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G. A. HANSEN

LETTER CANCELING MACHINE

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Fig. 1.

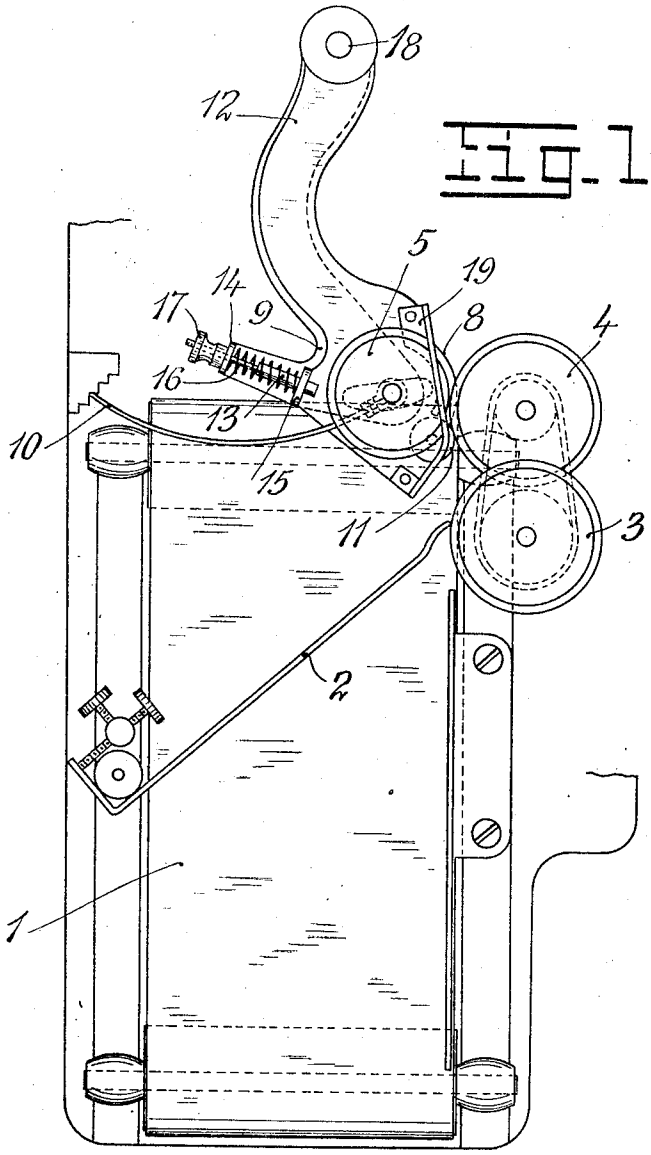
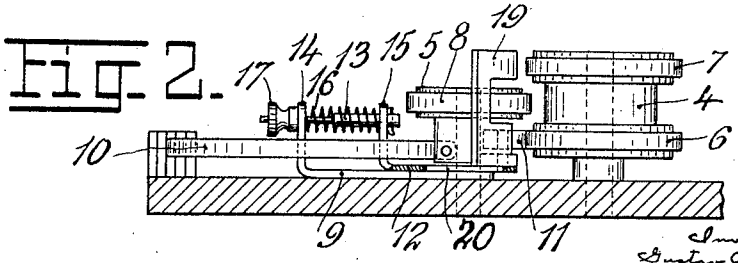


Fig. 2.



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UNITED STATES PATENT OFFICE.

GUSTAV ADOLF HANSEN, OF OSLO, NORWAY.

LETTER-CANCELING MACHINE.

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My invention relates to letter canceling machines and especially to the feeding device of such machines.

The object of my invention is to provide a new and useful device for separating the letters, i. e. holding back the letters so as to let only one letter at a time pass from the letter magazine into the stamping or canceling device. In the letter canceling machines hitherto known such a separating device comprises either a spring actuated separating finger exerting a slight pressure on the letters and formed so as to let only through one letter at a time, or also a separating roller rotating in a direction opposite to that of the feed roller. Such a separating roller must be journalled in such way as to exert an accurately adjustable pressure against the letters, and must be provided with an adjusting device, by aid of which this pressure may be adjusted so as to conform with the constant wear of the rubber coating of the two rollers.

In order that such a separating roller may function in a satisfactory manner it is important that this adjustment is simple and easily effected by the operator.

The main object of my invention is to provide an adjusting device for a separating roller of this kind, in which the adjustment may be effected by aid of one simple operation.

In the following my invention shall be explained with reference to the accompanying drawing, in which:

Fig. 1 is a diagrammatic plan view of the letter feeding and separating apparatus.

Fig. 2 is a side view of the separating device and its adjusting mechanism.

As usual, the letters are stacked in upright position in a magazine, whose bottom is formed by a continually moving belt or apron 1, by whose motion the letters are pressed forward against the spring pressed oblique plate 2, the edge of said plate pressing resiliently against the first feed roller 3, the letters being successively pressed forward between said plate 2 and this roller.

