(No Model.) 2 Sheets—Sheet 1.

W. LÖFFELHARDT.

MACHINE FOR FEEDING LETTERS TO STAMPING DIES.

No. 311,340. Patented Jan. 27, 1885.

Fig. 2.

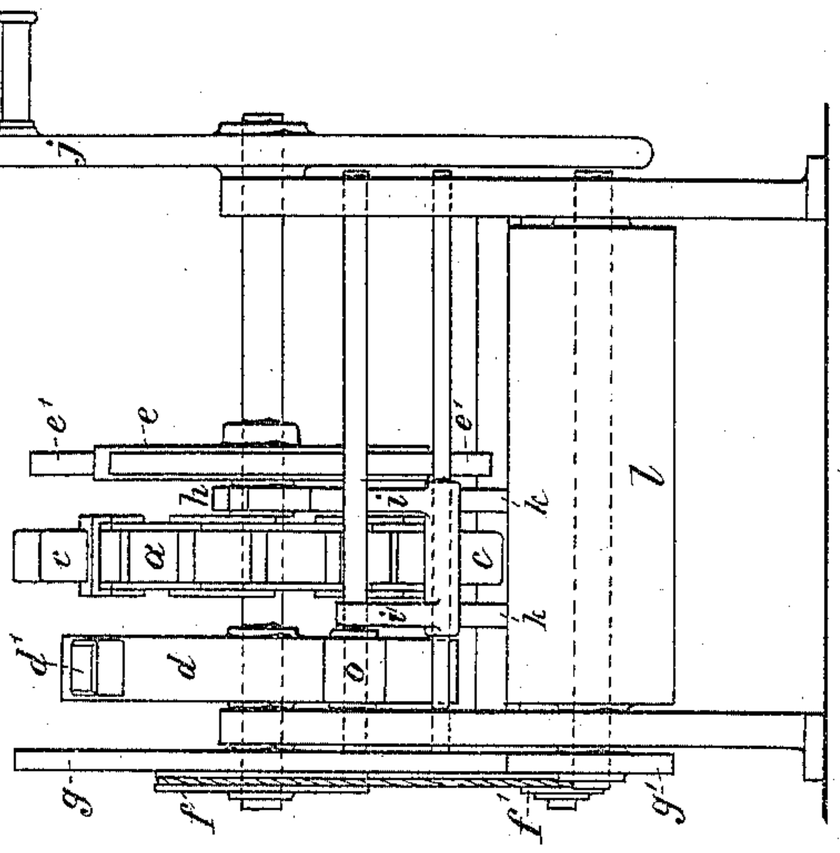


Fig. 4.

