

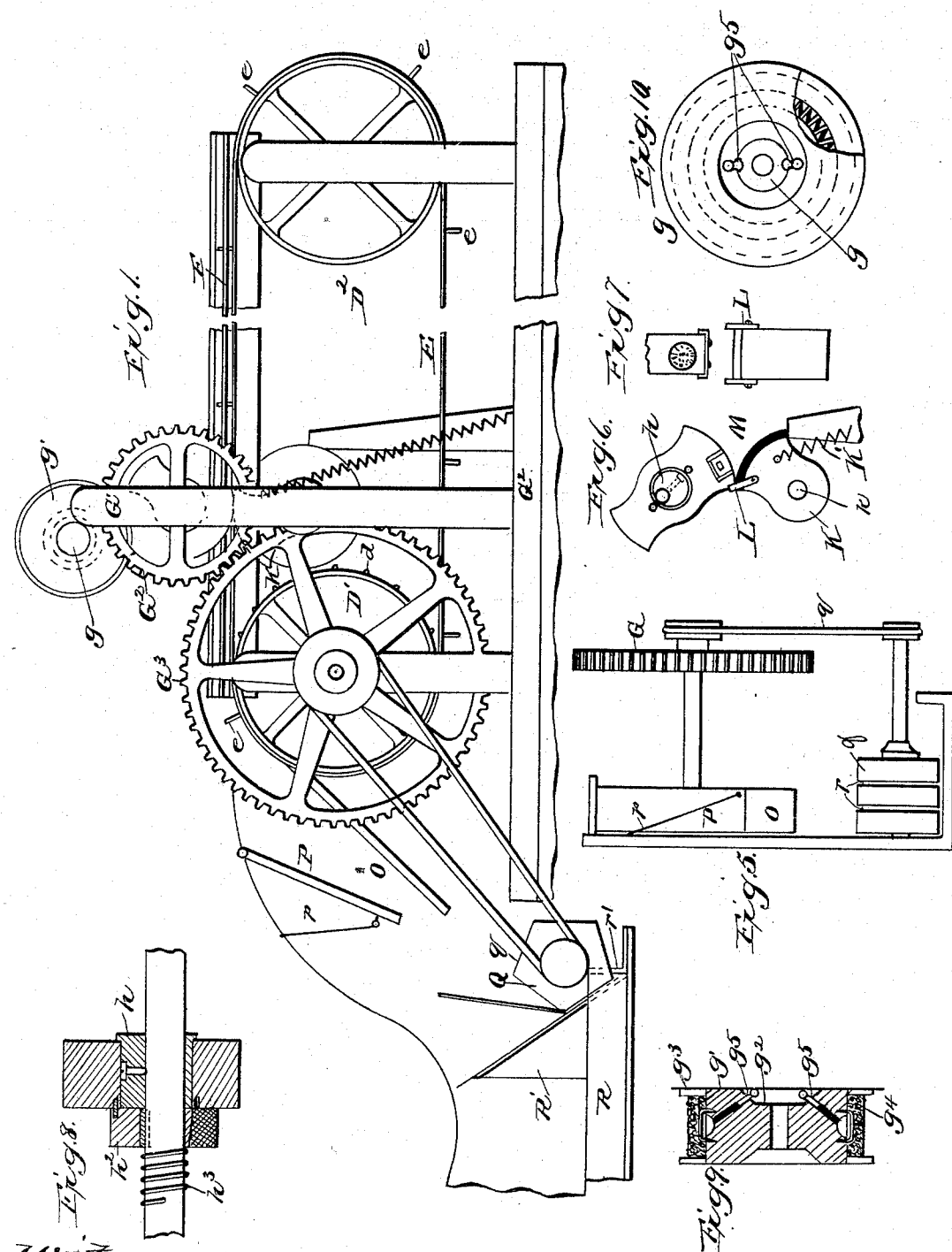
(No Model.)

2 Sheets—Sheet 1

G. E. BARNARD.
STAMP CANCELING MACHINE.

No. 518,440.

Patented Apr. 17, 1894.



