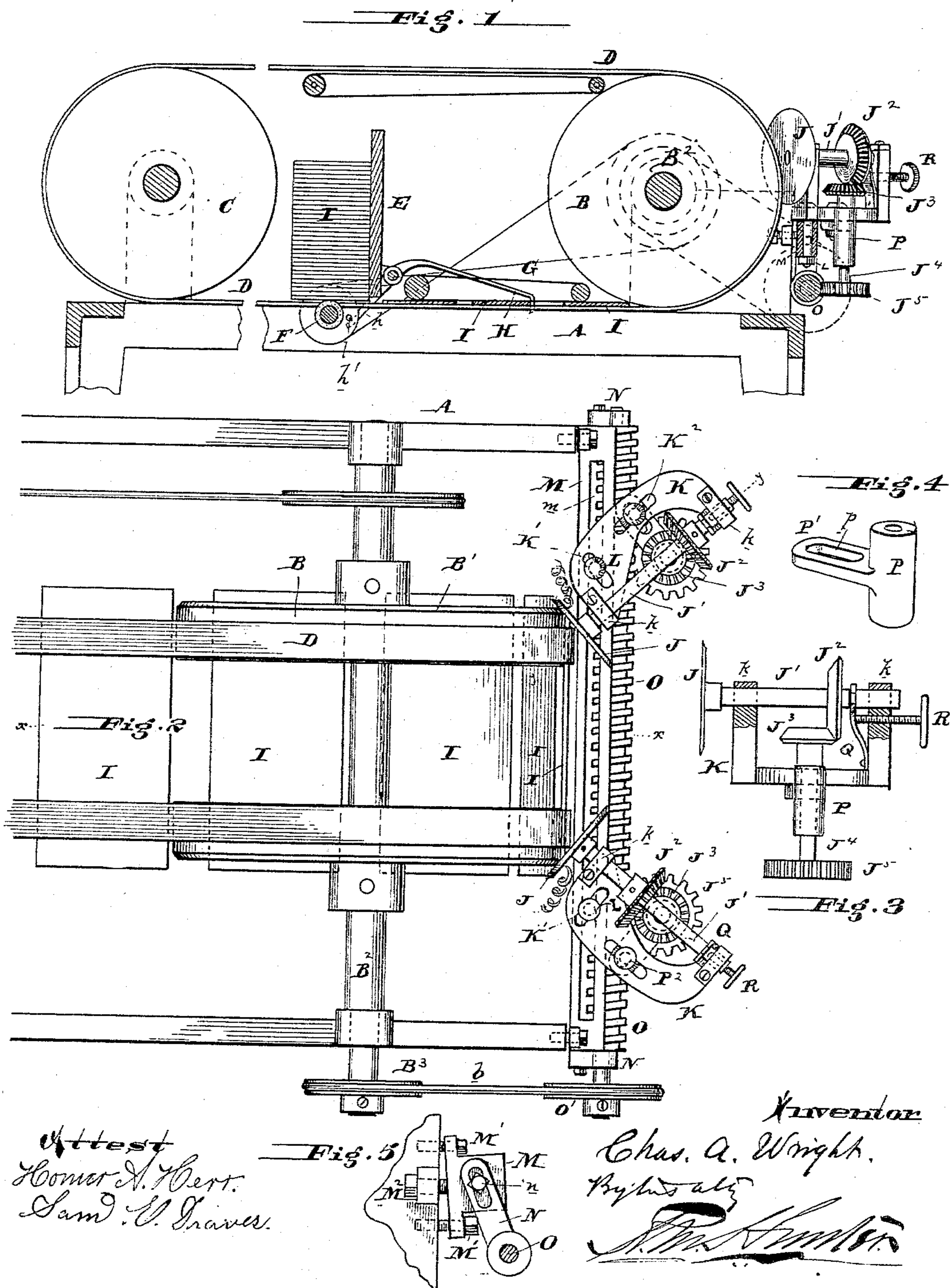


(No Model.)

C. A. WRIGHT.  
CARD BEVELING MACHINE.

No. 323,483.

Patented Aug. 4, 1885



# UNITED STATES PATENT OFFICE.

CHARLES A. WRIGHT, OF PHILADELPHIA, PENNSYLVANIA.

## CARD-BEVELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 323,483, dated August 4, 1885.

Application filed October 27, 1884. (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 new and useful Improvements in Card-Beveling Machines, of which the following is a specification.

