

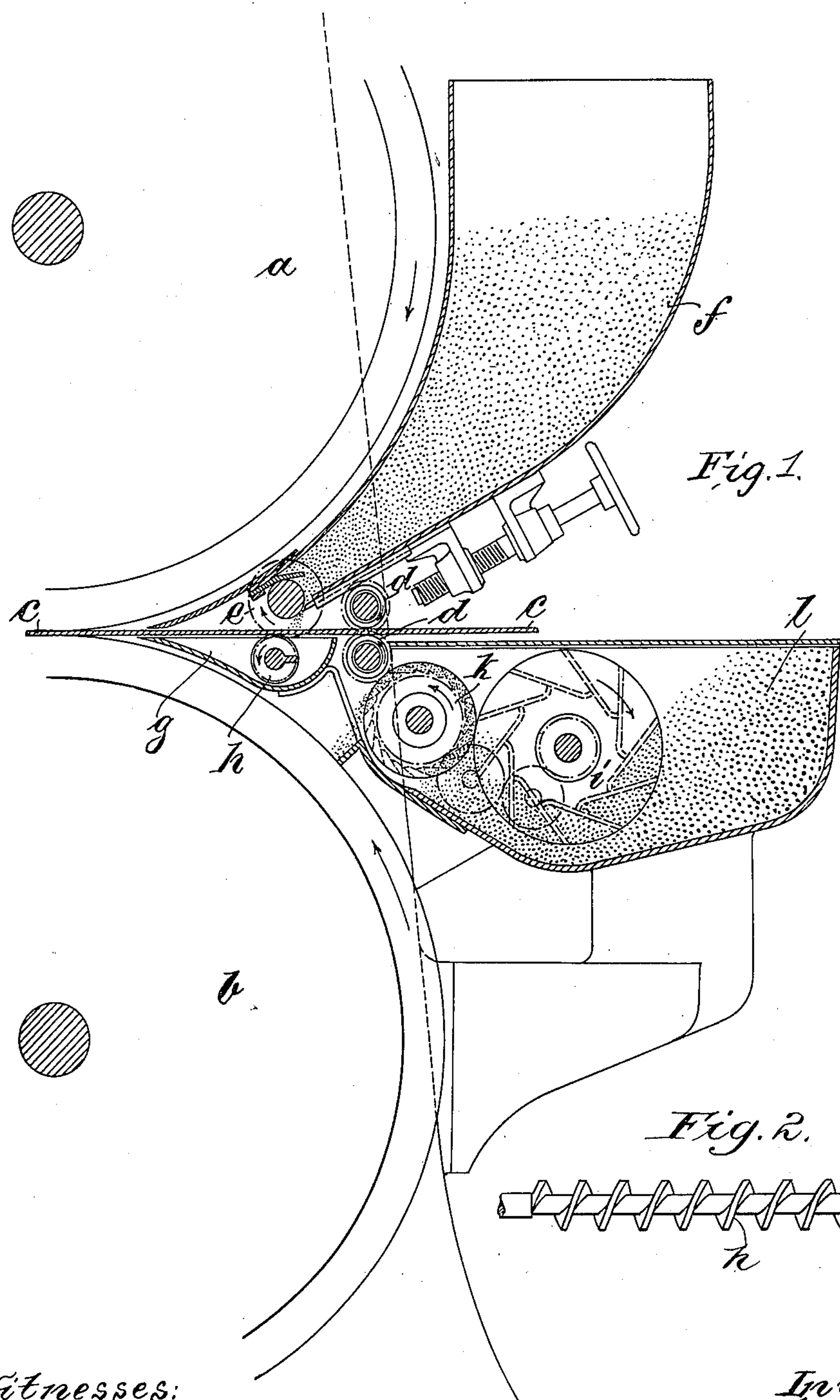
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C. WIESENER.

MACHINE FOR GRINDING OR POLISHING METAL ARTICLES.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR GRINDING OR POLISHING METAL ARTICLES.

SPECIFICATION forming part of Letters Patent No. 784,460, dated March 7, 1905.

Application filed May 6, 1904. Serial No. 206,733.

To all whom it may concern:

Be it known that I, CARL WIESENER, a subject of the King of Prussia, German Emperor, and a resident of 64 Birkerstrasse, Solingen, in the Province of the Rhine, German Empire, have invented certain new and useful Improvements in Machines for Grinding or Polishing Metal Articles, of which the following is an exact specification.

