

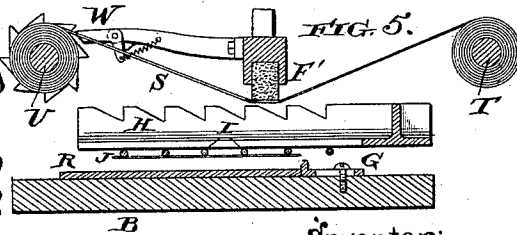
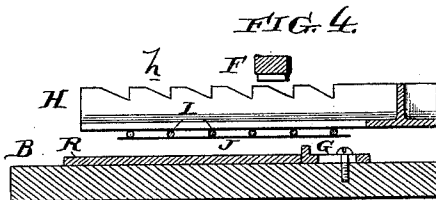
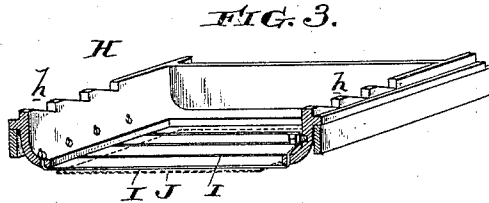
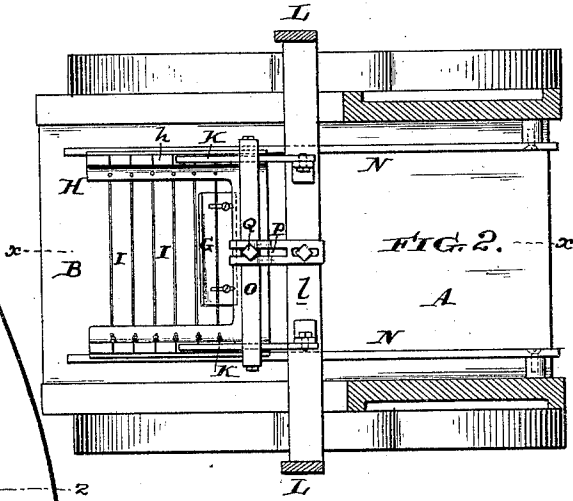
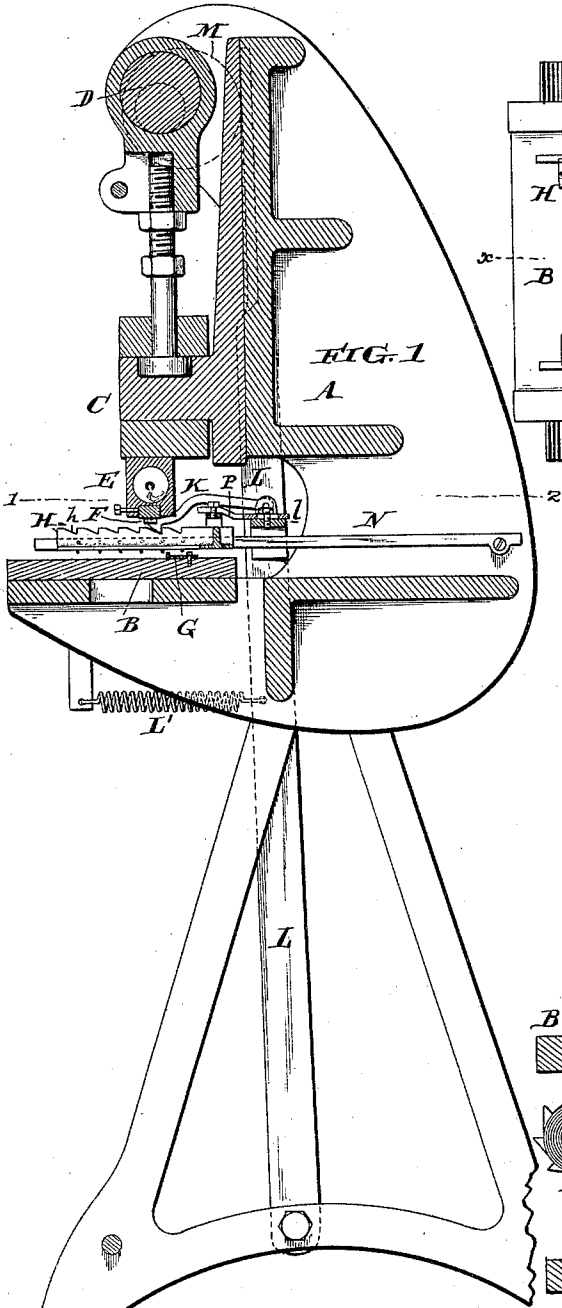
(No Model.)

C. A. WRIGHT.

MACHINE FOR APPLYING METALLIC LEAF TO CARDS OR SIMILAR ARTICLES.

No. 461,861.

