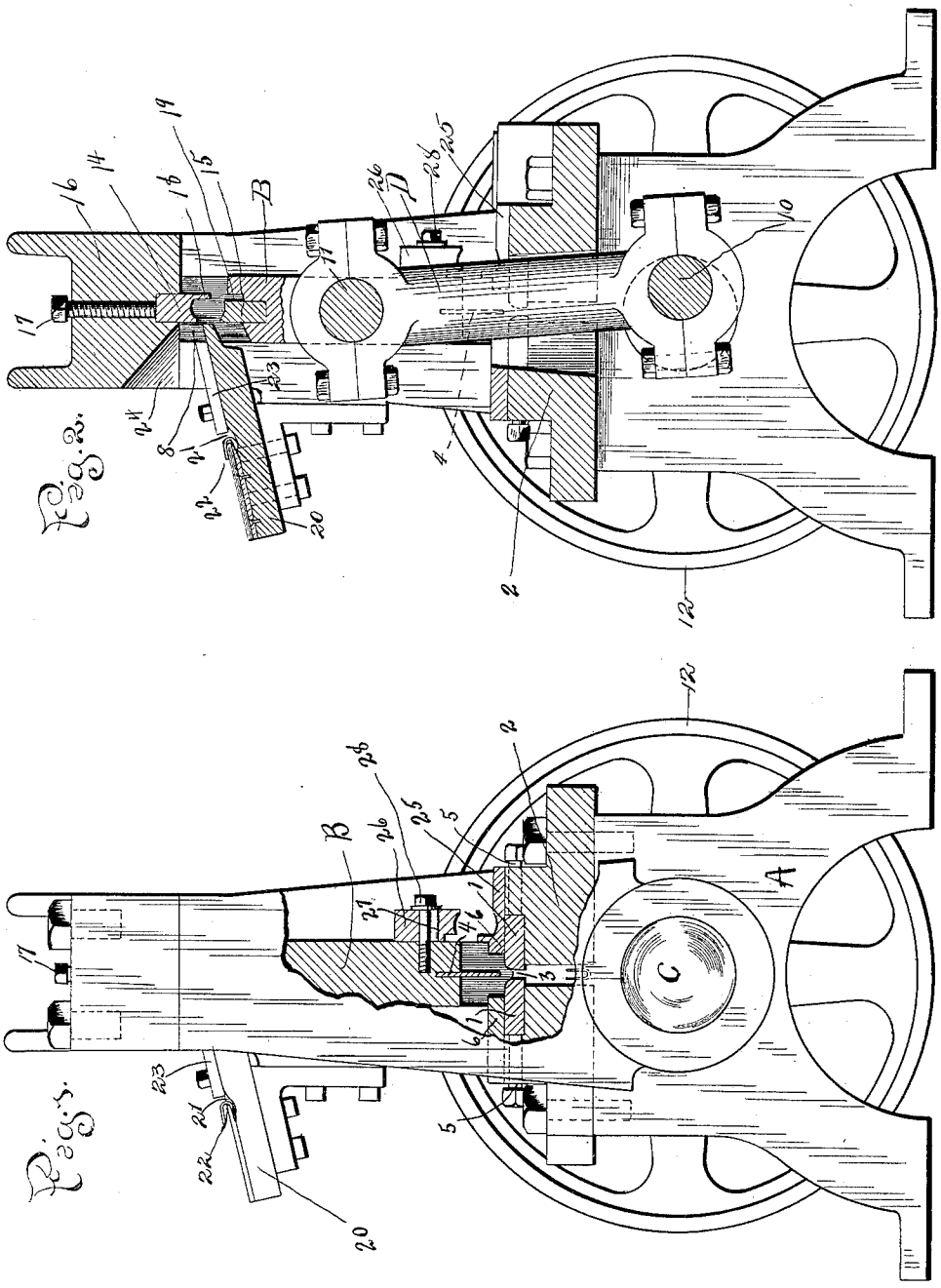
No. 656,966. Patented Aug. 28, 1900.

C. W. GREGORY.

MACHINE FOR FORMING AND ATTACHING METAL EDGES.

(Application filed Oct. 9, 1899.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses
H. B. Weir
L. M. Bulkley.

