

(No Model.)

C. A. WRIGHT.
CARD CUTTING MACHINE.

No. 459,920.

Patented Sept. 22, 1891.

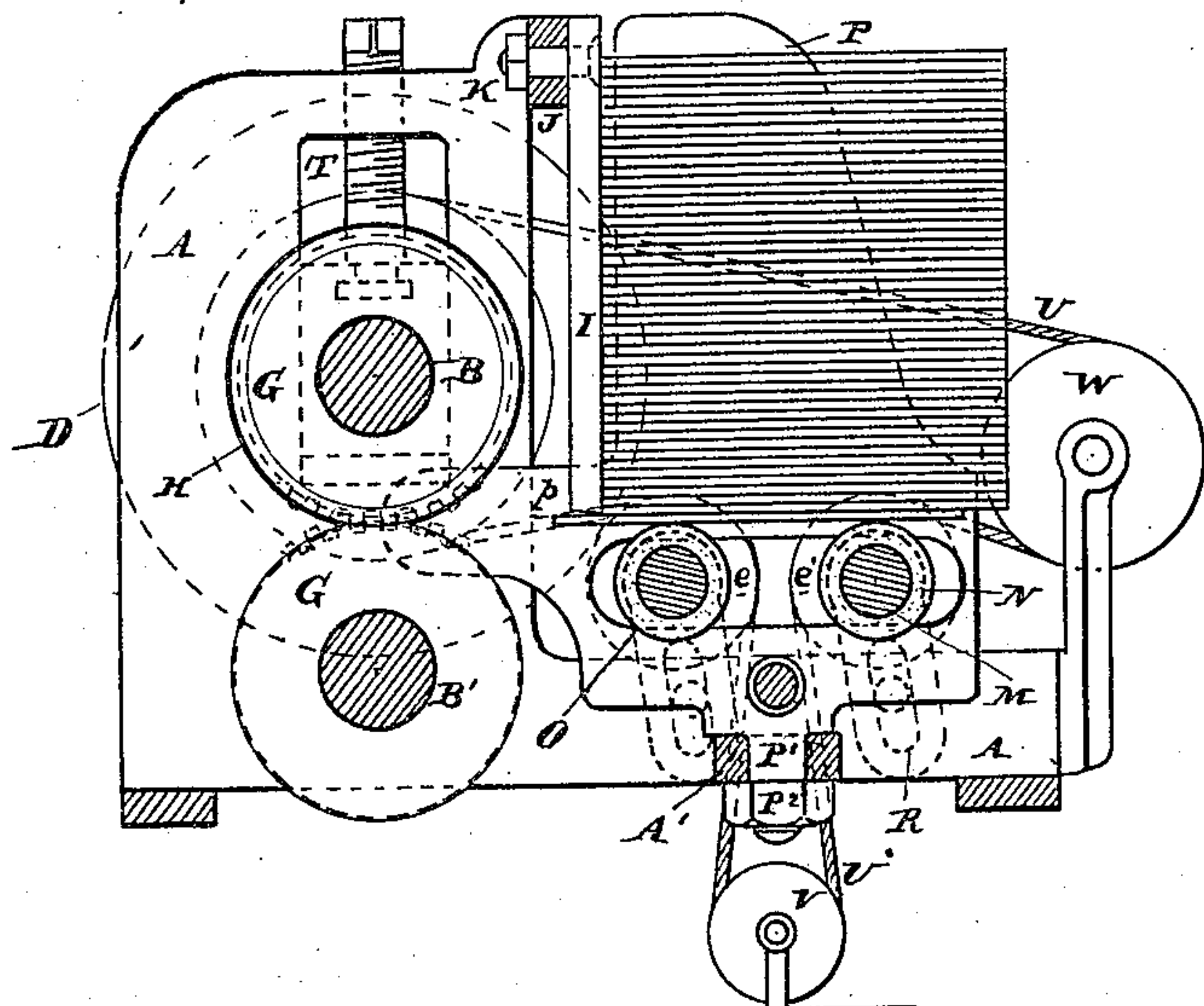


