

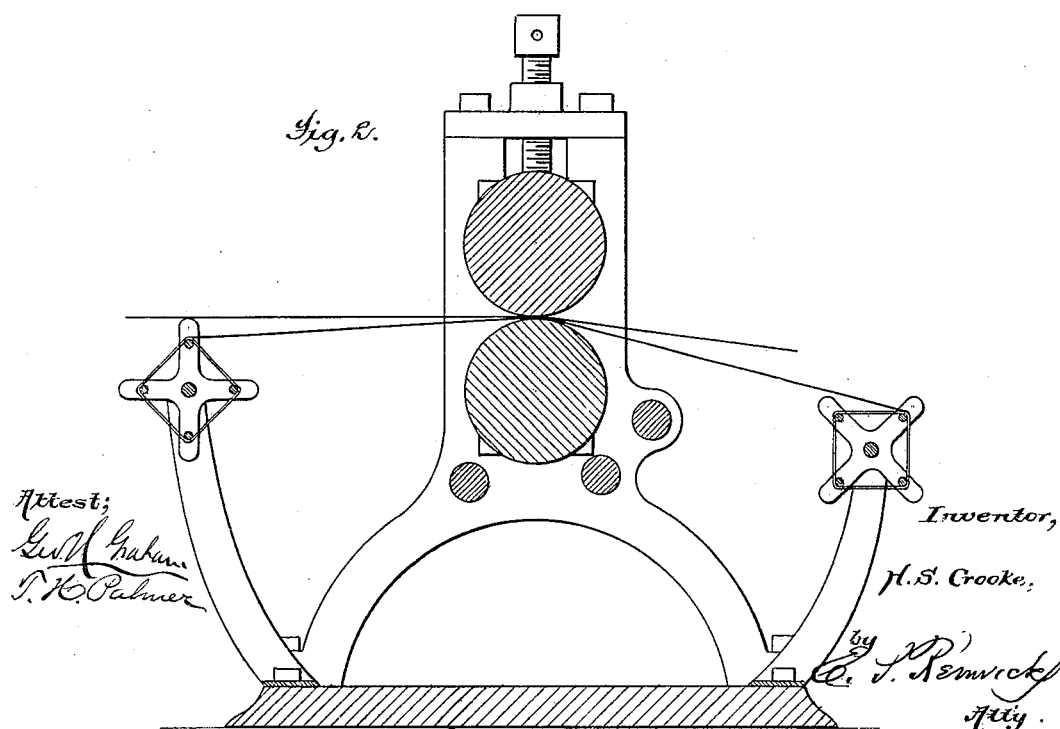
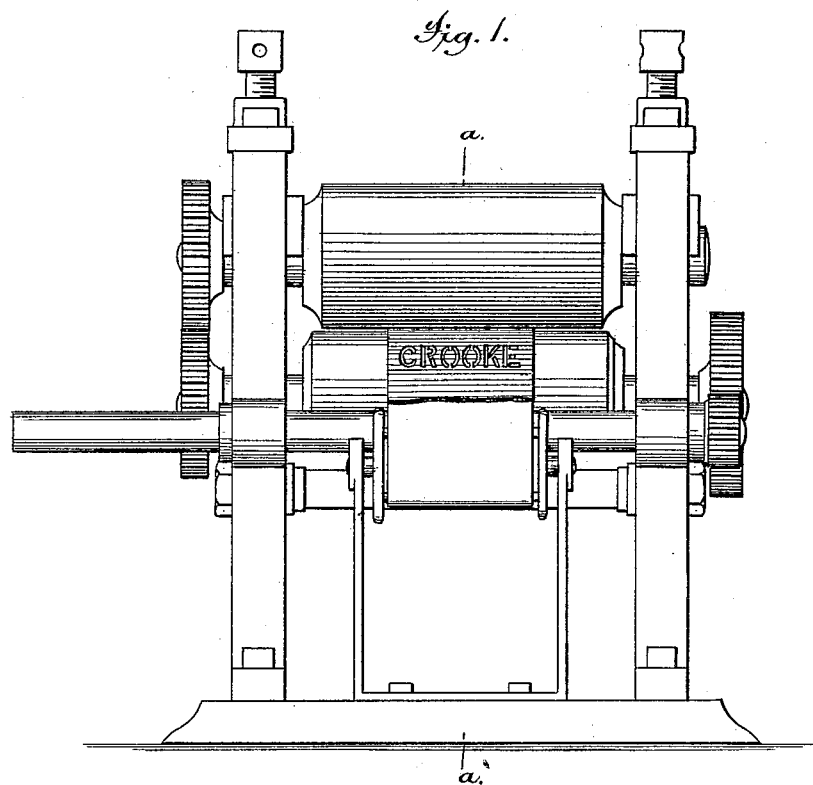
(No Model.)