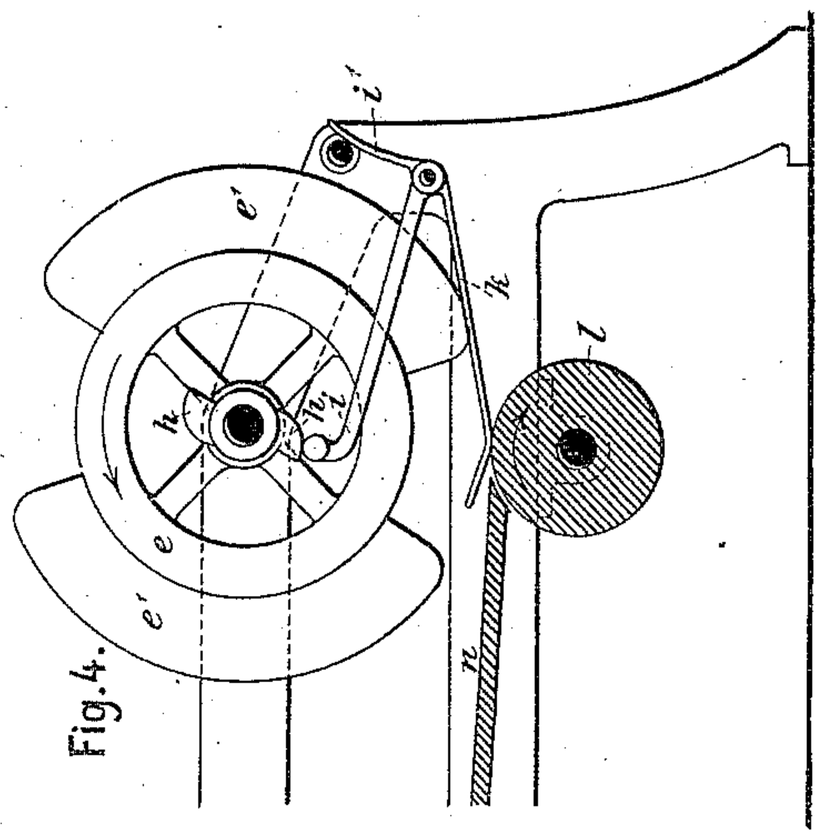


Fig. 1.