FIG. 1

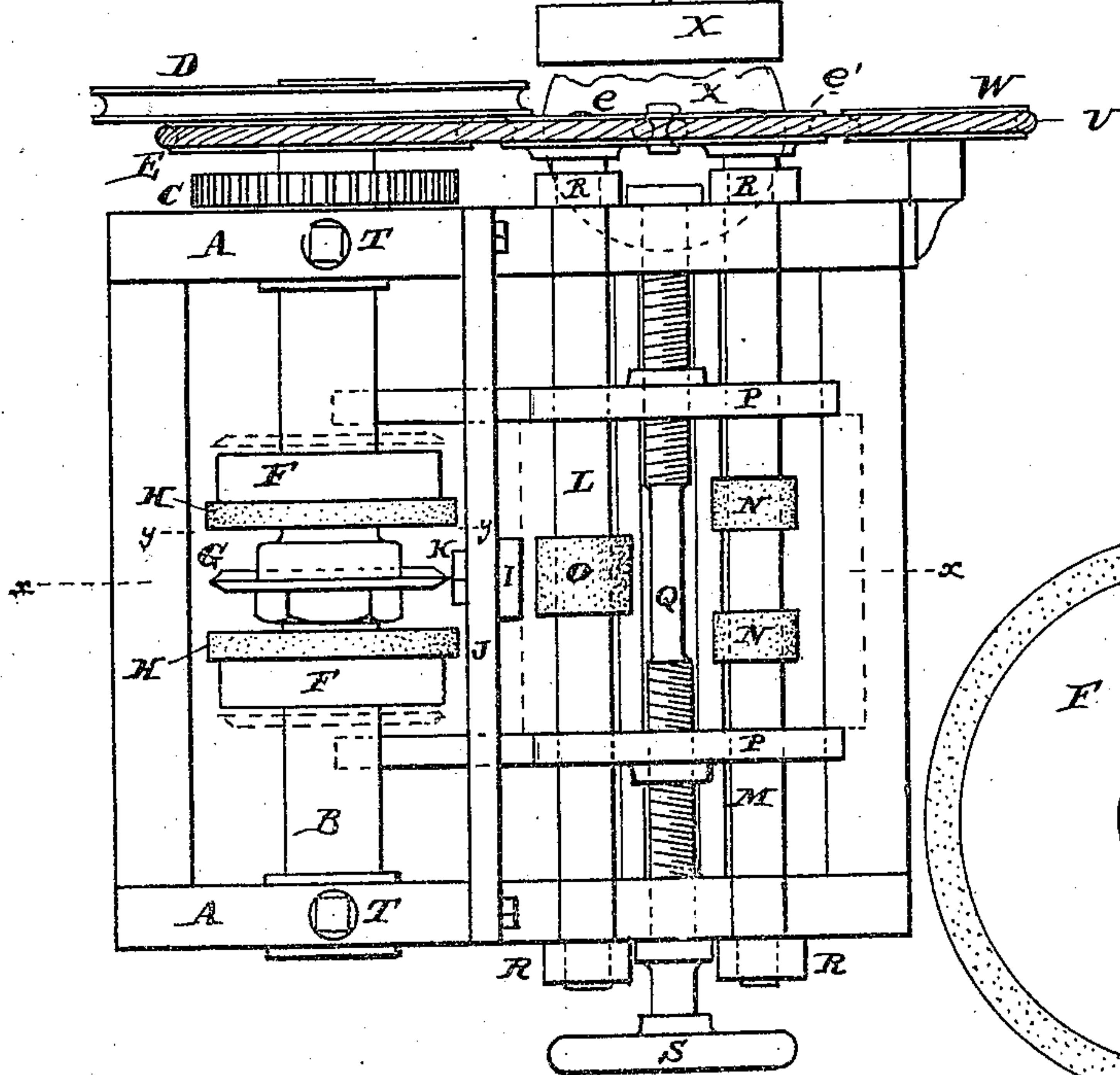
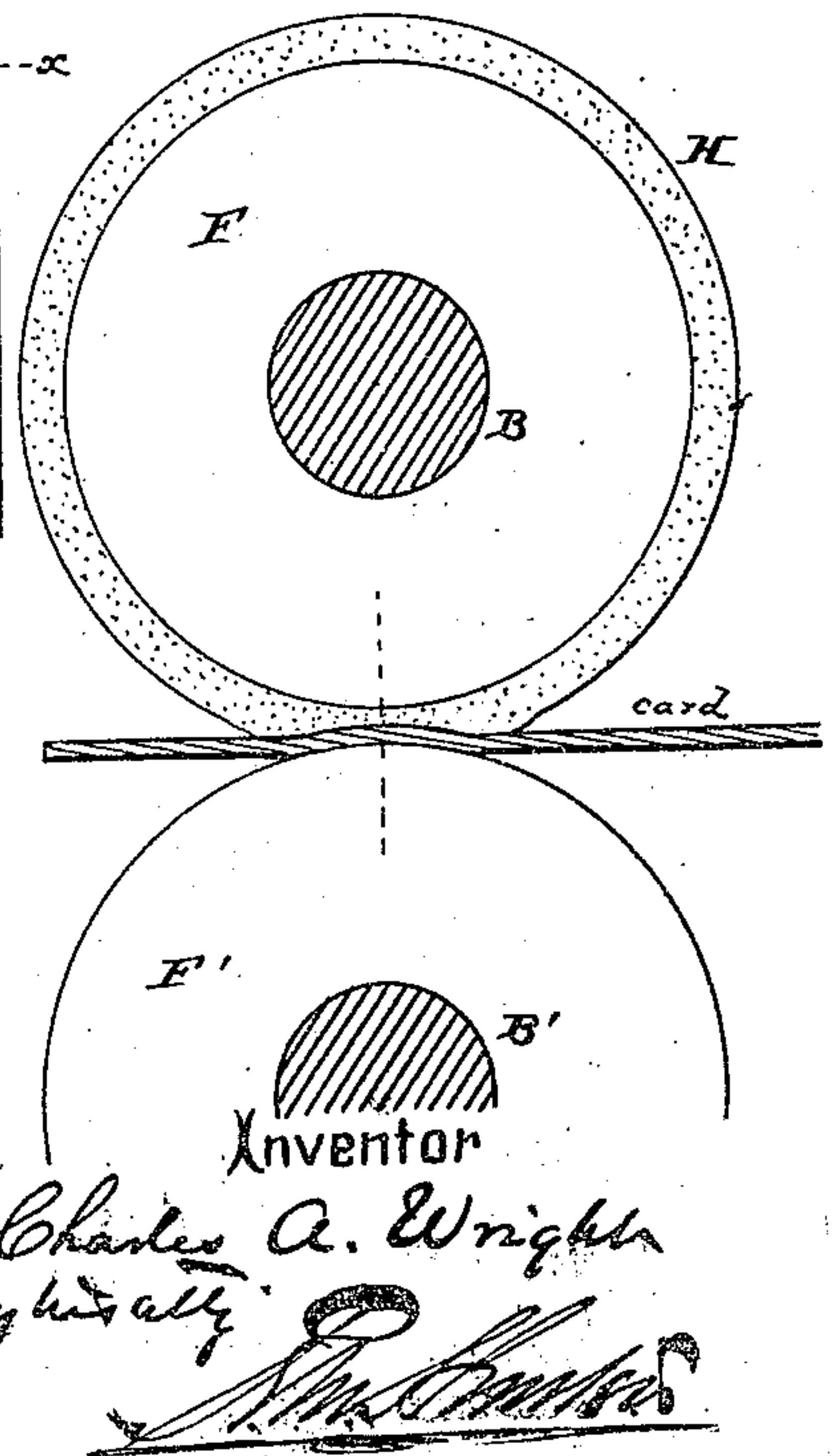