Patented Oct. 27, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE

CHARLES A. WRIGHT, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR APPLYING METALLIC LEAF TO CARDS OR SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 461,861, dated October 27, 1891.

Application filed April 3, 1891. Serial No. 387,474. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WRIGHT, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Machines for Applying Metallic Leaf to Cards or Similar Articles, of which the following is a specification.

My invention has reference to machines for applying metallic leaf to cards and similar articles; and it consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a machine which shall operate quickly and positively for applying gold or other leaf to cards or other articles. Heretofore it has been the custom to cut the gold or metal in small strips and apply it to the card or other material by hand either when working on the hot-press system or the system that requires the card or material to have the size printed on and the gold or other metal applied and then embossed in a subsequent operation. In carrying on these processes in the manufacture of cards for photographs and other purposes great loss has been experienced from three causes—to wit, loss of time in labor, loss of material, and needlessly large consumption of material for the particular operation.

The object of my invention is to overcome these defects, and in accomplishing this I employ a machine which is automatic in delivering the gold or other leaf to a position to be acted upon by the dies or pressure-applying devices in attaching the leaf to the card or other article. In place of handling the gold-leaf by hand, as has heretofore been the case, I employ frames having stretched across them wires, cords, or strands of any suitable material, arranged at intervals apart, and which directly or through the application of a size are adapted to adhere to the gold-leaf when pressed upon it. This frame, with the leaf, is then placed in the machine and passed between the impression device or dies and the platen or support for the card or article to be gilded. It is moved under the impression device or dies after each operation, and this movement may either be by hand or by automatic devices, the latter being preferable.

In carrying out my invention I may either apply a dry size to the card and press the gold-leaf upon it by a hot metallic die or I may imprint upon the card the name or design in a size and then press the gold-leaf upon the said impression by means of suitable pressure devices, or the gold-leaf may be impressed directly upon the card without size.

My invention will be more readily understood by an examination of the accompanying drawings, in which—

Figure 1 is a vertical section of a machine embodying my invention, taken on line *xx* of Fig. 2. Fig. 2 is a sectional plan view of same, taken on line 1 2 of Fig. 1. Fig. 3 is a perspective view of one of the gold-leaf-holding frames and its supporting-guides, with a portion broken away at the front. Fig. 4 is an enlarged view of a portion of Fig. 1, and Fig. 5 is a similar view of Fig. 4 of a modification.

A is the main frame of the press.

B is the platen.

C is the reciprocating head for carrying the die or pressure device F, and is reciprocated by an eccentric D. When the pressure device F is of metal and designed to impart a heavy pressure, it may be heated by means of a hollow support E, in which a gas-jet burns in the well-known manner in use in embossing-presses.

N are guides or rails upon which the frame H is adapted to slide. These rails are so arranged that a series of these slides may successively follow one after the other, they being placed upon the guides or rails in the front of the machine and removed at the rear. The frames H are made U-shaped in plan view, having lateral projections at the top, upon its sides resting upon the guides or rails, and also with notches or ratchet-teeth *h*, corresponding in number to a series of parallel stretched wires, cords, or strands I, stretched transversely across the lower part of the frame H.

The frame H is intermittently moved from the front to the rear a distance corresponding to the distance between two adjacent transverse wires or cords I after each impression of the die F, and this movement is performed by reciprocating pawls K, hinged to a transverse bar *l*, connected to pivoted levers

L, which are oscillated by means of an eccentric M and spring L'. The frame l is guided by means of a slotted bar P, extending forward and having a screw Q secured to a cross-frame O and extending through the slot of the bar P. (Best shown in Fig. 2.) This prevents the pawls K from slipping off the ratchet-teeth h of the frame H.

G is a guide arranged upon the platen B, and against which the card R is placed to bring it in proper position to receive the gold-leaf. Any suitable form of guide may be employed to correspond and properly adjust the article to be gilded.

J represents the gold-leaf, which adheres to the under side of the transverse wires, cords, &c., of the frame H.

In the operation of the machine the die F is reciprocated, and in descending presses the gold-leaf supported between two of the transverse cords or wires I down upon the sized surface of the card R, resting upon the platen with a pressure sufficient to impress the design or type upon the surface of the card and at the same time impart a highly-finished and lustrous effect to the gold. The transverse wires or cords I are arranged at a distance apart just sufficient for the operation of the die or impression device F, so that no gold-leaf is wasted. As the impression-die ascends the eccentric M moves the lever I and through the action of the pawls K draws the frame H backward a distance corresponding to one of the teeth h and brings the die in position to act upon the gold-leaf supported between the next pair of cords or wires, and so on. As the die descends the pawl K is moved forward into the next ratchet-teeth, and as the die ascends the said pawl draws the frame H back. In this manner the machine is automatic and delivers the gold-leaf in a positive, accurate, and quick manner into position to be applied to the card or other article to be gilded. As one frame H passes beneath the die another frame, with gold-leaf applied, is immediately placed upon the rails or guides N and is automatically delivered through the machine, as in the case of the previous one. The bottom of the frame H is so arranged so that the cords or wires I may be pressed directly upon a sheet of gold-leaf and be made to adhere thereto, so as to support it in the proper position in the machine. This construction obviates the necessity for cutting the gold-leaf by a knife or in anywise handling it, as was heretofore necessary.

