

C. N. Morris.

Printing

N^o 50612.

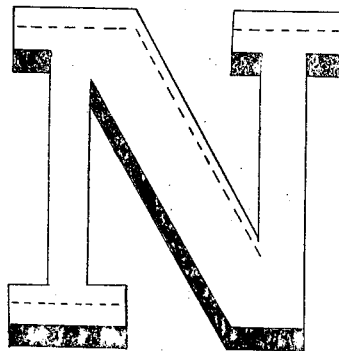
Patented Oct. 24. 1865.
Fig 1.

Chas. N. Morris & Co.
MERCHANTS
Steam Printing Works,
CINCINNATI.

Fig. 2.

Chas. N. Morris & Co.
MERCHANTS
Steam Printing Works,
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Fig. 3.



Witnesses.

R. T. Campbell
E. Schaefer

Inventor.

Charles N. Morris
by his Atty.
Mason, Runkle & Spence

UNITED STATES PATENT OFFICE.

CHARLES N. MORRIS, OF CINCINNATI, OHIO.

IMPROVEMENT IN PRINTING.

Specification forming part of Letters Patent No. **50,612**, dated October 24, 1865; antedated April 24, 1865.

To all whom it may concern:

Be it known that I, CHARLES N. MORRIS, of Cincinnati, county of Hamilton, State of Ohio, have invented a new and useful Improvement in Printing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which the three figures represent my mode of printing business-cards with shaded letters.

This invention relates particularly to the printing of cards, bill-heads, circulars, fancy show-cards, &c.

The object of my improvement or invention is to produce lines of shaded metallic letters or characters of varying sizes by means of a single form of types in such manner that each letter or character will have the appearance of standing out in bold relief from the surface upon which it is printed, as will be hereinafter described.

To enable others skilled in the art to fully understand my invention, I will proceed to describe it.

I make one, two, three, four, or more impressions from the same form of types. The first impression being made, the form of types, or, what is preferable, the printed card, is moved very slightly, so that the first impression will be more or less exposed beyond the bottom of the second impression when made, and so continue this slight alteration of the position of the card until all the impressions intended are made.

To give the exact movement to varying sizes of types or lines on a card, &c., I insert different thicknesses of spaces between each of the lines—viz., thick and thin leads, thick and thin cards, thick and thin paper—so that each line can be moved up or down correctly to produce the proper shade to both large and small letters without the trouble of inserting entirely new spaces.

For a single shade (or where there are two impressions) any deep or full color is preferred, so as to produce a contrast with the covering of gold-leaf, bronze, or other lustrous metal, and when three or more impressions are required the palest tint or color should be printed first, and the other impressions to grow stronger and stronger until all the colors are made.

Then comes the last impression, and as a substitute for the printing-inks commonly used I make this last impression by means of a stiff sizing, which answers the several purposes of causing the inks beneath it to hold firmly to the surface of card, prevents the printing-inks from penetrating and dimming the luster of the metal covering, as well as being intended to receive the covering of metal itself.

The bronze-powder is applied to the sizing either with a small pad made of raw cotton or a piece of beaver-fur attached to a small block of wood, forming a sort of soft brush; and, instead of rubbing the powder on at right angles, I apply the bronze in a circular motion with a light pressure. A rapid passage of the brush or pad at right angles would cause the bronze to stick in ragged spots to the inks intended for the shades, for the reason that the inks become neutralized, by the appearance of the varnish and oil in the ink to the surface, and when perfectly dry will easily rub off from the card.

The inks should be dry before applying bronze, &c.

The gold-leaf and other similar metal are applied as follows: The impression with the sizing being made upon the card, the card is then turned face downward upon the gold-leaf as it remains in the book, pressing it beneath the fingers enough to cause the leaf to adhere to the letters. Before the sizing has become dry the letters are examined to see that no flaws have occurred in the leaf. The leaf is then lightly swept off by a cotton pad, producing perfectly smooth edges to all the various lines. I can also improve the polish of gold-leaf and bronze letters in this mode of using stiff sizing by making an additional impression upon the gilded letters from the same form of types, the face of the letters being thoroughly cleansed and polished with the hand; also, another way of improving the surface of both the card and the letters, of passing the printed card through or between highly-polished steel rollers.

As before stated, I use a stiff size instead of printing-ink to receive the gold covering, for the reasons that when inks are used for sizing they do not have the strength to sustain a gold covering and that they contain no size

whatever, and also require all their parts to sustain themselves upon a highly-polished enameled surface. When gold-leaf or bronze is applied to printing-inks the surface will assume a dead and dull appearance in a very short time. The letters, therefore, are not permanent, and you have a bad job.

The advantages of this new improvement consist in the ease with which the youngest printer can compose a card, &c., for the reason that it does not require the same taste in composing any of the cards, &c., of the one-color style. This is explained from the simple fact that all the characters or types I use are those which are perfectly free from ornamentation or thin lines, the type generally being as much of the same series as is possible to introduce. Six or eight fonts of this kind of types are all that is necessary to compose any number of cards or forms, and these plain heavy styles always costing much less than any other kinds used for plain business-cards and the like, besides being capable of resisting to a much greater extent the hard impressions to which they are subject. The youngest student of the art can, upon once being shown, proceed as well with the press-work as with the composition, and do the work as well as more masterly workmen; also, the advantage of printing with a stiff size instead of printing-ink between the ink-letters and the gold covering, and of such a consistency that a heavier coating of bronze can be received by it, (the size,) preventing the least blending or striking through of the inks beneath, completely and permanently covering, and the luster is always preserved. At the same time they (the cards, &c.) can be printed as rapidly as any plain job can be exe-

cuted on the same press; also, the advantage of overcoming the great prejudice of the mercantile community against business-cards where bronze alone has been used on the face of the cards without any shading beneath to give the letters relief and strength. The most important advantage of all, however, is the mode of introducing the spaces between the lines of type—being of different thicknesses, such as thick and thin leads, thick and thin cards, and thick and thin paper—so that the movement of the lines to produce the proper shade to both large and small type can easily be regulated to a hair, which obviates the difficulty of inserting between the lines new spaces in the place of those already inserted.

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

1. Producing lines of shaded metallic letters or other characters of varying sizes on cards and other advertising matter, substantially as described.

2. Shading all the lines on a card or other advertising matter, or the majority of said lines, when the metallic covering, sizing, and the shades are applied substantially as herein described.

3. The process herein-described of making the impression which succeeds the ink-impression and precedes the metallic impression or covering with a stiff size, in combination with the other steps of the process herein given, all for the purpose set forth.

CHARLES N. MORRIS.

Witnesses:

MARSHALL H. ALDRICH,
SAM'L. WYDMAN.