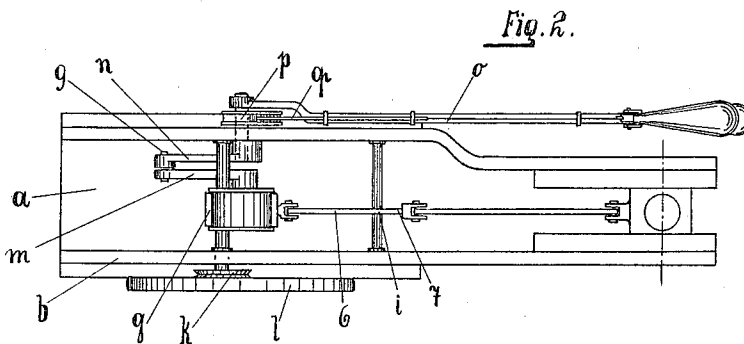
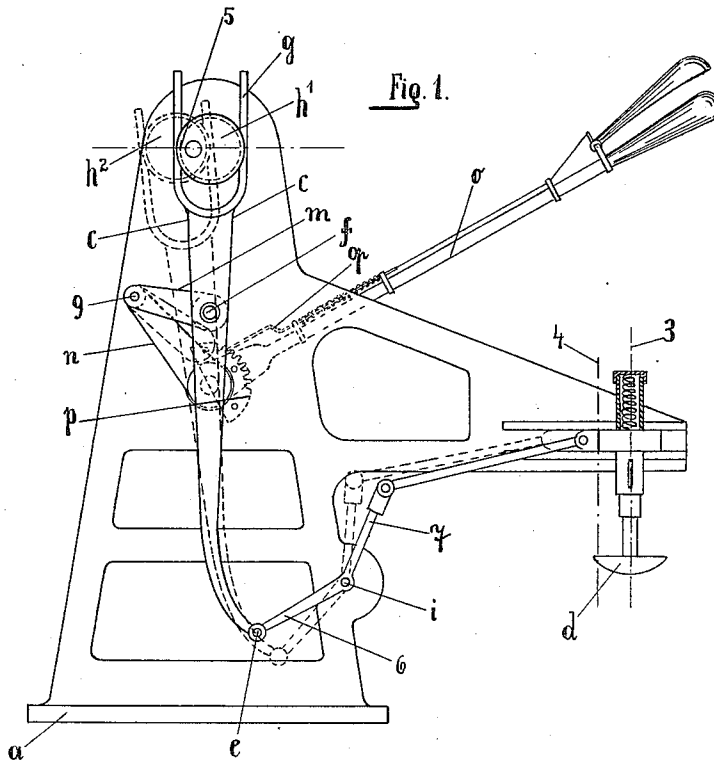


R. MATTHES & R. SCHIRMER.
MACHINE FOR POLISHING METAL AND PRECIOUS METALS.
APPLICATION FILED MAY 13, 1912.

1,045,578.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.



Witness:
Emil Krieger
Hans J. Smith

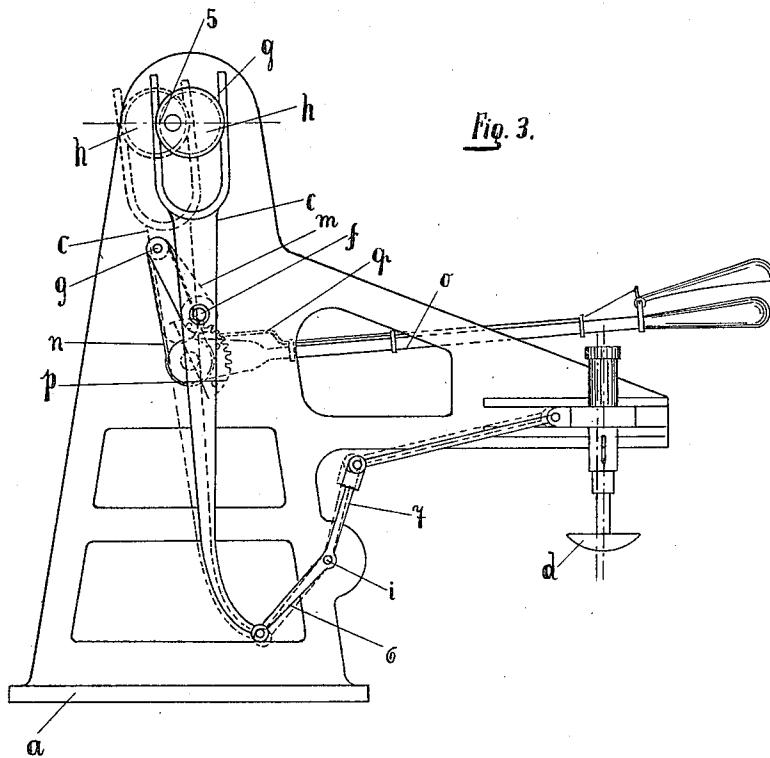
Inventors:
Richard Matthes
and
Richard Schirmer
by *John M. Smith*
Attorney

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Witnesses:
Eust Winest
Charles Smith

Inventors:
Richard Matthes
and
Richard Schirmer
by *For Matthes*

UNITED STATES PATENT OFFICE.