3 Sheets—Sheet 1.

H. S. CROOKE.  
ART OF AND MACHINERY FOR THE MANUFACTURING OF ORNAMENTAL  
METALLIC FOIL WRAPPERS.

No. 263,320.

Patented Aug. 29, 1882.



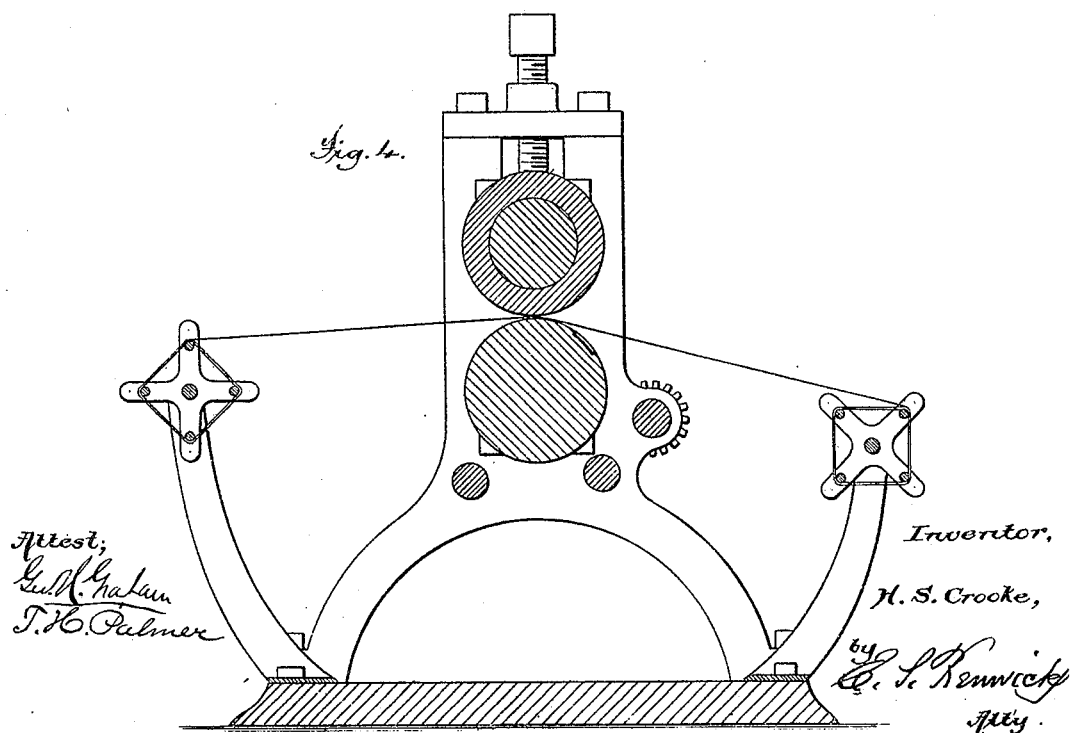
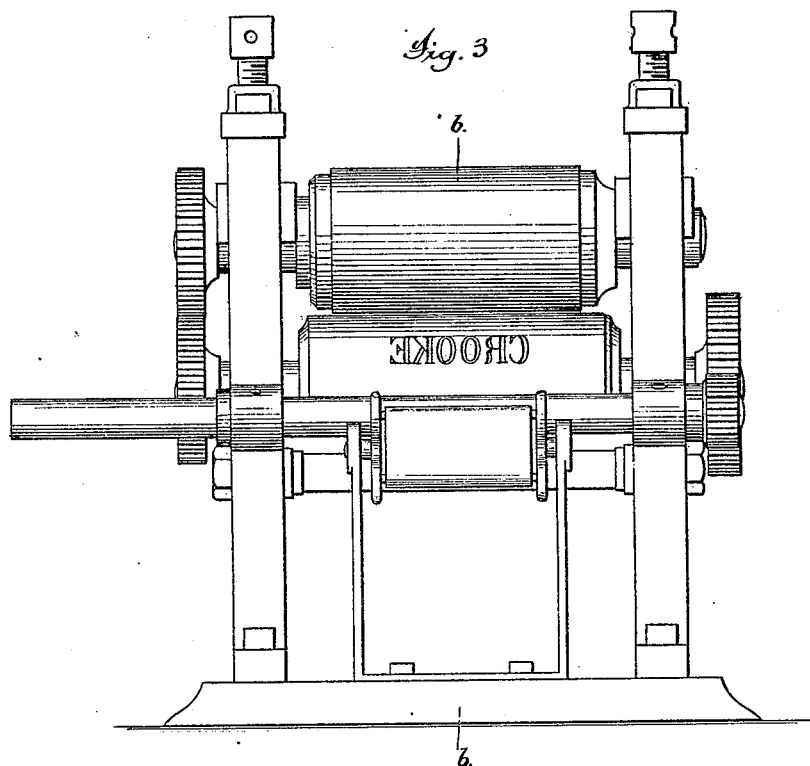
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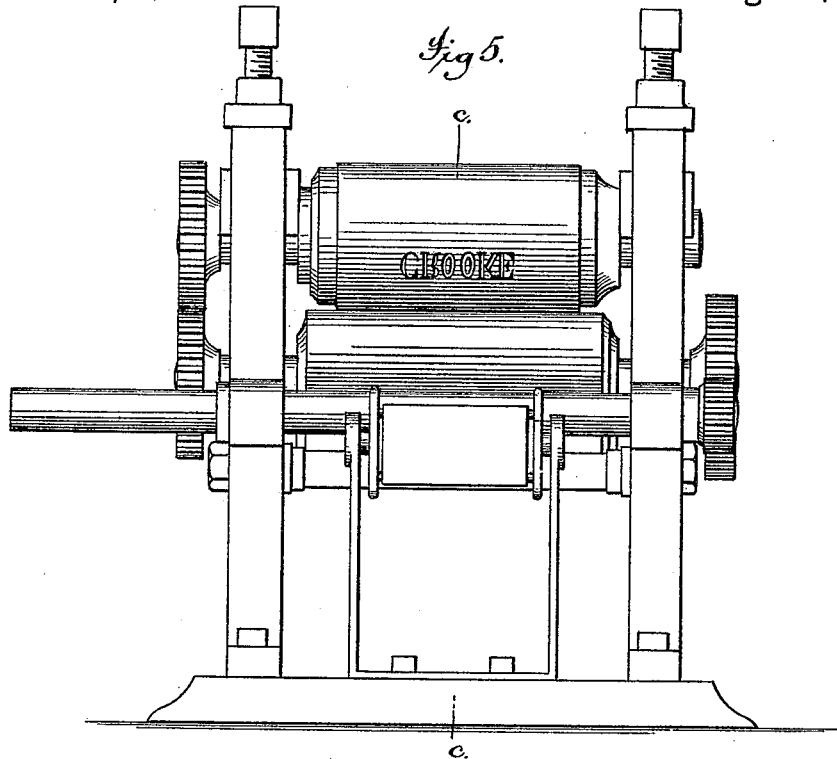
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H. S. CROOKE.