My invention has reference to machines for beveling cards; and it consists of certain improvements of construction, all of which are fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof, and are pointed out in the claims.

The object of my invention is to provide a machine with mechanism which shall be adapted to trim or bevel the edges of cards without in any way interrupting their continuous passage to and from the cutting mechanism, and thus, while reducing the labor and time occupied to a minimum, shall produce a beveled card having a most finished appearance.

In Letters Patent No. 313,639, to me, a somewhat similar device is shown; but in that construction the cutters are stationary or rigid, and are not as well adapted to produce as fine a finish in beveled cards as is possible with this machine, and in this application I do not claim the general arrangement of the parts relative one to the other, as that forms the subject-matter of said patent.

In the drawings, Figure 1 is a sectional elevation of my improved card-beveling machine on line X X. Fig. 2 is a plan view of one end of same. Fig. 3 is a sectional elevation of the rotating cutter on line Y Y. Fig. 4 is a perspective view of one of the adjustable bearings used for the gearing which operates the rotating cutter. Fig. 5 is an elevation showing the method of adjusting the frame which supports the rotating cutter.

A is the frame of the machine.

B B and C are wheels supported upon the shafts B<sup>2</sup>, around which the endless bands D pass. The wheels B are formed of iron, and are preferably provided with the beveled edges B', which it is advisable should be of steel or chilled iron, whereby they may be enabled to more readily withstand wear and present a better edge, against which the cutter J rotates.

E is a frame, against which the cards I to be beveled are placed, the said cards resting upon a flexible roller, *f*, which by its rotation causes the lowermost card to be fed under the edge of the frame E, onto the bands D, and under the guiding-bands G. These cards are then fed between the wheels B and bands D, and are carried up against the rotating cutters J, and, being curved against the face of the said wheels, they are held in a most rigid manner while being pressed against the cutters. To insure said cards being fed properly between the said wheels B and endless bands D, that they may be pressed against both of said cutters J J simultaneously and have their ends cut at right angles to their lengths, I provide the fingers H, which are pivoted and are intermittently raised by means of a pin, *h'*, carried to a fixed center by the shaft upon which roller F is secured, striking the end of the arm *h*, which reciprocates the said fingers H to the end that a card, I, shall be fed against the said fingers H, which latter are then raised to allow the passage of said card, and then descend again before the passage of the next card, thus insuring the proper adjustment of every card before passing to the cutter.

Any other suitable device may be used for imparting the requisite action to the fingers H.

The cutters J are made of thin flat steel in the form of disks, and are secured to shafts J', which work in bearings *k*, and are provided with bevel-wheels J<sup>2</sup>.

The bearings *k* are formed upon a base or frame, K, provided with slots K' K<sup>2</sup>, and these frames are secured to a frame, M, having a slot, *m*, by bolts L, which pass through said slots *m* and K'. This frame M is bolted to the end of the frame A of the machine, and may be adjusted by means of bolts M' M<sup>2</sup> (see Fig. 5) to the end that the cutters J may be adjusted at an angle other than in a vertical plane, which angle is necessary to obtain the best cutting effect therefrom.

The frame M is provided with bearings N, made adjustable by the slots and bolts *n*, which carry the screw O, which is rotated by the shaft B<sup>2</sup> through the agency of wheels *o* and B<sup>3</sup> and the belt *b*.

Adjustably secured to the plates K are the bearings P, which are provided with a horizontal

zontal part  $P'$ , having a slot,  $p$ , through which and the slot  $K^2$  of the plate  $K$ , bolt  $P^2$  passes.

Working in the bearings  $P$  are shafts  $J^4$ , to the upper end of which are secured beveled wheels  $J^3$ , and to the lower end of which are secured worm-wheels  $J^5$ , which mesh with the worm or screw  $O$ .

The beveled wheels  $J^3$  mesh with the beveled wheels  $J^2$  of the cutter-shafts, and to insure the cutters rotating in opposite directions the said beveled wheels  $J^2$  are placed on opposite sides of the beveled wheels  $J^3$ , as clearly shown in Fig. 2.

The cutters  $J$  may be reciprocated or adjusted in a direction parallel with their shafts, so as to press with greater or less pressure against the edges  $B'$  of the wheels  $B$  by means of the springs  $Q$  and adjusting-screws  $R$ , which act upon the shafts and adjust them in their bearings  $k$ .

By these various constructions the devices may be adjusted to bevel cards of various widths and lengths, and the cutters may be adjusted relatively to the edges of the wheels  $B$ , that the most effective cutting action may result, and from the arrangement of parts and their connections the relative speeds of the wheels  $B$  or bands  $D$  and rotating cutters  $J$  are made constant.

