

UNITED STATES PATENT OFFICE.

JOHN CARSON, OF BROOKLYN, NEW YORK.

DUPLEX BRONZING AND EMBOSSED PROCESS.

SPECIFICATION forming part of Letters Patent No. 301,672, dated July 8, 1884.

Application filed February 2, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN CARSON, a citizen of the United States, and a resident of Brooklyn, county of Kings, State of New York, have
5 invented a certain new and Improved Duplex Bronzing and Embossing Process, of which the following is a specification.

This invention relates to the art of bronze embossing; and it consists of a new method of
10 producing such work whereby perfect effects are obtained in a simple manner and at a low cost. This I accomplish by making use of two qualities of size and applying the bronze or dry color to the paper, &c., at the time and
15 during the process of embossing the same; and the invention embraces, in combination with the process of embossing and bronzing at one operation, bronzing on the flat surface of the paper, &c. The size for the flat bronzing is
20 laid by the surface type or die which lays the size for the embossed portion of the die.

The first part of my new process consists in printing on the part of the paper, &c., to be
25 embossed an ordinary oil or varnish size by means of a surface-type or relief-die corresponding in form to the contour of the embossing-die.

The second part consists in applying to the embossing-die a water-size having little adhe-
30 siveness in comparison with that of the oil or varnish size, then applying the bronze or dry color to said die, and wiping off the surplus water-size and bronze or dry color from the flat surface thereof, leaving the bronze or dry
35 color in the intaglio, and completing the process by embossing the part of the paper, &c., on which the oil or varnish size is printed before the same becomes dry. The said oil or varnish size takes out of the embossing-die all
40 the bronze or dry color at the time the surface of the sized paper comes in contact with the intaglio surface of the die, by reason of the oil or varnish size on the paper having more ad-
45 hesiveness than the water-size on the die. By this means the whole of the embossed surface of the paper, &c., is covered with the bronze or dry color, and all danger of breaks or cracks in the bronzed surface is avoided, which im-
50 perfections often occur in this class of work done by the ordinary process, in which the bronze is applied first to the paper and the

embossing afterward performed. This old process limits the amount of relief which can be given to the paper, whereas by my new process any amount of relief the paper, &c., will
55 stand may be given to it without any fear of imperfections in the bronzed or colored surface. Besides, the bronze or dry color has a much better effect applied to the paper as it is embossed than when it is applied thereto
60 before the embossing process; and should any of the size on the paper extend beyond the outline of the embossing-die none of the bronze or dry color adheres to this part of the size, and I generally endeavor to use a size the color
65 of the tint of the paper, so that any imperfections of register are not seen.

When I combine flat bronzing or coloring with the embossed bronzing or coloring process, the size for the flat bronzing or coloring
70 is printed on the paper by the surface type or die, and the bronze or dry color applied in the ordinary way to said flat-sized surfaces after the raised portions of the design are bronzed and embossed, as before described.
75 Two or more colors may thus be used in one design, and, if desired, colors may be printed on the paper, &c., before the oil or varnish size is applied thereto, to form parts of the general design, so as to produce varied and
80 pleasing effects, it being understood that such color or colors printed or parts to be bronzed in the flat are not acted on by the embossing-die.

A great advantage of my new process is the
85 speed at which this class of work in its most perfect form may be executed, as the printing of the oil or varnish size on the paper, &c., is done on an ordinary printing-press, and the bronze-embossing process performed while
90 this part of the process progresses, before the oil or varnish size sets on the paper, so that the various operations of the complete process are performed simultaneously, enabling a job to be run off with great facility.
95

In some cases I have used simply water in the die, as all that is necessary is to cause the bronze or dry color to adhere to the die sufficiently long to enable the embossing process to be performed. Any suitable sizes may be
100 used on the paper and die, the only necessary conditions being that the size applied to the

paper shall be more adhesive than that applied to the die, so that the paper-size shall take all the bronze or dry color from the die-size.

5 Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The improved process of bronze embossing which consists in printing on the paper
10 in a size by means of a surface die or type then embossing and bronzing said sized surface at one and the same operation by means of an embossing-die in which the bronze or dry color is held by a size of less adhesiveness
15 than the size on the paper, substantially as set forth.

2. As an improvement in the art of bronzing

ing and embossing, printing the design on the paper in a size by means of a surface type or die, then embossing and bronzing a portion of
20 the design by means of an embossing-die in which the bronze or dry color is held by a size of less adhesiveness than the size on the paper, and completing the process by applying bronze or dry color to the remainder of the design in the flat, substantially as set forth. 25

In testimony whereof I have hereunto set my hand, at New York, county and State of New York, this 29th day of January, A. D. 1884.

JOHN CARSON.

Witnesses:

PHALEN Z. L. MARTIN,
THOS. McMULLEN.