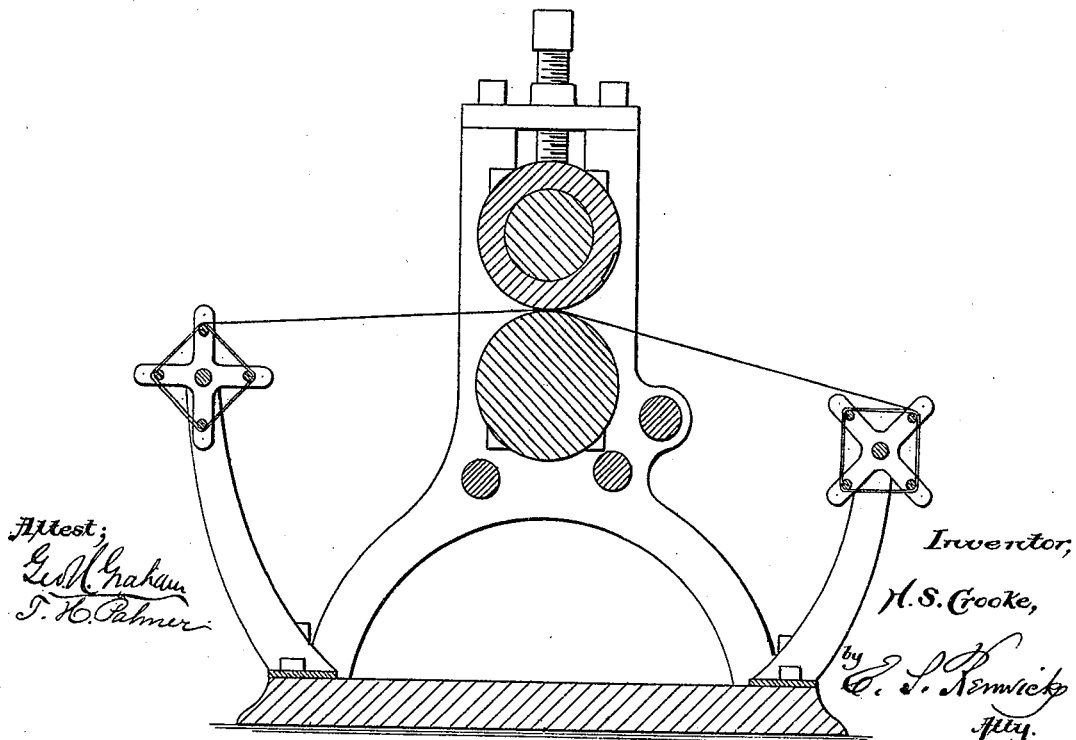
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*Fig. 6.*