While I prefer the construction shown, I do not limit myself to the details, as they may be varied or modified in numerous ways without in any material respect departing from the spirit of my invention.

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

1. In a card beveling or trimming machine, mechanism, substantially as set forth, to bend or curve the card, in combination with a rotating cutter arranged at an angle to said card, substantially as and for the purpose specified.

2. In a card beveling or trimming machine, mechanism, substantially as set forth, to bend or curve the card, in combination with a rotating cutter arranged at an angle to said cards, and devices, substantially as set forth, to feed the card to said curving and cutting devices, substantially as and for the purpose specified.

3. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, and rotating cutters arranged at an angle to said bands and close to the outer edges of said wheels, substantially as and for the purpose specified.

4. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, and rotating cutters journaled in adjustable bearings and arranged at an angle to said bands and close to the outer edges of said wheels, substantially as and for the purpose specified.

5. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, and rotating cutters journaled in adjustable bearings and

arranged at an angle to said bands and close to the outer edges of said wheels, and connecting devices, substantially as set forth, whereby the cutters are made to rotate with a speed commensurate with the travel of the bands or rotation of their wheels, substantially as and for the purpose specified.

6. In a card beveling or trimming machine, mechanism, substantially as set forth, to bend or curve the card, in combination with a rotating cutter arranged at an angle to said card, and means, substantially as set forth, whereby said cutters may be adjusted, substantially as and for the purpose specified.

7. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, an automatic feed, substantially as described, to deliver said cards in succession to said bands, and rotating cutters arranged at an angle to said bands and adapted to work close to or against the outer edges of said wheels, substantially as and for the purpose specified.

8. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, an automatic feed, substantially as described, to deliver said cards in succession to said bands, and rotating cutters arranged at an angle to said bands and rotated in opposite directions and adapted to work close to or against the outer edges of said wheels, substantially as and for the purpose specified.

9. In a card beveling or trimming machine, the combination of endless feed-bands, wheels about which said bands travel, an automatic feed, substantially as described, to deliver said cards in succession to said bands, stop-fingers to arrest the forward movement of the cards and cause them to be fed to the cutters in such a manner as to insure the edges being cut at right angles, and rotating cutters arranged at an angle to said bands and adapted to work close to or against the outer edges of said wheels, substantially as and for the purpose specified.

10. In a card beveling or trimming machine, a wheel in combination with a rotating cutter arranged close to said wheel, and mechanism, substantially as set forth, to hold the cards flat against the face of said wheel and carry them against the rotating cutters, substantially as and for the purpose specified.

11. The combination of wheels  $B$   $C$ , bands  $D$ , and rotating cutters  $J$ , substantially as and for the purpose specified.

12. The combination of wheels  $B$   $C$ , bands  $D$ , rotating cutters  $J$ , shafts  $J^4$ , bevel-gears  $J^2$   $J^3$ , shafts  $J^4$ , worm-wheels  $J^5$ , screw  $O$ , and suitable framing, substantially as and for the purpose specified.

13. The combination of wheels  $B$   $C$ , bands  $D$ , and rotating cutters  $J$ , with frame  $M$ , by which said cutters are carried, and devices, substantially as described, to adjust said frame, substantially as and for the purpose specified.

14. In a card-beveling machine, mechanism,

substantially as set forth, to bend or curve the card, in combination with a rotating cutter, feeding devices, substantially as set forth, and stop-fingers to adjust the cards before passing to the cutters to insure their edges being cut at right angles, substantially as and for the purpose specified.

15 16. In a card-beveling machine, card-feeding bands and wheels adapted to positively feed the card, in combination with a rotating cutter against which the cards are forced, the said cutter being arranged at an oblique angle to the plane of the card, substantially as and for the purpose specified.

15 16. In a card-beveling machine, card-feeding bands, and wheels adapted to positively feed the cards against the cutters, in combi-

nation with cutters against which the cards are forced and which are arranged obliquely to said cards at place of cutting, a feeding device, 20 substantially as described, to positively feed the cards to the bands, and stop-fingers, substantially as set forth, actuated intermittently by said feeding device to catch and adjust each successive card before passing to the cutters, 25 whereby the edges are cut at right angles to form a square or rectangular card, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

CHARLES A. WRIGHT.

Witnesses:

R. M. HUNTER,  
ANDREW ZANE, Jr.