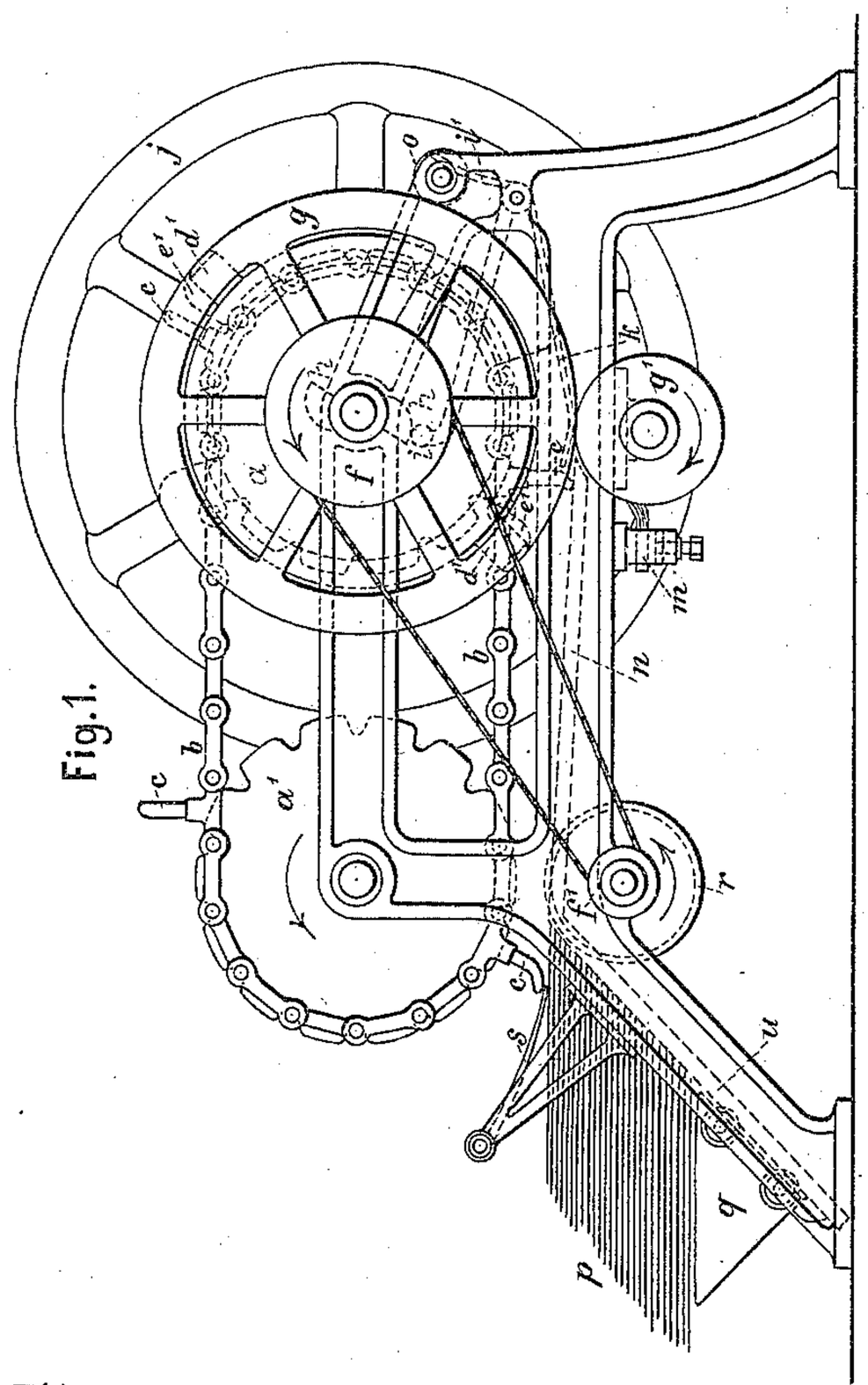
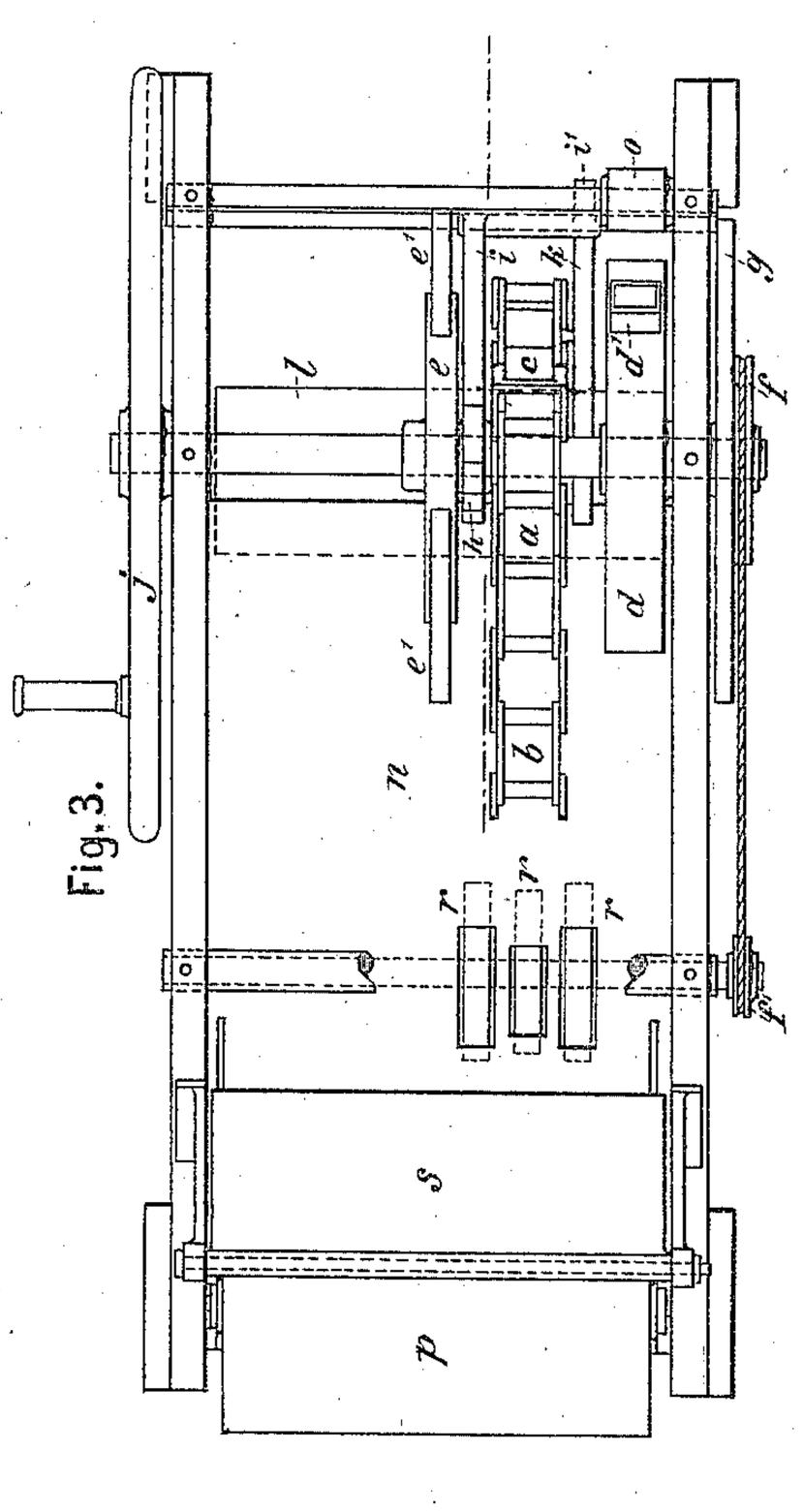


