

No. 719,106.

PATENTED JAN. 27, 1903.

F. J. M. GERLAND.
VIGNETTING TOOL.

APPLICATION FILED JUNE 9, 1902.

NO MODEL.

Fig. 1.

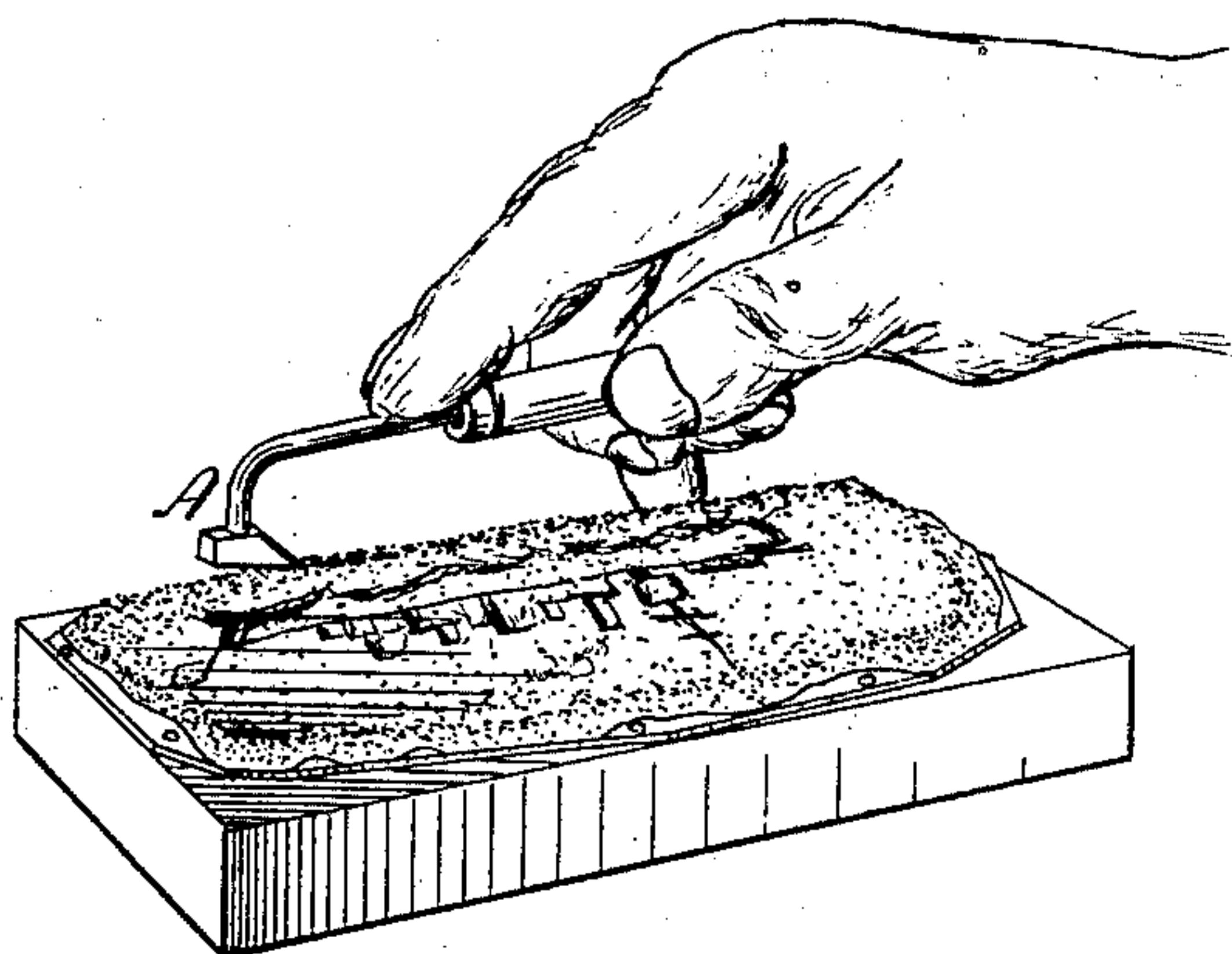


Fig. 2.