Inventor
Cornelius W. Gregory,
by A. Miller Belfield
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 656,966. Patented Aug. 28, 1900.

C. W. GREGORY.

MACHINE FOR FORMING AND ATTACHING METAL EDGES.

(Application filed Oct. 9, 1899.)

(No Model.) 2 Sheets—Sheet 2.

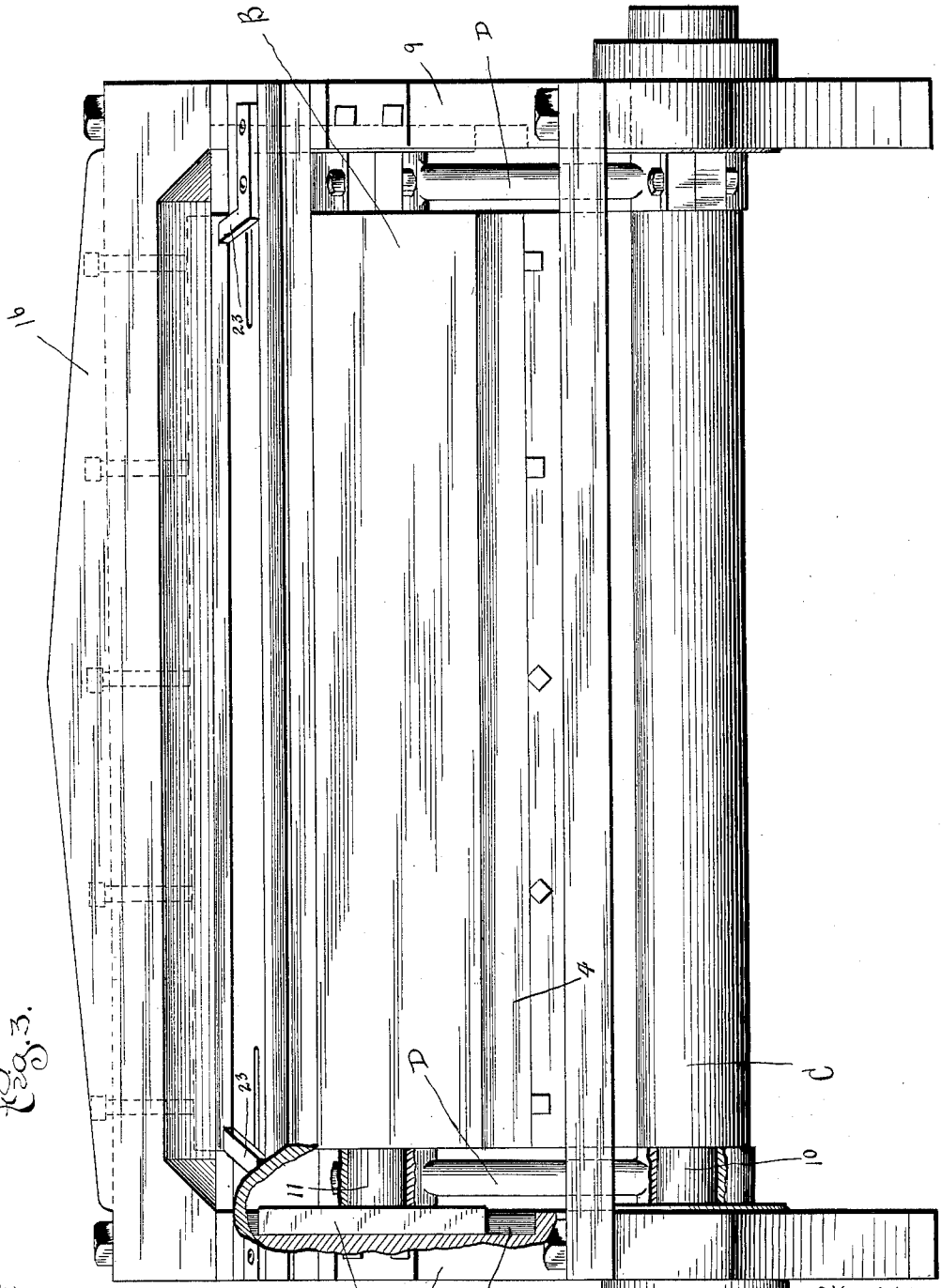


Fig. 3.