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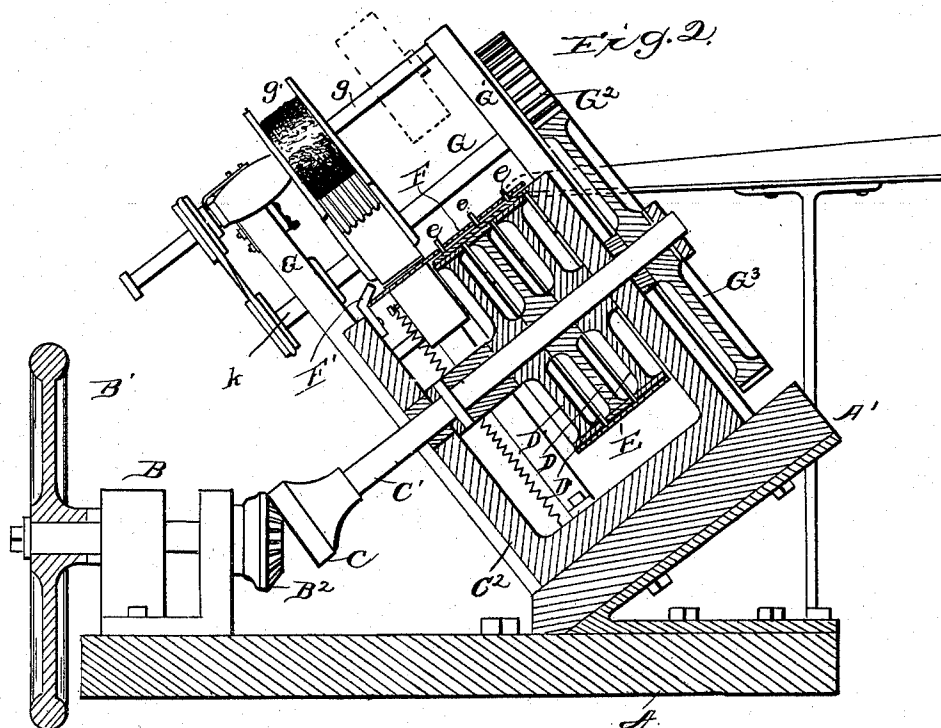


Fig. 3

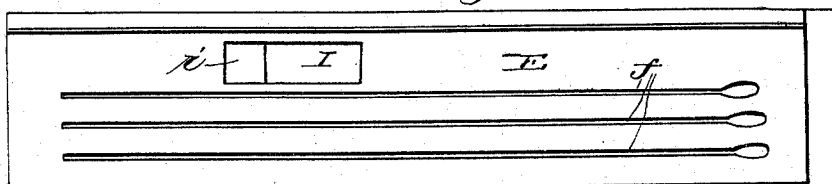
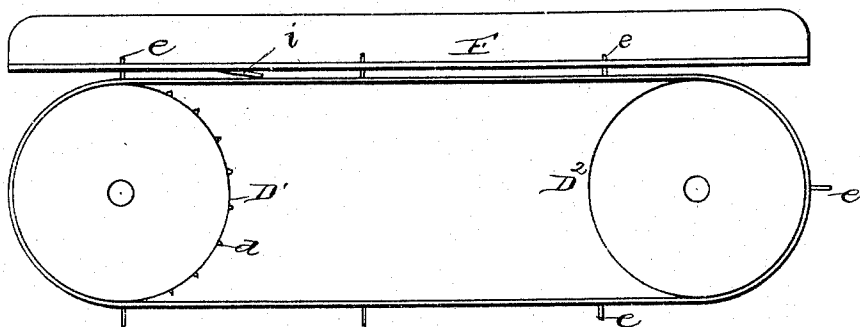


Fig. 4



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UNITED STATES PATENT OFFICE.

GEORGE EZRA BARNARD, OF FITCHBURG, MASSACHUSETTS.

STAMP-CANCELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 518,440, dated April 17, 1894.

Application filed September 13, 1893. Serial No. 485,402. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EZRA BARNARD, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Stamp-Canceling Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in stamp canceling and postmarking machines of the class described in my prior patent, No. 501,816, dated July 18, 1893, the object of the invention being to simplify the mechanism and improve its operation, whereby the inking of the backs of the letters or other portions than that intended, is prevented, a further object being to dispense with the necessity of employing a moving support and to provide an efficient means for assembling the letters after being marked.

Referring to the accompanying drawings:—
Figure 1 is an elevation looking at the upper side of a machine constructed in accordance with my present invention. Fig. 2 is a transverse section taken through the drive shaft and looking toward the rear end of the machine. Fig. 3 is a plan view of the preferred form of support over which the letters are passed in traveling to and from the inking point. Fig. 4 is a longitudinal section of the same. Fig. 5 is a sectional elevation of the assembling or stacking arrangement. Fig. 6 is a sectional elevation of the printing die and co-operating cam or platen. Fig. 7 is a detail elevation looking at the face of the devices, shown in Fig. 6. Fig. 8 is a section through the printing die taken longitudinally of the center of rotation. Figs. 9 and 10, are a section and an elevation of the inking roller.

Similar letters of reference in the several figures indicate the same parts.

The machine embodying my present invention preferably occupies an inclined position, that is to say, the support over which the letters travel to and from the printing point, is inclined in a plane at right angles to the direction of movement of the letters, and for

convenience, the operating mechanism, &c., is similarly inclined, just as in my machine before patented.