Fig. 3.



Witnesses.
E. A. Dick
D. R. Lowe

Wilhelm Löffelhardt
by W. Bailey
his Attorney

(No Model.) 2 Sheets—Sheet 2.

W. LÖFFELHARDT.

MACHINE FOR FEEDING LETTERS TO STAMPING DIES.

No. 311,340. Patented Jan. 27, 1885.

Fig. 5.

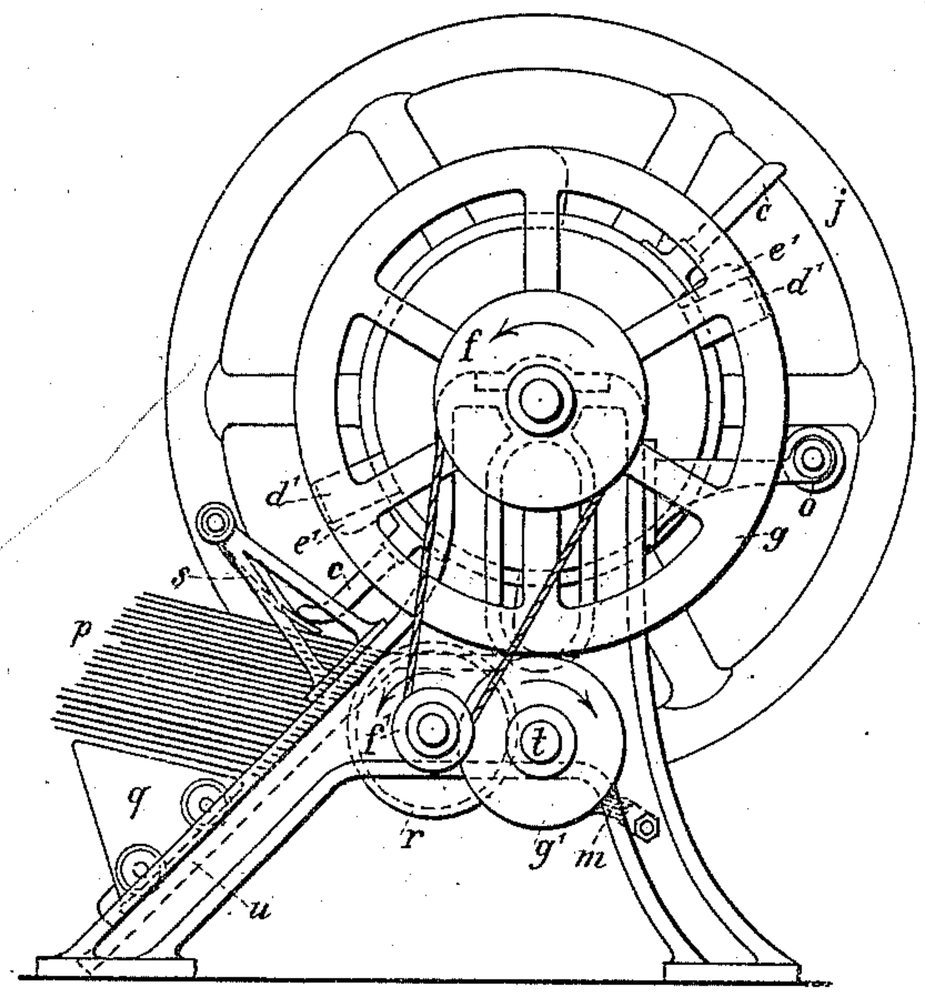


Fig. 6.