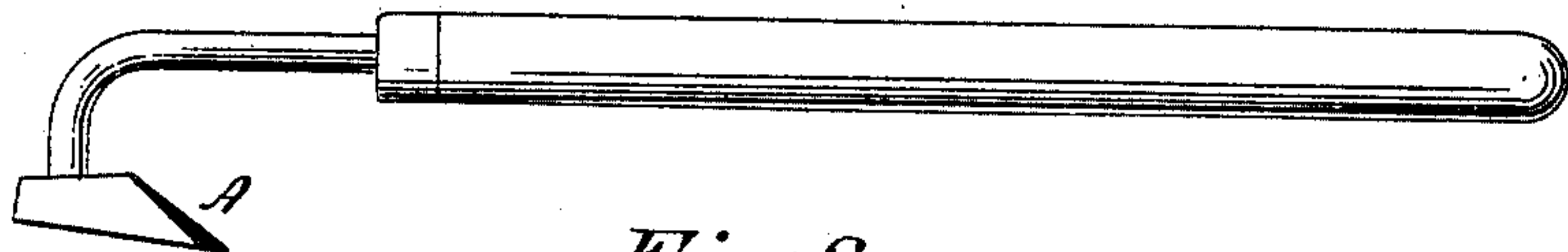


Fig. 3.

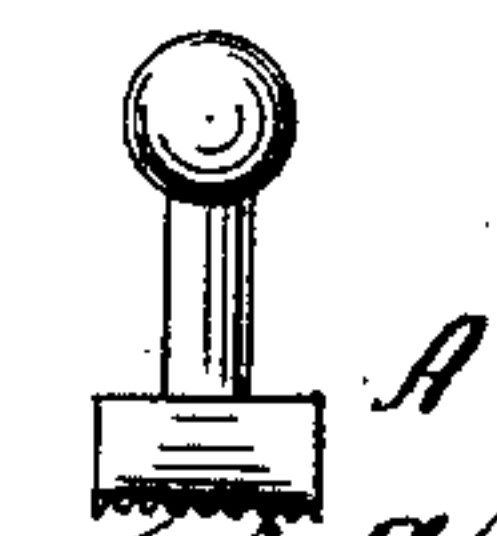
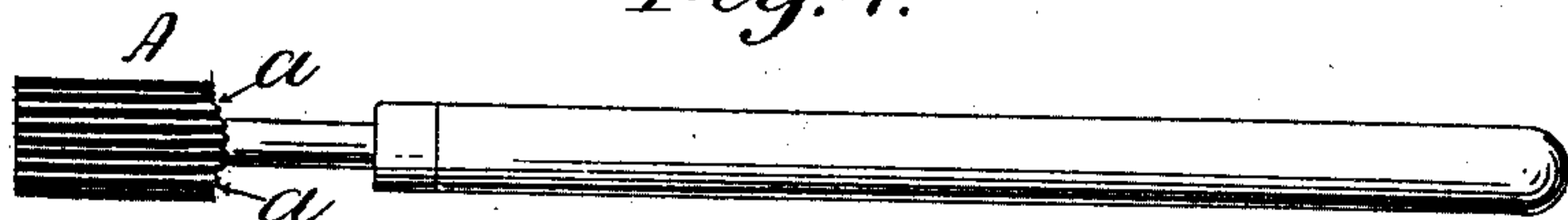


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDRICK J. M. GERLAND, OF EAST ORANGE, NEW JERSEY.

VIGNETTING-TOOL.

SPECIFICATION forming part of Letters Patent No. 719,106, dated January 27, 1903.

Application filed June 9, 1902. Serial No. 110,776. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK J. M. GERLAND, a citizen of the United States, residing at East Orange, Essex county, and State of New Jersey, have invented certain new and useful Improvements in Vignetting-Tools, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

While applicable for use as an incisive tool for producing designs or certain prescribed effects upon engraved metallic plates—that is to say, for use in the production of original engravings—my improved tool is designed more particularly for softening or vignetting the edges of engravings, cuts, half-tone plates, &c., to avoid abrupt harshness of edge outline in printing. This vignetting has heretofore been effected in a degree by the use of either a roulette, a hammer, or a punch formed with parallel ridges, which were used to break up the lines of the picture or design at the edges. Since, however, these devices simply disturb and displace the metal, they create an objectionable bur, which takes the ink in printing, and thus the result sought is only partially accomplished. Furthermore, the use of these implements tends to buckle or spring the plate on its block, owing to the metal under pressure, thereby causing the plate to print unevenly. The other method heretofore employed in vignetting the edges of such plates has been to go over such edges with a graver having a plurality of cutting-points; but this is comparatively slow work and can only be done by a professional engraver or skilled workman.