*Attest;*  
*Geo. Graham*  
*J. H. Palmer*

*Inventor,*

*H. S. Crooke,*

*by C. L. Remick*  
*Atty.*

# UNITED STATES PATENT OFFICE

HENRY S. CROOKE, OF NEW YORK, N. Y.

ART OF AND MACHINERY FOR THE MANUFACTURING OF ORNAMENTAL METALLIC-FOIL WRAPPERS.

SPECIFICATION forming part of Letters Patent No. 263,320, dated August 29, 1882.

Application filed June 25, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY SUYDAM CROOKE, of the city, county, and State of New York, have made an invention or discovery of an improvement in the Art of and Machinery for the Manufacturing of Ornamental Metallic-Foil Wrappers; and I do hereby declare the following to be a full, clear, and exact description of the same.

10 The object of my invention is to produce a new article of manufacture, consisting of tin-foil wrappers having burnished letters, words, marks, figures, or designs on a roughened or silvery-white ground, or the reverse, and thus rendered visible and distinct by reason of the contrast with the ground; and my invention consists in the method of and in machinery for producing the same, as will be hereinafter fully described and claimed.

20 In the drawings accompanying this specification, Figure 1 is an end elevation of one form of machine for practicing my invention; and Fig. 2 is a vertical longitudinal section of the same on the line *a a*, Fig. 1, these views showing in substance two smooth rollers properly journaled in a suitable frame, the tin-foil being represented as passing between them from one reel with a sheet of paper, having the word "Crooke" cut out of the same, placed on the top side of the tin-foil, the latter, after passing between the rolls, being wound upon another reel. Fig. 3 is an end elevation of another form of machine for practicing my invention; and Fig. 4 is a vertical section of the same on the line *b b*, Fig. 3, these views showing two rollers properly journaled in a suitable frame, the lower one of which rollers is of metal, with the word "Crooke" cut thereon, and the upper one made with a metal shaft, surrounded by paper, as will be hereinafter fully described, the foil being shown as running from one reel, passing between the rollers, and onto another reel. Fig. 5 is an end elevation, and Fig. 6 a vertical section taken on line *c c*, Fig. 5, showing a modification of the machine shown in Figs. 3 and 4, the lower roller being of metal, and striated or roughened, the upper roller being made with a metal shaft, surrounded by a body of paper, in the surface of which latter is sunk the word "Crooke," the tin-foil being

shown as running from one reel, passing between said rollers and onto the other reel.

In carrying out my invention or discovery I use tin-foil, preferably made from tin with lead and its alloys, and reduced to the condition of foil by the customary means and processes employed in the manufacture of rolled burnished tin foil, which means and processes, being well understood, need not be described, the surface of the foil being preferably commercially pure tin, while the body or core is of lead, or an alloy of tin and lead, the surfaces being welded together in the process of rolling.