Referring particularly now to Fig. 2, it will be seen that the base A upon which the inclined supplemental base A' is mounted, carries a bearing B for the drive wheel B' and on the shaft of the latter a beveled pinion B² is mounted and adapted to mesh with a similar pinion C carried by the drive shaft C' supported in bearings in a suitable frame C² mounted rigidly on the supplemental base A'. Upon the shaft C' there is mounted rigidly a relatively narrow central pulley D and loose outside pulleys D', and a drive belt E passing over these pulleys, and over the similarly formed pulleys D² at the opposite end of the machine serves as the means for moving the letters, as will presently be understood. In the preferred construction, the belt is provided with a central line of eyelets or grommets for the reception of points *d* on the narrow central pulley, and in addition, it is provided with a series of sets of points or carrying projections *e* on the out side, corresponding in location to the ribs on the belt in my said former machine. Carried by the frame and located immediately over the belt throughout its entire length, is a stationary support or table F for receiving the letters and having a series of longitudinal slots *f* therein through which the projections *e* on the belt are adapted to pass and project a short distance above its upper surface. The slots extend to points beyond the top of the pulleys in order that the points may enter and pass out of the slots freely, and in order to facilitate their entrance, the ends of each of the slots are enlarged as shown at the right in Fig. 3. The effect of this construction it will be seen at once, is to carry anything deposited on the stationary support along and discharge it from the front end, and in order to have letters moved along, it is only necessary to allow them to drop in front of the points on the drive belt. In order to prevent the letters from sliding off at the side, a guard rail *f'* is located at the lower edge of the support and in order to afford room for the printing device, the slots are preferably located in the upper portion of the

support, but with the lowermost one low enough to underlie the narrowest letter which the machine is designed to act upon.

The shaft G upon which the printing die is mounted, is carried in suitable standards G' projecting up from the frame C² and it is driven by gears G² and G³ from the main drive shaft. Supported in bearings above the die shaft G is a shaft g carrying the inking wheel g' mounted and driven just as in my said patented machine. The wheel itself in the present instance however consists of a central hub g², preferably having outwardly projecting flanges g³ between which the absorbent pad g is held. A channel or chamber g⁴ having an open work or foraminous top is formed in the wheel beneath the pad for the reception of a supply of ink which may be introduced through filling orifices g⁵ in the side of the wheel. I prefer to form the chamber by driving double pointed tacks over a groove in the hub as shown at the top in Fig. 9, or by locating an open spiral around the hub, as shown in Fig. 10.

The printing die is double faced as usual, and in order to bring either face desired into operative position it is provided with a centrally located cylindrical opening of proper size to fit accurately and take a bearing on a cam or eccentric h secured on the die shaft by a set screw. From this it will be seen (Figs. 6 and 8) that the face of the die over the thick side of the cam will travel in a larger circle or be farther from the shaft and center of rotation than the other face, the result being that it alone does the printing. Now in order to lock the die in either position, a collar h² is keyed on the shaft at one side of the cam so as to rotate therewith but capable of a limited longitudinal movement on the shaft against the tension of spring h³ and by providing the collar with a pin adapted to enter either of two holes in the die, it will be seen that the collar may be drawn back, the die turned to advance the other printing face and then the pin inserted in the other aperture to hold it in such position.

An opening I is formed in the support F immediately below the printing die, and through this opening the face of what I shall herein term the printing cam projects. This cam lettered K, Figs. 6 and 7, is journaled on a shaft k and is normally held in position shown in Fig. 6, by means of a spring k' with its rear edge or portion at approximately or slightly above the level of the support F. The die and printing cam are provided with projections which pass each other under normal circumstances and allow the die to rotate but which when a letter or other body is interposed prevent them from passing and cause the two members, namely the die and cam, to rotate in unison, thereby making an impression upon the interposed article. It is obvious that this result can be attained by careful adjustment of the parts

so that the die will just escape the cam in rotating and when the thickness of a letter is interposed, bind against the cam and cause it to turn with it, forcing the latter up against the printing surface, but I prefer to employ small projections or arms L on the cam with corresponding gages on the die which will just pass between the arms L on the cam, thus when no letter is present the die rotates freely, but when a letter is brought along the support by the conveyer or drive belt and overlies the cam, the die will engage and cause the cam to rotate up as before explained. The face of the cam is preferably covered with rubber as at M in order to afford a better gripping surface and in operation it will be understood that the cam is instantly returned to normal position by the spring k' when the letter and die have passed, thus it is ready to engage with another letter as it is presented.

The forward edge of the opening I is preferably depressed as shown at i in Figs. 3 and 4 in order to prevent all possibility of the front edge of the letter turning down and catching.