Having passed this first feed roller 3, the letters pass in between the second and faster rotating feed roller 4 and the separator roller 5, which—as already mentioned—is rotated in a direction opposite to that of the feed rollers 3 and 4. Ordinarily only one letter at a time passes between the plate 2 and the roller 3; but if nevertheless two or more letters should simultaneously travel past the plate 2, only the letter contacting with the feeding roller will be fed forwards, the other being swept back by the separator roller 4, so that always only one letter at a time is fed past the feed roller 4 and on to the stamping rollers (not shown in the drawings).

Now according to my invention the feed roller 4 is provided with two rubber bands or coatings 6 and 7, one near the base and the other near the top of said roller (see Fig. 2), and the separator roller 5 is arranged to reach in with its rubber band or coating 8 between the two bands or coatings 6 and 7 for a short distance (say ⅛ inch), as shown in Fig. 2.

The separator roller 5 is journalled in a lever 9, swinging about a bolt 18, and this lever, and with it the roller 5 is kept under a constant pressure towards the feed roller 4 by a spring 10. The distance of the separator roller 5 from the feed roller 4 is kept by aid of a small steel roller 11 rotating loosely in contact with the lower rubber band 6 of the roller 4. Said roller 11 is journalled in a lever 12, placed directly above the lever 9 and swinging about the same bolt 18 as the lever 9. This lever 12 is connected to the lever 9 by aid of a pin 13, passed through upright lugs 14 and 15 on the lever 9 and 12, respectively. The part of the pin 13 outside the lug 14 is threaded, and the part of it lying between the two lugs 14 and 15 carries a pressure spring 16, normally keeping the lugs 14 and 15, and herewith the levers 9 and 12, in the position given by the adjustment of a nut 17, screwed on to the threaded end of the pin 16. The lever 12 is provided with a slot 20 allowing a displacement of this lever relatively to the shaft of the separator roller 5, which is journalled in the lever 9. The lever 12 is on the part adjacent to the roller 4 and carries a letter guide plate 19 for guiding the letters in between rollers 4 and 5, said guide plate having a height approximately corresponding to that of the feed roller 4, and having apertures for the rollers 5 and 11.

This device is adjusted in the following manner:

As the rubber coats or bands of the rollers are worn thinner, it is necessary to adjust the separator roller correspondingly. This is effected by tightening the nut 17, thereby

moving the lugs 14 and 15 towards each other and thereby advancing the separator roller relatively to the steel roller 11, contacting with the feed roller 4. The separator is kept pressed against the back of the letters by the pressure of the spring 10, and at the same time the spring 16 inserted between the lugs 14 and 15 ensures a certain amount of resiliency between the levers 9 and 12, allowing the roller 11 to adjust itself to the thickness of the letters pressing through the feeding device independently of the adjustment of the separator roller. The whole adjusting operation therefore consists in the screwing of the nut 17, whereby is obtained an accurate and simple adjustment of the separator roller relatively to the feed roller.

The arrangement of the rubber coating of the separator roller reaching in between the two rubber bands or coatings of the feed roller is of the greatest importance, it being thereby obtained that letters or postcards passing through the feeding device are bent a little inwards by the separator roller, thereby preventing the succeeding letters or postcards from being carried past the contact roller 11 and the separator roller, until the first letter has passed onwards past the separator roller.

Claims:—

1. In letter canceling machines the combination of a separator roller carried by an axle capable of lateral motion, a feed roller arranged opposite said separator roller, and a rubber coating on said separator roller extending into the free space between two separate rubber coatings on said feed roller.

2. In letter canceling machines the combination of a swinging spring pressed lever and a separator roller with a rubber coating journalled thereon, with another swinging lever, and a roller without any rubber coating journalled thereon, and a feed roller with a rubber coating contacting with the latter roller and means for adjustably interconnecting said levers.

3. In letter canceling machines the combination of a swinging spring pressed lever and a separator roller with a rubber coating journalled thereon, with another swinging lever, and a roller without any rubber coating journalled thereon, and a feed roller with a rubber coating contacting with the latter roller and an adjusting device interposed between said levers comprising a lug on each lever, a pin interconnecting said lugs, a pressure spring interposed between said lugs, and means for adjusting the relative positions of said lugs.

4. In letter canceling machines the combination of a swinging spring pressed lever and a separator roller with a rubber coating journalled thereon, with another swinging lever, and a roller without any rubber coating journalled thereon, and a feed roller with a rubber coating contacting with the latter roller and an adjusting device interposed between said levers comprising a lug on each lever, a pin interconnecting said lugs, a pressure spring interposed between said lugs, and a nut on said pin for adjusting the relative position of said lugs.

In testimony that I claim the foregoing as my invention, I have signed my name.

GUSTAV ADOLF HANSEN.