According to one method of practicing my invention or discovery I pass the burnished tin-foil between two smooth rollers, a sheet of good Manila paper from which portions are cut out corresponding with the parts of the tin-foil which are to be left bright or burnished being placed on one side of the tin-foil, as clearly shown in Figs. 1 and 2 of the drawings, whereby the latter has imparted to it, where the paper comes in contact with it, a roughened, matted, or silvery-white surface or ground, those portions of the foil against the correspondingly cut-away parts of the paper remaining bright like ordinary burnished tin-foil. The two rollers above described are pressed together with the requisite force for this purpose by any suitable means.

According to another method of practicing my invention or discovery I pass the burnished tin-foil between a pair of hard rollers, the surface of one of which is smooth, while that of the other is striated, etched, or matted, and in which surface is or are sunk, by cutting, punching, or engraving, any desired letter or letters, word or words, figure or figures, mark or marks, design or designs the counterpart of that to be produced burnished or bright on the surface of the tin-foil. The tin-foil issuing from between these rollers will have its surface acted upon by the striated, etched, or matted surface of one of the rollers a roughened, matted, or silvery-white one, while those portions of the tin-foil that correspond with the sunken, etched, cut, punched, or engraved letter or letters, word or words, mark or marks, figure or figures, design or de-

signs will be bright or burnished. The two rollers are pressed together with the requisite force necessary to produce the effect above described by any suitable means, and are so arranged that when no tin-foil is between them they are separated, so as not to come in contact with each other and destroy the roughened surface of one of them.

According to another method of practicing my invention or discovery, I pass the burnished tin-foil between two rollers. In the surface of one of these rollers, preferably of hardened steel, is or are sunk, by cutting, punching or engraving, any desired letter or letters, word or words, figure or figures, mark or marks, design or designs the counterpart of that to be produced burnished or bright on the surface of the tin-foil, and the rest of the surface of which roller is striated or roughened by cutting or engraving thereon a fine grained or lined pattern or design the counterpart of that to be produced upon the ground or surface of the tin-foil that is not to be left bright or burnished, said roller being kept dry. The other of these rollers is slightly yielding or elastic, having a metal shaft surrounded by a body of paper or other suitable slightly elastic or yielding material, and is preferably kept moist, so that the tin-foil will be pressed by the striated surface of the harder roller into the same, as clearly shown in Figs. 3 and 4 of the drawings. The tin-foil issuing from between these rollers will have upon its surface the projections and indentations of the pattern or design upon the roller, being a silvery-white surface, while those portions of the tin-foil that correspond with the sunken, cut, punched, or engraved letter or letters, word or words, figure or figures, mark or marks, design or designs, will be bright or burnished. The two rollers are pressed together with the requisite force necessary to produce the result above described by any suitable means.

The slightly yielding or elastic roller above described may be kept dry in use; but in such case the result will not be so perfect. When the slightly yielding or elastic roller is kept dry it is obvious that the desired letter or letters, word or words, figure or figures, mark or marks, design or designs the counterpart of that to be produced burnished or bright on the surface of the foil may be sunken in the surface of said yielding roller by either cutting, punching, or engraving, as clearly shown

in Figs. 5 and 6 of the drawings, instead of in the surface of the metal roller, which in such case will have its surface striated by cutting or engraving with a fine grained or lined pattern or design, as above described, but without the letter or letters, word or words, figure or figures, mark or marks, design or designs being cut, sunk, or engraved in it.

It is obvious that the ground of the surface of the tin-foil may remain bright or burnished while the letter or letters, word or words, figure or figures, mark or marks, design or designs may have a silvery-white surface the reverse of that just described. To produce this result the cut or sunken portions of the surface of the metal rollers above described corresponding with the desired letter or letters, word or words, figure or figures, mark or marks, design or designs will be left in relief, the surface in relief being striated by cutting, etching, or engraving, as above described, the rest of the surface of the said roller being sunken or cut away.

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

1. The method of ornamenting or lettering metallic foil consisting in whitening portions of the surface of the foil, the remainder of the surface in the form of letters, figures, or other characters being left smooth and bright, or the reverse, and thus rendered visible and distinct by reason of the contrast with the surrounding groundwork, substantially as described.

2. The combination of a roller having a striated or roughened surface, with a roller in the surface of which are sunken devices in forms of letters, figures, or other characters, substantially as described.

3. The combination, with a metallic roller having a striated or roughened surface, as described, of a slightly yielding or elastic roller, as of paper, in the surface of which are sunken devices in the form of letters, figures, or other characters, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY SUYDAM CROOKE.

Witnesses:

GEO. H. GRAHAM,  
T. H. PALMER.