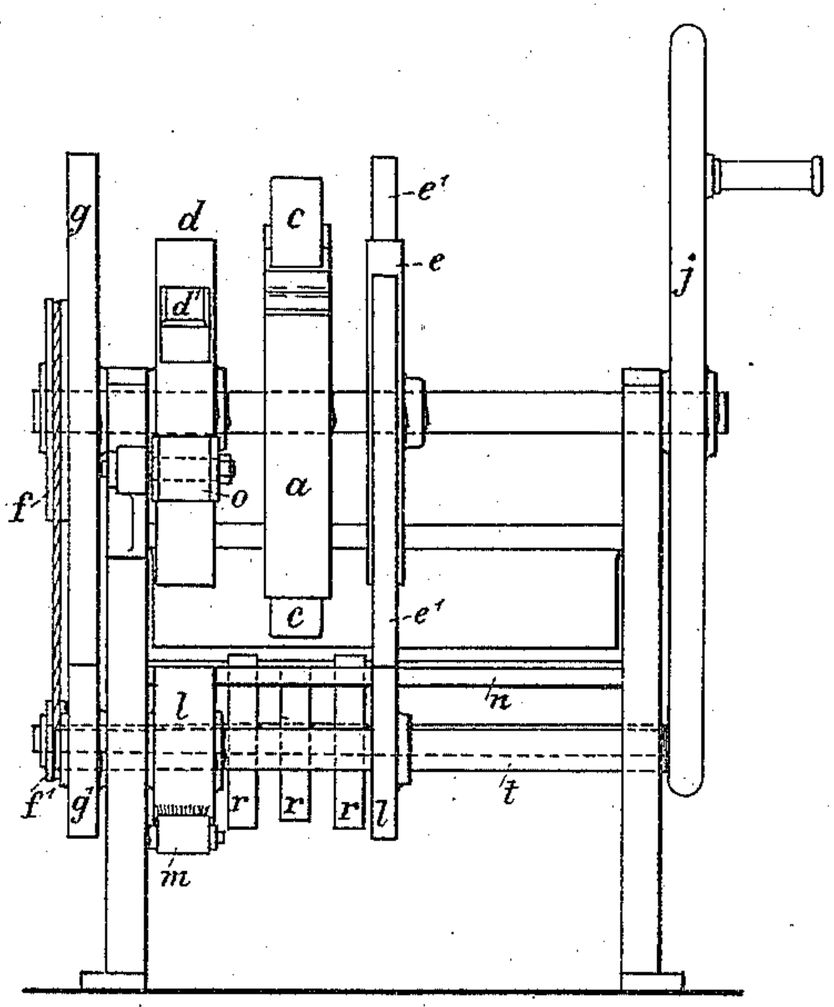


Fig. 7.