RICHARD MATTHES AND RICHARD SCHIRMER, OF ZEITZ, GERMANY.

MACHINE FOR POLISHING METAL AND PRECIOUS METALS.

1,045,578.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed May 13, 1912. Serial No. 696,903.

To all whom it may concern:

Be it known that we, RICHARD MATTHES and RICHARD SCHIRMER, both subjects of the King of Prussia, German Emperor, residing at Zeitz, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Machines for Polishing Metal and Precious Metals, of which the following is a specification.

10 This invention relates to a machine for polishing metal and particularly precious metals which is constructed in such a manner that the polishing is not effected by a rotating but by a reciprocating motion.

15 This invention consists in the arrangement according to which two levers are pivotally arranged so that they can be moved the one with regard to the other, one of the levers having a fork-shaped end and movable pivots and the other lever being mounted upon a fixed pivot. The lever mounted upon the fixed pivot can be displaced by means of a hand lever. The reciprocating movement of the fork-shaped piece can be regulated so that the polishing stroke can be regulated.

The invention is shown in the accompanying drawings.

30 Figure 1 is a front elevation of the machine with the parts shown in the position which they assume for the longest polishing stroke. Fig. 2 is a plan view of Fig. 1. Fig. 3 is the same view as Fig. 1 the parts being shown in the positions which they assume for the shortest polishing stroke.

35 The polishing machine essentially consists of a cast iron body *a*, the front wall *b* of which has been omitted in Fig. 1. The guide lever *c* is fork-shaped at its upper end and serves for actuating the reciprocating polishing iron *d*. The guide lever *c* is pivotally mounted upon two movable axles *e* and *f*. The movable pivots *e* and *f* are operated by means of a cam disk *h* which is revolvably mounted between the arms *g* of the fork-shaped end of the guide lever *c*. The movement of the pivots *e*, *f* is transferred to the polishing iron by means of a lever mounted upon a fixed pivot *i*. The cam disk *h* is driven by a rope disk *k* and it has a flywheel *l* in order to insure a continuous rotation.

In Fig. 1 the several parts are shown in the position which they assume for the largest polishing stroke. 55

When the cam disk *a* is in the position *h*¹, Fig. 1, the polishing iron *d* has reached the end of its stroke, position 3. When the cam disk moves into the position *h*² indicated in dotted lines in Fig. 1 the polishing iron goes to the other end position 4. The length of the polishing stroke is equal to the length of the displacement of the point 5 of the fork-shaped end of the guide lever along a straight line as the arms 6 and 7 of the connecting lever mounted upon the fixed pivot *i* are of equal lengths and as the arc along which the pivot *f* of the lever *m*, fixed to the fork-shaped guide lever *c* moves, deviates only very little from the length 70 of a straight vertical line. The fork-shaped guide lever *c* adopts the position shown in Fig. 4 in dotted lines. The other end of the lever *m* is pivotally mounted upon a pin 9 fixed in the upper end of a lever *n*. This lever *n* is rigidly connected at its other end with a hand lever *o* so that it can be displaced by means of this hand lever. A toothed segment *p* and a pawl *q* of said hand lever *o* serve for securing the parts in 80 their position. When the pin 9 moves upward the fork-shaped guide lever *c* and the pivot *f* of the lever *m* descend. The movement of the pivot *f* along its arc around the pin 9 corresponds to the movement of the point 5 in vertical direction. In the position shown in Fig. 3 the polishing stroke is shorter as the pivot *f* can only move for a little distance. The pivot *f* can move within a quarter of a circle and its stroke corresponds 90 with the projection of the arc described upon the downwardly projecting vertical line. The length of the stroke can be regulated within this quarter of a circle by means of the hand lever *o* when the machine is working.

We claim:—

Polishing machine for metal and precious metals comprising in combination a guide lever, a fork-shaped piece at the upper end 100 of said guide lever, a reciprocating polishing iron, a lever pivotally mounted upon a fixed axle connected on the one hand with the polishing iron and on the other hand

with the lower end of the guide lever, an
axle fixed upon the guide lever, a connecting
link pivotally mounted upon said axle, a
hand lever, means for securing said hand
5 lever in any position, a connecting rod fixed
with one end to said hand lever, a pin at the
other end of said connecting rod serving as
pivot for the outer end of the connecting
link and a cam disk revolubly mounted be-
10 tween the arms of the fork-shaped end of

the guide lever, substantially as described
and shown and for the purpose set forth.

In witness whereof we have hereunto set
our hands in the presence of two witnesses.

RICHARD MATTHES.
RICHARD SCHIRMER.

Witnesses:

PAUL HANSCHKE,
RUDOLPH FRICKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