Witnesses:
H. B. Weir
L. M. Bulkley.

Inventor
Cornelius W. Gregory,
by A. Miller Benfield
atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CORNELIUS W. GREGORY, OF CHICAGO, ILLINOIS, ASSIGNOR TO JOHN L. JACKSON AND M. E. RASMUSSEN, OF SAME PLACE.

MACHINE FOR FORMING AND ATTACHING METAL EDGES.

SPECIFICATION forming part of Letters Patent No. 656,966, dated August 28, 1900.

Application filed October 9, 1899. Serial No. 732,997. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS W. GREGORY, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Machines for Forming and Attaching Metal Edges, of which the following is a specification.

The object of my invention is to provide a simple, efficient, inexpensive, and practical machine for rapidly and accurately forming the metallic edges which are to be attached to the edges of stationery devices, such as ruler-blotters, and then attaching them to such devices.

My invention contemplates the performance of two operations—namely, the operation of bending a blank in the form of a flat metallic sheet, so as to double it longitudinally, and the operation of crimping or compressing the two longitudinal sides of the blank so bent against the edge portions of the opposite sides or faces of the stationery device, so as to hold it firmly thereon after such edge portions of the device have been inserted into the bent blank.

To the attainment of the foregoing and other desired ends my invention consists of matters hereinafter set forth.

In the accompanying drawings, Figure 1 is an end elevation of a machine embodying my invention with a portion of it broken away for convenience of illustration. Fig. 2 is a transverse vertical section of the same, taken near one of the ends; and Fig. 3 is a front elevation.

The machine which I have shown in the drawings is provided with an upright body-frame A, which serves as a support for the operating mechanism.

The flat relatively-long sheet-metal blanks are placed, preparatory to bending them double longitudinally, upon a horizontal seat conveniently formed by a couple of blocks 1 1, Figs. 1 and 2, which are arranged longitudinally upon the bed portion 2 of the frame A. After being placed upon this horizontal seat the blank is bent longitudinally by being forced downwardly through a longitudinal crevice or aperture 3, conveniently formed between the adjacent edges of the blocks 1 1. The blank is so forced downwardly by a long blade 4, which is arranged for vertical reciprocation above and through the crevice 3. This operation bends the blanks into the shape shown in Fig. 1. After passing through the crevice 3 they fall to the floor or into a suitable receptacle, from which they are recovered.

The blocks 1 1 are desirably made laterally adjustable, so as to permit a variation or adjustment of the size of the crevice 3, and are provided with suitable adjusting means, such as the screws 5 5.

The blanks are adjusted into proper position laterally and prevented from moving therefrom by the edges of a pair of guide-blocks 6 6, arranged above the seating-blocks 1 1.

The long blade 4 is vertically reciprocated by a long longitudinally-arranged vertically-reciprocating plunger B, to whose lower edge it is securely fastened. The proper reciprocation of the plunger B is secured by a couple of guide-blocks 7 7, which are secured to its opposite ends, as by making them integral therewith, and which work in guideways 8 8, formed in the side upright portions 9 9 of the frame A. The plunger B is reciprocated by the rotation of a shaft C through the medium of a couple of links D D, which are connected to eccentric or crank portions 10 10 on the shaft C and to pins 11 11, which serve to connect the plunger B with its guide-blocks 7 7. The shaft C is journaled in the lower portions of the frame-uprights 9 9 and has one of its ends provided with a pulley 12.

The blanks after being bent double and applied to the edges of the blotters or other devices are compressed against the same, so as to remain firmly attached thereon, by the action of a pair of coöperating and relatively-movable long crimping-dies 14 and 15, Fig. 2, which are adapted to receive the bent blank on the blotter edge between them and to crimp or compress the blank against such edge with sufficient force to cause it to be held firmly and tightly thereon. The upper die 14 is stationary during the operation of the machine and is arranged in the lower edge of a long cross-piece 16, connecting the upper ends of the frame-uprights 9 9 and forming the upper portion of the frame A.