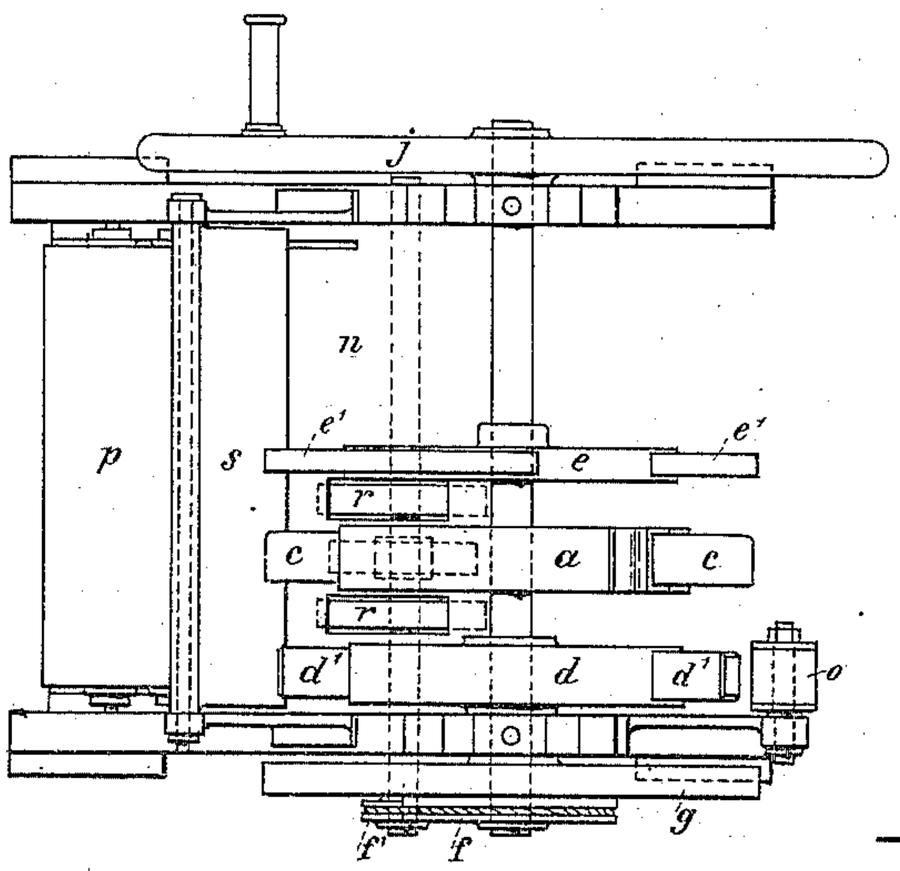
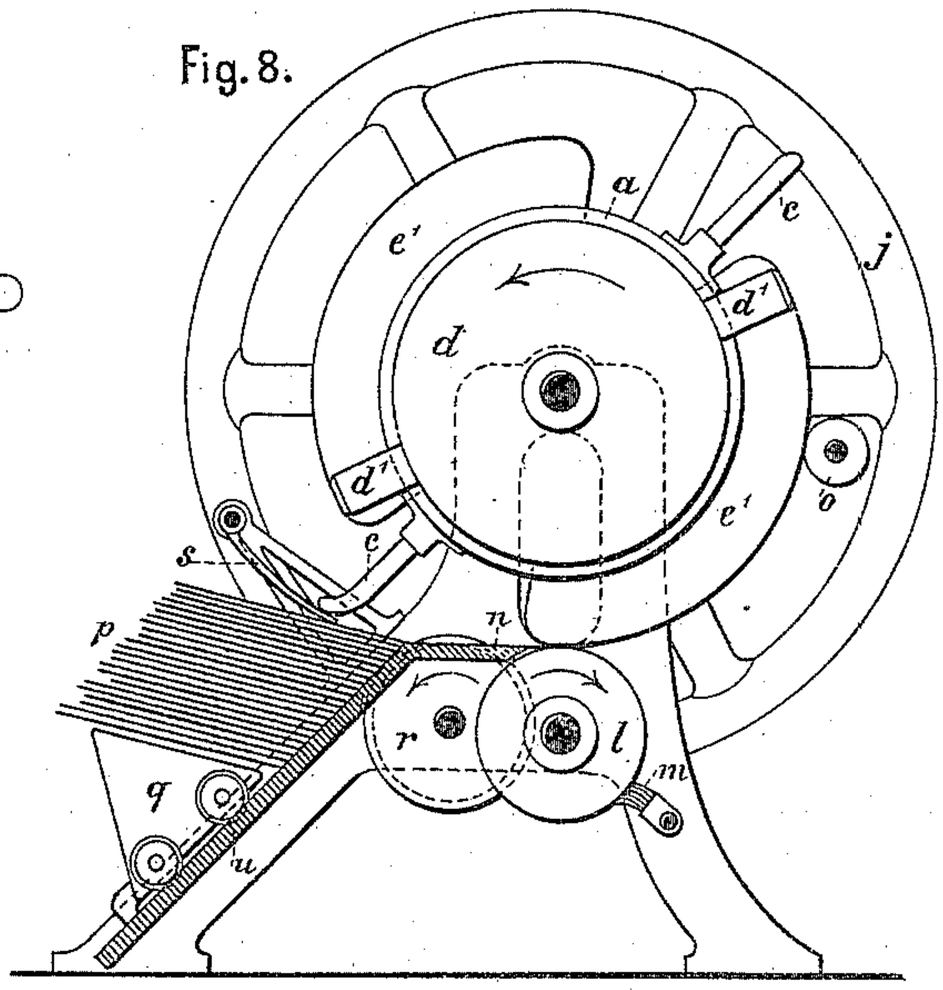