FIG. 2

FIG. 3



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CARD-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 459,920, dated September 22, 1891

Application filed June 26, 1886. Serial No. 206,331. (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 Card-Cutting Machines, of which the following is a specification.

My invention has reference to card-cutting machines; and it consists of certain improvements which are fully set forth in the following specification and claims, and shown in the accompanying drawings, which form part thereof.

My invention relates to the construction and arrangement of the feeding and cutting, whereby the card is curved and the trimmed edge thereof may bend during the act of cutting. I employ two rollers or pairs of rollers, one of which is faced with metal and the other of which is provided with a peripheral covering of rubber or other elastic material, with rotary cutters arranged upon one side and a distance from the rollers, so that the trimmed edge of the curved card may bend in the act of cutting to prevent abrading or breaking the trimmed edge, as is more fully set out hereinafter.

Figure 1 is a sectional view of a machine embodying my invention through the line *x x*. Fig. 2 is a plan view of the same, and Fig. 3 is a sectional view of the detached rollers and cutting-wheels on line *y y*, showing the effect of the rubber coating on a card passing between the rollers.

A is the frame of the machine.

B is the upper shaft, having the gear-wheel C and a large hand-wheel D and a smaller one E on the end thereof. This shaft B is provided with two rollers F near its middle, and also with a rotary cutter G between these rollers. These rollers F, which are preferably made of metal, have a covering, either in whole or in part, of rubber or other elastic material H.