The main object of my invention is to afford an implement that can be used not only by the skilled engraver, but also by the printer or unskilled workman, so that it shall be available in “making ready,” even after the blocked plate is locked in the printer’s form and on the press.

The invention consists, essentially, of a block having on one face a plurality of parallel longitudinal ridges, the end of the block being cut at an angle to form a plurality of cutting-points at the end of said ridges, and a handle extending from said block and beyond its cutting-points, so that the device may be used

literally as a rake to remove superfluous metal from the edges of a plate in contradistinction to the old methods of compressing the metal by roulette, hammer, or punch or by plowing out the metal by means of an ordinary graver having a plurality of cutting-points.

In the accompanying drawings, Figure 1 is a perspective view illustrating the use of my improved implement in toning down or reducing the edges of a half-tone printing-plate. Fig. 2 is a side elevation of the tool, and Fig. 3 a front view of same. Fig. 4 is a view of the under side of the cutter-rake head.

The steel rake or cutter head A is formed with a series of cutting-teeth *a a*, preferably, though not necessarily, equidistant and uniform in outline. The teeth are also preferably arranged in a convex curve, substantially as shown in Fig. 4, although this is not absolutely essential, since they may be arranged in a straight or even concave line, if desired, with substantially the same result. The advantage in arranging them convexly is that the corners of the tool are less likely to damage or injure the surface of the plate if the tool is carelessly handled, thus reducing the skill requisite in manipulation.

In use the cutting edge is applied to the edge of the plate to be reduced and drawn over the same a sufficient number of times to bevel it below the top or printing surface of the plate. By holding the tool inclined, as shown in Fig. 1, the cutting will be lightest toward the center of the plate and will not extend inward too far. By this means the worn or heavy printing edge of a half-tone or other vignettied plate may be quickly and effectively removed without even lifting the form in which it is included from the printing-press, thus conveniently accomplishing in a few minutes what would otherwise involve hours of labor not only in the use of a graver, but also in making ready. It is well known, for instance, that electrotypes are invariably more or less dishing or hollow in the center and that cuts in use sink in the middle, owing to the pressure to which they are subjected in the press. A pressman provided with my improved tool can readily remedy these defects without disturbing or removing the plate—a result impossible to attain with a graving-tool. Furthermore, the

difference between drawing the cutting-teeth
 over the surface to be reduced and of push-
 ing them through the metal, as with a graver,
 is found by actual experience to be of great
 5 practical importance. In any case the metal
 is necessarily plowed into deeply, making
 hard rigid lines, the pressure being exerted
 in the line of the graver and not being fully
 under control. In the other case the super-
 10 fluous metal is simply raked off, more or less,
 according to the pressure applied to the han-
 dle of the rake, which handle from its posi-
 tion in front of and above the cutting-teeth
 has a tendency to draw the latter up and out of
 15 the metal, a tendency which is counteracted
 by the downward pressure exerted through
 the handle by the operator. As a result it is
 found that much more delicate and desirable
 results may be attained, since the cutting-
 20 rake may be quickly and gently drawn over
 the edges of a plate a number of times, im-
 parting to it a soft mezzotint otherwise un-
 attainable without the expenditure of much
 time and labor. As compared with the
 25 grooved roulettes, hammer, or punch instead
 of jamming down and bruising the metal and
 causing it to spring or buckle my tool cuts

its way permanently, preventing bur and
 beveling the edges, so that it cannot possibly
 print up again, at the same time making a 30
 new series of lines or dots, giving quickly a
 very soft and delicate vignetted edge, requir-
 ing little or no "make-ready."

What I claim as my invention, and desire
 to secure by Letters Patent, is— 35

1. A vignetting-tool comprising a block
 having on one face a plurality of parallel lon-
 gitudinal ridges, the end of the block cut at
 an angle to form a plurality of cutting-points
 at the end of said ridges, and a handle ex- 40
 tending from said block and beyond said cut-
 ting-points as and for the purpose specified.

2. A vignetting-tool comprising a block
 having on one face a plurality of parallel lon-
 gitudinal ridges, the end of the block cut at 45
 an angle to form a plurality of cutting-points
 at the end of said ridges, and a handle ex-
 tending from said block substantially parallel
 to said ridges and above and beyond the said
 cutting-points and in front of the same.

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Witnesses:

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 GEO. WM. MIATT.