Fig. 8.



Witnesses
E. A. Dick
A. P. Lord

Wilhelm Löffelhardt
by W. Dailey
his atty.

UNITED STATES PATENT OFFICE.

WILHELM LÖFFELHARDT, OF HAMBURG, ASSIGNOR TO GEORG HALLER, OF OTTENSEN, NEAR HAMBURG, GERMANY.

MACHINE FOR FEEDING LETTERS TO STAMPING-DIES.

SPECIFICATION forming part of Letters Patent No. 311,340, dated January 27, 1885.

Application filed September 27, 1881. (No model.) Patented in Germany June 8, 1879, No. 10,511, September 19, 1879, No. 11,581, and September 14, 1880, No. 14,188; in France September 15, 1880, No. 138,716; in Belgium September 16, 1880, No. 52,581; in England September 27, 1880, No. 3,902; in Italy October 1, 1880, and in Austria-Hungary November 22, 1880.

To all whom it may concern:

Be it known that I, WILHELM LÖFFELHARDT, residing in Hamburg, Germany, have invented new and useful Improvements in Machines for Stamping Letters, (for which patents have been granted to me in Germany on June 8, 1879, September 19, 1879, and September 14, 1880; in France on September 15, 1880; in Belgium on September 16, 1880; in Great Britain and Ireland on September 27, 1880; in Italy on October 1, 1880, and in Austria-Hungary on November 22, 1880;) and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to a machine by which the stamping of letters, postal cards, &c., at post-offices—*i. e.*, the printing of the date and place of reception and delivery thereon, and the canceling of postage-stamps—may be effected mechanically.

The machine is represented on the annexed two sheets of drawings in two different arrangements.

Figure 1 shows the machine of the first arrangement in a side elevation. Fig. 2 is an end view of the same from the right-hand side of Fig. 1; Fig. 3, a plan with some parts broken away, and Fig. 4 a sectional view of the delivery part of the machine. Fig. 5 represents a machine of the second arrangement in a side elevation. Fig. 6 is an end view thereof from the right-hand side of Fig. 5, while Figs. 7 and 8 are respectively a plan and a sectional view.

The letters are held upon supporting devices, by which they are maintained within reach of the grasping and carrying mechanism. Said supporting devices may be of the character shown at *q* and *n* in the constructions illustrated.

In the machine represented by Figs. 1 to 4 the pile of letters *p* rests on a carriage, *q*, which runs or slides on inclined or vertical ways *u*, and which is made to ascend slowly by hand or by a counterbalance-weight, or otherwise, so that the letters bear with a gentle pressure against the plate *s* or other suitable stop. From the said pile *p* the uppermost letter is drawn forward by one of the transporting-fingers *c*, made of india-rubber or other flexible material, and adapted to act on the letter by friction. These fingers are attached to a pitch-chain, *b*, running on the chain-wheels *a* and *a'*, and instead of a single finger acting at a time there may be two or more placed alongside of each other and operating together. It is preferred to arrange the plate *s* in such a manner that the fingers *c* will first slide along the same, and that only upon slipping off its edge they will grasp the letter.

