

No. 743,911.

PATENTED NOV. 10, 1903.

J. MÜLLER.

MACHINE FOR GRINDING OR POLISHING SHEET METAL.

APPLICATION FILED MAR. 7, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

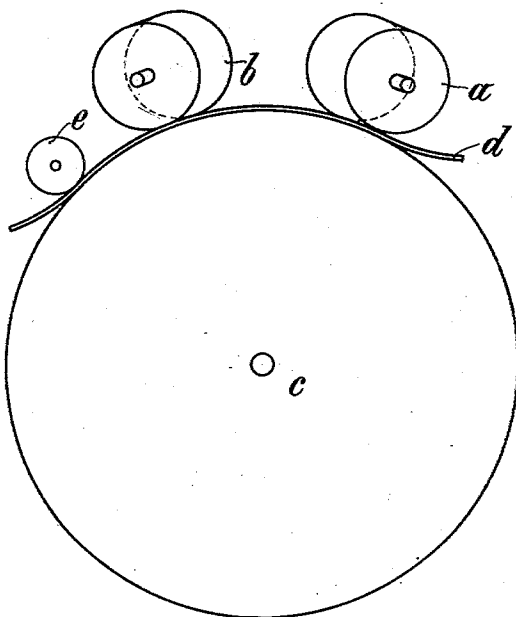
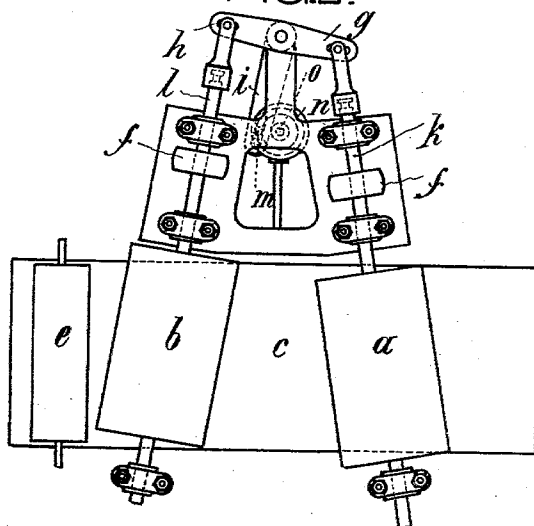


FIG. 2.



Witnesses:

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2 SHEETS—SHEET 2

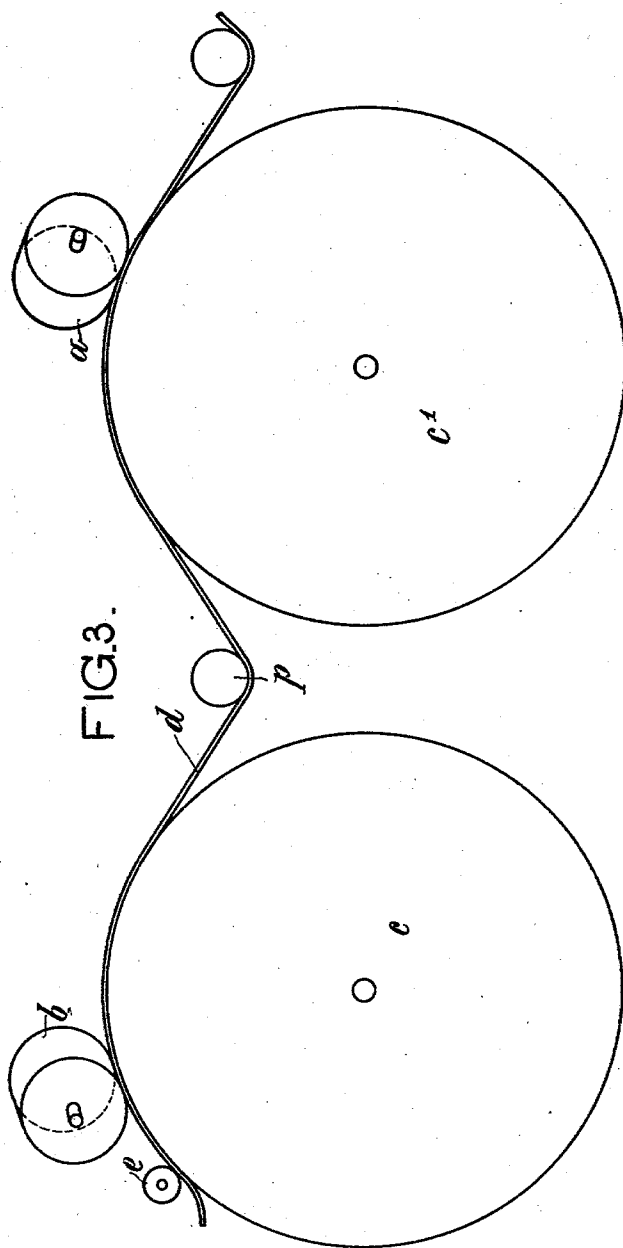


FIG. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEF MÜLLER, OF SCHOENAU, AUSTRIA-HUNGARY, ASSIGNOR TO THE FIRM
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MACHINE FOR GRINDING OR POLISHING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 743,911, dated November 10, 1903.

Application filed March 7, 1903. Serial No. 146,661. (No model.)

To all whom it may concern:

Be it known that I, JOSEF MÜLLER, a subject of the Emperor of Austria-Hungary, residing at Schoenau, near Schluckenau, Bohemia, in the Empire of Austria-Hungary, have invented new and useful Improvements in Machines for Grinding or Polishing Sheet Metal, of which the following is a specification.

In machines for grinding and polishing sheet metal use has already been made of cylindrical rollers for supporting or pressing the work; but the axis of the grinding or polishing disks or rollers of such machines has invariably been arranged parallel to the supporting-roller and perpendicularly above the same. In the case of machines having inclined grinding or polishing rollers adapted to be moved to and fro in the axial direction, whereby a fine and uniform grinding action and a smoothly-polished surface of the sheet metal is obtained, an even plate has invariably been employed as a support for the work. Thus it has been necessary to clamp the work firmly upon the supporting-plate and to pass the latter, together with the work, below the grinding or polishing rollers. This kind of support, therefore, precludes the use of such machines for the grinding and polishing of endless or very long metallic strips or bands.

In order to enable endless or very long metallic strips or bands to be ground and polished by the machine, so as to produce an extremely bright surface, use is made, according to this invention, of rollers to support the work. These supporting-rollers may be employed directly for metallic strips or bands having a width of, say, up to three or four inches.

In the accompanying drawings two constructional forms of the machine are shown in diagram by way of example.

Figure 1 is a side elevation, and Fig. 2 is a plan, of the machine, wherein a single supporting-roller is employed for both inclined grinding and polishing rollers. Fig. 3 is a side elevation showing the use of a separate

supporting-roller for each grinding and polishing roller.

Two inclined grinding and polishing rollers *a* and *b* are driven by the belt-pulleys *f f'*, Fig. 2. As these rollers rotate they have a to-and-fro movement in the axial direction imparted to them. This is, for instance, effected by a T-shaped lever *g h i*, the arms *g h* of which are connected with one end of the shafts *k l* of the grinding and polishing rollers *a b*, while the arm *i* is subjected to the action of a crank-pin *m* on a disk *n*, mounted upon a rotary vertical shaft *o*.

A supporting-roller *c* has its axis crossed by the axes of the grinding and polishing rollers *a* and *b* at any desired angles. A roller *e*, whose axis is parallel to that of the supporting-roller, serves for pressing the work against the supporting-roller *c*, the rotary velocity of the latter being equal to the feed of the work. In order that the grinding and polishing rollers may be placed at a greater distance from each other, so as to gain space between them for placing fresh grinding material thereon, a special supporting-roller *c'* is provided for each of the grinding and polishing rollers *a* and *b*. By a guide-roller *p*, arranged between the supporting-rollers *c* and *c'*, the vibration of the sheet-metal strips or bands between such supporting-rollers is obviated.

It is obvious that the scope of this invention is not substantially altered by providing in the same machine several grinding and polishing rollers which have a supporting-roller *c* either singly or in pairs.

When using supporting-rollers in lieu of the plates usually employed with metallic sheets, a further advantage is gained, inasmuch as the metallic strips or bands bear much more firmly upon the support, and the vibrations at the edges, through which great damage is generally caused to the edges of the grinding and polishing rollers, are obviated.

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

In a machine for the purpose specified, the combination with rollers forming supports for the work to be ground and polished, of inclined and rotating grinding and polishing
5 rollers capable of moving to and fro over the work in an axial direction, the supports for the last-named rollers, and means for moving said rollers to and fro lengthwise.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEF MÜLLER.

Witnesses:

FRANZ SIMON,
GUSTAV SIMON.