After the letters have passed from the printing die, they are delivered on an incline O, which may project directly from one end of the machine or at right angles thereto, as desired, inasmuch as its function is simply to conduct the letters to the stacker, either side or endwise, as desired. As shown, it projects in line with the machine and has arranged above it a swinging gate P which may be adjusted downward by means of a flexible connection p and will readily yield upward for the passage of a long or heavy letter. At the end of the incline O I arrange a roller Q having a series of projections thereon, preferably formed by the angles between facets q. This roller is kept in constant rotation in a direction away from the machine, by means of a belt q' or otherwise, and in front of it upon a suitable guide or track R is mounted a sliding abutment R' having an inclined front wall as shown. Beneath the roller and preferably projecting into grooves r therein, are one or more fingers r'.

In operation, the letters delivered from the support slide down the incline and their forward edges pass over the roller and as the roller rotates it will form a V-shaped opening for the lower edges of the letters while the projection or upper end of the facet will turn the letter over against the inclined face of the abutment, as shown clearly in Fig. 1. The letters will be drawn down by the roller and held against the track or bottom of the abutment and as they accumulate they will force the abutment back. The letters are held against lateral movement and in proper vertical position by the sides R² of the guide way.

The operation of the front or canceling and postmarking mechanism is essentially similar to that of my former patented machine and

it is only necessary to call attention to the fact that in the present instance, the letters instead of being carried by the belt or moving support, are now caused to slide along over the stationary support until they encounter the printing cam and die, the latter being geared to rotate at the proper moment to strike a letter carried by the points on the belt.

Having thus described my invention, what I claim as new is—

1. In a stamp canceling machine, the combination with the transversely inclined stationary support having the longitudinal slots therein, of a driving belt running beneath the support and having points or projections thereon extending through the slots in the support, and the rotary printing mechanism; arranged at a point intermediate the ends of the support and driving belt substantially as described.

2. In a stamp canceling machine, the combination with the stationary transversely inclined support having the longitudinal slots therein enlarged at one end, of the drive belt arranged beneath the supports and having the projections or points passing through the slots therein and adapted to enter said slots at the wider or enlarged end, of the printing mechanism arranged at a point intermediate the ends of the support and driving belt for operating on the letters passing over the support; substantially as described.

3. In a stamp canceling machine, the combination with the stationary transversely inclined support having the longitudinal slots therein, and an opening for the printing mechanism below said slots, of the belt arranged beneath the support with the points or projections thereon passing through the slots in the support, the printing cam working through the opening in the support and the printing die cooperating therewith; substantially as described.

4. In a stamp canceling machine, the combination with the support, and the rotary printing die, of the reciprocatory cam for cooperation with the die, having one edge, when in normal position, lying in such proximity to the path of travel of the die as that the die will normally rotate without engaging the cam, but will bind against and move the cam when a letter or equivalent is interposed between the two; substantially as described.

5. In a stamp canceling machine, the combination with the support along which the letters are caused to travel and the rotating die, of the cooperating cam having a portion of its face arranged in such proximity to the path of travel of the die as that the die will rotate past the cam when nothing is interposed between the two, but will bind against and move the cam when a letter or equivalent is interposed between the two and a spring for re-

turning the cam when released from the die; substantially as described.

6. In a stamp canceling machine, the combination with the support on which the letters are caused to travel, of the rotary printing die and reciprocatory cam for cooperation therewith, with projections on the die arranged in proximity to, but out of the plane of rotation of the projecting portion of the die, whereby the die is permitted to rotate freely under normal conditions and is caused to bind against and move the cam to take an impression when a letter or equivalent is interposed between the two and against the projection; substantially as described.

7. In a stamp, canceling machine, the combination with the support and the rotary printing die, of the normally stationary reciprocatory cam thrown into operation by the introduction of the thing to be printed and cooperating and advancing in unison with the die to make the impression with means for independently and automatically returning the cam to normal position; substantially as described.

8. In a stamp canceling machine, the combination with the support on which the letters are carried and the rotary printing die having the oppositely arranged operative faces and central cylindrical opening, of the shaft, the cam rigidly mounted thereon and fitting within the cylindrical opening in the die, whereby the die may turn on said cam to throw either face outward from the center of rotation, with means for holding the die in adjusted position; substantially as described.

9. In a stamp canceling machine, the combination with the support along which the letters are carried, the die shaft and the cam held in position on said shaft by a set screw, of the die journaled on the cam, the collar keyed to the shaft and having a limited movement longitudinally thereof and the pin for uniting the collar and die, whereby the die is held in adjusted position; substantially as described.

10. In a stamp canceling machine, the combination with the support along which the letters are caused to travel and the printing mechanism, of the incline down which the letters are discharged, the swinging gate above said incline, the driven roller at the bottom of the incline rotating away from the same and formed with facets and projections as described, the movable abutment against which the letters are forced by the roller and the fingers entering grooves in the roller for preventing the letters from being discharged beneath the roller; substantially as described.

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