the lathe in the usual manner ready to be revolved while being polished.

*b* are metal pieces, usually called "metal bricks," which are secured, in the usual manner, in a frame, *c*.

*d* is a casting securely fastened to the frame *c*.

*e* is a connecting-link, one end of which is pivoted to the casting *d*, and the other end is pivoted to a short arm, *f*, which arm *f* is slotted and secured to the short arm *s* of a bell-crank lever, *A*, *g* being the other arm of such lever. This lever *A* is pivoted at *i* in suitable supports, *u*, which extend up from the head-stock *W*.

*y y* are two guides, which are permanently secured to the supports *u*, between which guides the arm *g* of the bell-crank lever passes. This arm *g* is enlarged at *j*, where it passes between the guides *y y*, so that it fits between them.

*l* is a worm-wheel. *m* is the worm engaging with the worm-wheel *l*.

*k* is a slotted arm secured to the wheel *l*, the slot in said arm being formed to receive a crank-pin.

*h* is a connecting rod or bar, the upper end of which is pivoted at *p* to the outer end of the arm *g* of the lever *A*, and the lower end is pivoted at *p'* to the crank-pin in the arm *k*.

*n n* are two beveled wheels, one on the shaft which carries the worm *m* and the other on the shaft which carries the driving-pulleys *o'*.

*o* is a driving-belt.

*r* are eyes in the frame *c*, to which guide rods may be connected for the purpose of keeping the frame *c*, which holds the polishing-brick, in line and on the top of the column which is being polished. Without these guide-rods or other equivalent devices the rotation of the column would throw the frame *c* off from such column.

The tail-stock can be moved in any well-known manner.

*t* indicates a device which may be used for this purpose, which need not be described, being well known.

*B* is a plate secured to the spindle, which supports one end of the piece which is to be polished, which plate carries a gear-wheel which is to be driven in any well-known manner.

*X* represents a trough or pan.

The operation is as follows: The piece *a* which is to be polished is to be rotated in the ordinary manner, the metal brick *p* resting thereon, and at the same time the worm and worm-wheel will be driven, and by the rotation of the worm-wheel *l* motion will be given to the bar *h* and bell-crank lever *A*, and through the latter, which is connected with the frame *c* by the arm or bar *e*, the frame *c* and the metal bricks *b* thereon will be moved very slowly back and forth longitudinally and the stone will be polished evenly from end to end. If the metal brick *b* did not have this longitudinal movement, there would be rough places upon the polished stone, caused by the joints between the metal bricks. The movement of the frame and metal bricks is entirely automatic, and the speed varies with the vary-

ing speed at which the piece to be polished moves. Pieces or sections of columns of different diameters will be polished in the same lathe. It is important in use to have the  
5 link *e* always parallel, or nearly so, to the piece which is being polished, which would not be the case if the link were connected at one end directly to the lower end of the short arm of the bell-crank lever *A*, unless the piece  
10 being polished were always of the same diameter. By using an arm or bar, *f*, firmly secured to the lower end of the arm *s* of the lever *A*, the link *e* can be placed parallel with the piece which is being polished, whether it  
15 be large or small in diameter, by changing the

position of the slotted arm *f*, or by removing the arm and inserting another of different length.

What I claim as new, and desire to secure by Letters Patent, is—

In a stone-polishing lathe, a frame to receive and hold the polishing-bricks, in combination with a bell-crank lever, *A*, link *e*, arm or bar *f*, connecting bar or rod *h*, worm-wheel *l*, and worm *m*, substantially as and for the  
20 25 purposes specified.

HIRAM H. SCOVILLE.

Witnesses:

ALBERT H. ADAMS.

HARRY T. JONES.