B' is a second shaft immediately below and in the same perpendicular plane as the shaft B. This shaft B' has a gear-wheel meshing with the gear-wheel C of the shaft B, and is provided with a similar arrangement of similarly-situated rollers and rotary cutter as that shaft, except that the metal rollers F' of this shaft are without the flexible covering H.

I is a vertical guide fastened by the bolt K to the slotted part J of the frame of the machine and extends down nearly to the horizontal plane of contact of the rollers and rotary cutters of the shafts B and B'. If desired, the cutters G may be arranged upon the outside of the rollers F, as indicated in dotted lines, Fig. 2, the particular relation being immaterial.

L and M are two shafts in the same horizontal plane in adjustable bearings R and provided on their outer ends with small band-wheels *e e'*. The shaft M is provided with two small rollers or wheels N, and the shaft L with a central roller O. These rollers N and O are in the same plane as the point of contact of the rollers F and F', and may be made in any form and of any substance desired, and the number and particular location of them may be varied to suit the exigencies of the case, as they are merely revolving feeding-supports for the card. It is thought preferable to arrange them as shown in the drawings and to have them covered with rubber.

P are side guide-frames inclosing the system of rollers N and O and extending up nearly to the top of the machine. They are intended to hold the cards laterally while being fed to the cutting devices. The forward parts of these frames are extended in the two guides *p* to keep the card in exact position while passing to the cutters.

Q is a screw having left and right hand threads extending through the sides of the frames P, and is intended to adjust these frames to or from each other by means of the hand-wheel S to suit the particular size of the cards to be cut and always insure the cards being fed centrally to the cutters. These frames P have projections P' at their bottom, which extend through a slotted clamping-frame A' and are provided with clamping-nuts P² for the purpose of securing these frames rigidly in position after being adjusted.

T are adjusting-screws extending through the frame A for the purpose of raising or lowering the shaft B to suit the thickness of the card.

Besides the band-wheels D, E, *e*, and *e'*, there is a band-wheel W fixed in any con-

venient position in the same plane with E, e, and e', and a continuous band U passes around W on the inside of e', outside of a loose wheel V, carrying a weight X, then on the inside of e, and around the outside of E. Thus when the large wheel D is put into motion it will impart a positive motion to the other wheels and thence to their shafts.

The operation of the machine is as follows:
 10 The cards to be cut are piled within the frames P, which have been adjusted to exactly contain them, and the shafts are put into motion. The lowest of the pile of cards forced down upon the rollers N and O by the weight of the superimposed pile is carried on these rollers under the vertical guide-frame I, which has been adjusted to admit of the passage of only one card. This card is guided laterally by the guides p and is fed in between the rollers F and F'. Here the rubber or elastic coverings H of the rollers F will press it firmly upon the metal rollers F', giving it a slight bend or curve and thus holding it firmly against displacement while passing the cutters G.

As shown, the cutters are arranged between the feeding and holding rollers; but they may be arranged upon the outside of said rollers and upon one or both sides thereof, as indicated in dotted lines, in which case the lateral edges of the card will be trimmed, and beveled if the cutters be inclined. The cutters cut the cards on a line practically coinciding with the points of contact of the elastic and solid rollers, thus acting upon them when they are most rigid.

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

1. The combination of two rollers, one of which is metal-faced and the other of which is covered with a band of rubber or other elastic material and pressed in heavy contact with the metal-faced roller to curve the card as it passes between the rollers, rotating cutters to cut the card arranged to one side of the rollers, forming a clear open space between them and the said cutters to admit of the bending of the trimmed edge as it is depressed in the act of cutting, substantially as and for the purpose specified.

2. The combination of shafts B and B', connecting-gearing, rollers F F', having elastic bands H and secured upon the shaft B, solid rollers F' F', secured upon the shaft B' and running in heavy contact with rollers F F', the said pairs of rollers F F' and F' F' being widely separated to form a clear open space, and two rotating cutters secured to the respective shafts, arranged to work in contact with each other, and located about equidistant from the two pairs of rolls F F', the said rolls being adapted to bend or curve the card as it passes between them and the clear spaces between the cutters and said rollers allowing the card edges to bend in the act of being cut, so as not to break, abrade, or injure said edges of the cards, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

CHARLES A. WRIGHT.

Witnesses:

CHARLES E. LEX, Jr.,
 R. M. HUNTER.