My invention relates to improvements in machines for grinding and polishing metal articles by the help of pulverulent grinding material, in which machines the articles to be treated are moved in a horizontal direction, thereby enabling them to be ground or polished on both sides at once. For this purpose the machine consists of two grinding-rollers arranged one above the other, the upper one of which receives the pulverulent grinding material through the medium of the articles to be ground, while a special feeding device is provided for the lower roller. In this mode of conveying the grinding material to the upper grinding-roller a portion of the grinding material to be placed on the articles to be ground falls past these latter, and when simultaneously grinding several articles it falls between them, and thus onto the periphery or surface of the lower grinding-roller. According to these improvements a receptacle for catching the falling material is arranged in the machine at the side where the articles are introduced between the plane of contact of both grinding-rollers and the lower roller, which receptacle, as it must necessarily be very flat in consequence of the small space available, is provided with a device for carrying off the material caught. This is necessary, as otherwise the grinding material falling between the articles to be treated would accumulate in strips on the lower grinding-roller and when thin articles are being treated would cause the rapid wear of the upper grinding-roller at the corresponding places. A special feeding device is provided for the lower grinding-roller, as it is of great importance that the whole periphery of this roller should be perfectly uniformly covered with grinding material. This feeding device consists of a scoop-roller and

of a feed-roller, the latter rotating in opposite direction to and about an axis parallel to the former and touching or at least approximately touching the periphery of the scoop-roller. This feed-roller carries the grinding material toward the scoop-roller and always keeps the space situated beneath the point of contact of the two rollers—*i. e.*, between the peripheries—filled, so that the scoop-roller always finds an equal layer or depth of material ready to be thrown onto the grinding-roller.

The new arrangement is shown in the accompanying drawings, in which—

Figure 1 is a part section and part end elevation of the improvements applied to a pair of rolls. Fig. 2 shows a conveyer.

The material to be treated—a sheet-metal plate *c*, for example—is held during the treatment by the rollers *a* and *b* by means of guiding-rollers *d*, conveniently arranged in front of and behind the superposed grinding-rollers *a* and *b*. The granulous or pulverulent grinding material is conveyed to the roller *a* from a receptacle *f* by means of a strewing or feed roller *e*, provided at the lower end of the receptacle. This strewing-roller allows the grinding material to fall onto the sheet-metal plate or plates *c*, so that upon the insertion of the plates between the rollers *a* and *b* it is transferred to the roller *a* and adheres to the soft and elastic covers of these rollers, which are usually made of leather, rubber, felt, or the like. The grinding material falling between the articles *c* to be treated does not thus fall onto the lower grinding-roller, but is caught by a receptacle *g* and conveyed from the latter to the side by a worm or conveyer *h*. The lower grinding-roller *b* is provided with grinding material by means of a scoop-roller *k*, which takes the grinding material from a receptacle *l*, in which another scoop-roller, *i*, is arranged in front of roller *k* for feeding the material to the said scoop-roller *k*. The scoop-roller *i* thereby always keeps filled the space situated beneath the point of contact of both rollers—*i. e.*, between their peripheries. Thus the scoop-roller takes the material from a constantly-equal layer or depth of material, and therefore also allows it to fall perfectly uni-

formly onto the whole periphery of the lower grinding-roller *b*, by which it is carried along.

Having thus fully described the nature of my invention, what I desire to secure by Letters Patent of the United States is—

1. In a grinding and polishing machine the combination of a hopper for the pulverulent material said hopper situated above the tangential plane passing between two grinding-rollers, a trough to receive the superfluous material from said hopper said trough being situated between said plane and the upper part of the lower grinding-roller and means for removing said material from said trough substantially as set forth.

2. In a grinding and polishing machine the combination of a hopper for containing the pulverulent material for the upper roller a trough to receive the superfluous material from said hopper, a conveyer for removing said material from said trough, a hopper for containing pulverulent material for the lower roller, and a revoluble scoop-roller in the last-

named hopper for feeding said material to said lower roller substantially as set forth. 45

3. In a grinding and polishing machine the combination of a hopper for containing the pulverulent material, for the upper roller, a trough to receive the superfluous material from said hopper, a conveyer for removing said material from said trough, a hopper for containing pulverulent material for the lower roller, a revoluble scoop-roller in the last-named hopper for feeding said material to said lower roller and an oppositely-revolving scoop-roller for maintaining constant the depth of material in which the first-named scoop-roller revolves substantially as set forth. 35

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 40

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Witnesses:

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