The lower die 15 is secured to the upper edge of the reciprocating plunger B, and therefore reciprocates toward and away from the stationary die 14. By such arrangement the plunger B is made to operate during both of its strokes, its downstroke bending one blank and its upstroke attaching another by crimping to the blotter or like device. The upper die 14 is desirably made adjustable and provided with adjusting means, such as the screw-bolts 17 17. The crimping-dies 14 and 15 could of course be made in any suitable shape or curvature which it is desired to give to the metallic edge formed by the blank. In the drawings they are shown both made concave and having their forward edges nearest to one another, in which way the blank is made substantially loop-shaped in cross-section and is pinched tightly against the blotters it contains along its forward edge. The upper die 14 is provided at its rear with a depending edge 18, which serves as a stop to limit the inward movement of the blank. This depending edge 18 is accommodated by a groove 19 in the plunger B.

As a convenient arrangement for providing for the feed of the blotters one by one into position to be acted upon by the attaching or compressing dies, a table or shelf 20 is secured to the front of the machine in such position that when a blotter is slid forwardly upon it the bent blanks upon its edge will pass immediately below the die 14 and strike against the edge 18, in which position it can be held while the lower die 15 rises and closes it into proper shape. The shelf 20 is desirably provided with a depression 21, in which the lower side of the bent blank can be placed and lie preparatory to receiving the blotter-edge portion, and also with a lip 22, overhanging said depression 21, for preventing the blotter edge from striking against the lower side of the blank and moving the same out of position. The table 20 is also provided with converging side guides 23 23, which are desirably made adjustable toward and away from one another for the accommodation of blotters of different lengths. The upper cross-piece 16 is cut away at 24 to prevent interference with the feeding of the blotters.

In operating the machine it is customary for one man to feed the unbent blanks to the bending-blade on the lower edge of the plunger from the rear of the machine and for another man to feed the blotters with bent blanks thereon to the crimping-dies from the front of the machine. As the arrangement of the bent blanks and the insertion of the blotters therein requires more manipulation than the feeding of the straight blanks, the number of blanks bent in a given length of time far exceeds the number of finished blotters turned out during the same period. In order to allow the equalization of matters, I have provided another pair of coöperating crimping-dies 25 and 26, at which the man bending blanks can work until practically all of the bent blanks are applied to blotters. The lower die 25 is secured to the rear of the bed 2 of the frame A, and the upper die 26 is secured to the rear of the plunger B above the stationary die 25. The reciprocating die 26 is made adjustable and provided with slots 27 27, in which the screw-bolts 28 28 can work when it is so adjusted.

It will be readily seen that the machine thus shown as constructed in accordance with my invention is simple and inexpensive and permits the blanks to be bent and attached in a rapid and effective manner.

What I claim as my invention is—

1. In a machine of the class specified, the combination of a reciprocating plunger having one end provided with a blade and its other end provided with a crimping-die; a seat for the blanks, having a crevice through which the blade can force the blanks; and a stationary crimping-die coöperating with the die on the plunger.

2. In a machine of the class specified, the combination with means for bending the blanks; of a plurality of devices for attaching the same; and mechanism for operating both the bending means and the plurality of attaching devices.

3. A machine of the class specified, comprising a frame having its bed provided with a pair of laterally-adjustable blocks which serve as a seat and provide a crevice between their edges; a reciprocating plunger having its lower edge provided with a blade capable of entering the crevice between said blocks, and having its upper edge provided with a crimping-die; a stationary crimping-die held in position above the die on the plunger and adapted to coöperate therewith; a rotary shaft provided with crank or eccentric portions; and a couple of links connecting said crank or eccentric portions of the shaft with the reciprocating plunger.

4. In a machine of the class specified, the combination with the seat having a crevice, of a reciprocating plunger having one edge provided with a blade capable of entering said crevice and also with a crimping-die, and having the other edge also provided with a crimping-die; stationary crimping-dies adapted to coöperate with the ones on the plunger; and mechanism for reciprocating the plunger.

Signed by me at New York city, borough of Manhattan, State of New York, this 23d day of August, 1899.

CORNELIUS W. GREGORY.

Witnesses:

CHARLES F. PARMLY,

H. TRACY TUCKER.