While in practice it is preferable to employ a dry size upon the cards and impress the gold-leaf upon the card by means of a heated metallic die, yet in lieu thereof the size may be printed upon the card and then the gold-leaf applied thereto by the employment of the modification shown in Fig. 5, or the size may be dispensed with altogether. In the case of the modification, in place of the hand metallic die F an impression F', of rubber or other material, is placed in the machine and

presses the gold-leaf J down upon the card, causing it to adhere to those portions of the card that had been previously printed with the size. To present a constantly-fresh surface to the gold-leaf, a tape of paper S may be supported upon two rollers F and U, one of which is provided with ratchet-teeth and through the said ratchet-teeth and a spring-pawl W, carried with the impression-die F, is made to intermittently rotate during the upstroke of the die. By this means the die or impression device F' does not become coated upon the under surface with gold-leaf.

I do not confine myself to the mere details of construction of the devices herein set out, as it is evident that they may be modified in various ways without departing from the principles of my invention.

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

1. In a machine for applying metallic leaf, the combination of a support for the article to be treated, a reciprocating impression device or die, and a movable holder for the metallic leaf, arranged between the support for the article to be treated and the pressure device or die.

2. In a machine for applying metallic leaf, the combination of a support for the article to be treated, a reciprocating impression device or die, a movable holder for the metallic leaf, arranged between the support for the article to be treated and the pressure device or die, and means to move the said leaf-holder intermittently upon each reciprocation of the impression device or die.

3. In a machine for applying metallic leaf, the combination of a support for the article to be treated, a reciprocating impression device or die, and a movable holder for the metallic leaf, arranged between the support for the article to be treated and the pressure device or die, consisting of a frame made open in the center and provided with transverse wires, cords, or other strands for supporting the metallic leaf.

4. In a machine for applying metallic leaf to cards and other articles, the combination of a support for the card or other article, a reciprocating impression device for pressing the leaf upon the card or other article, guides or rails arranged transversely to the movement of the pressure device, and a leaf-support guided upon the guides or rails between the impression device and support for the card or other article, and consisting of an open frame provided with transverse cords, wires, or other strands for supporting the metallic leaf.

5. In a machine for applying metallic leaf to cards and other articles, the combination of a support for the card or other article, a reciprocating impression device for pressing the leaf upon the card or other article, guides or rails arranged transversely to the movement of the pressure device, a leaf-support

guided upon the guides or rails between the impression device and support for the card or other article, consisting of an open frame provided with transverse cords, wires, or other strands for supporting the metallic leaf, and power devices for alternately reciprocating the pressure-applying device and intermittently moving the leaf-support.

6. In a machine for applying metallic leaf to cards and other articles, the combination of a support for the card or other article, a reciprocating impression device for pressing the leaf upon the card or other article, guides or rails arranged transversely to the movement of the pressure device, a leaf-support guided upon the guides or rails between the impression device and support for the card or other article, consisting of an open frame provided with transverse cords, wires, or other strands for supporting the metallic leaf and teeth at its upper part, pawl mechanism operating in connection with the teeth for intermittently moving the leaf-support, and cam or eccentric devices for operating the pawl mechanism.

7. A leaf-support for gold-leaf, consisting of an open frame having transverse strands of wire or cord or equivalent material stretched across the opening in the frame for supporting the gold-leaf.

8. A support for gold-leaf, consisting of a U-shaped frame, combined with a series of

parallel strands of wires, cord, or other material, arranged across the opening of the frame and at the bottom thereof, so that they may be pressed directly upon the gold-leaf.

9. Means to support gold or other leaf, consisting of two or more strands of wire or other suitable material, maintained in a stretched condition upon a suitable support.

10. A support for gold-leaf, consisting of a frame, combined with strands of wire or cord or equivalent material stretched upon it and projecting beyond the frame, adapted to support the gold-leaf during transfer from the gold-leaf book to the surface to be printed.

11. A support for gold-leaf, consisting of a frame, combined with strands of wire or cord or equivalent material coated with size and stretched upon it and projecting beyond the frame, adapted to support the gold-leaf during transfer from the gold-leaf book to the surface to be printed.

12. A support for gold-leaf, consisting of an open frame, combined with strands of wire or other suitable material coated with size and stretched upon the frame and across the open part thereof.

In testimony of which invention I have hereunto set my hand.

CHARLES A. WRIGHT.

Witnesses:

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ERNEST HOWARD HUNTER.