In front of the pile of letters are placed the disks *r*, projecting through slits in the plate or table *n*, and rotating in a direction contrary to the motion of the fingers *c*. These disks, which are covered with india-rubber or other material adapted to operate by friction, serve to prevent two letters accidentally adhering together from being simultaneously passed through the machine when a finger *c* acts on the upper one, as in such case the disks will draw the lower letter away from beneath the upper letter and return it to the pile *p*. By preference three disks *r* are used, of which two are on either side of the path of the fingers *c*, whereas the middle one, which is so much smaller than the others as barely to project from the table *n*, is in the path of the fingers. When the letter which is being drawn forward by the operating-finger approaches the stamping device, it meets the two springing arms *k*, one on either side of the path of the fingers *c*, and attached to the lever *i* or fixed on the axle of the same, this lever being depressed before the arrival of any letter by one of the cams *h*, so that the arms *k* bear against the roller *l*. The letter being stopped in its motion by the said arms is at the same time pushed square to the machine, in case it should be in an oblique position. This stoppage and adjustment are facilitated by the inclination which has been given to the table *n* in respect to the chain *b*, as the pressure of the operating-finger on the letter is thereby caused to be but very slight when the letter is at the end of the table. The letter being in this position is

simultaneously acted upon by either of the india-rubber segments *e'*, fixed on the disk *e*, and by the corresponding stamping-die, *d'*, attached to the disk *d*, and is drawn forward between them and the counter-pressure roller *l*. During such passage the letter is stamped, and when the rear edge of the segment *e'* leaves the roller *l* the letter drops from the machine into a box placed underneath. Before the segment and the die begin to operate on the letter, the cam *h* must have released the lever *i*, which is thereupon raised, together with the arms *k*, by the spring *i'*, (which may be of any suitable form or construction,) so that the said arms do not any more cause an obstruction to the passage of the letter. *m* is a brush serving to keep the roller *l* clean.

The machine as represented in the drawings is arranged to be rotated by hand. The disk *d*, carrying the stamping-dies, the driving chain-wheel *a*, and the disk *e*, bearing the segments *e'*, are keyed on the fly-wheel shaft, while motion is transmitted from the same shaft to the disks *r* by the pulleys *f* and *f'*, over which a cord runs, and to the counter-pressure roller *l* by the friction-disks *g* and *g'*. The various shafts are all shown as rotating in fixed bearings; but it is preferable to make the bearings of the chain-wheel *a'* adjustable horizontally, so that the chain *b* may always be properly stretched again when it becomes slack from the wear of the pins and pin-holes. The dies *d'* are inked by means of an inking-roller, *o*, which may consist of a hollow cylinder perforated on its periphery and covered with cloth or felt, this covering being adapted to imbibe the ink put into the cylinder, and to transfer it to the die when the latter passes the roller and comes in contact with it.

In the modified arrangement of the machine represented by Figs. 5 to 8 the chain *b*, the chain-wheel *a'*, the lever *i*, and the cams *h* are omitted, while the fingers *c* are fixed to the wheel *a* corresponding to the chain-wheel *a* in Figs. 1 to 4. The ways on which the carriage *q* runs and the disks *r* are placed as close to the stamping device, &c., as the shaft *t* permits, and instead of a single long counter-pressure roller *l* there are on this shaft two disks *l*, which are respectively opposite to the course of the stamping-dies *d'* and of the segments *e'*, and which leave the necessary space between them for the disks *r* to project into. In all other respects the machine agrees in its construction with the first arrangement.

In both machines the parts carrying the stamping-dies, the fingers *c*, and the segments *e'*, and also the disks *r*, have been arranged on one side, so that small letters as well as large ones may be brought properly under the action of the operating parts, provided only that all letters in the pile *p* be made even with each other on their right-hand edge, and that they be pushed with their top edge against the ways on which the carriage *q* runs.

I do not claim, broadly, an intermittently-operating feed device having a portion of its periphery clothed with a friction material. My claim in this respect is directed to the particular instrumentalities—viz., the elastic and yielding and traveling fingers *c* shown in the drawings. The devices are more effective than others heretofore used for the purpose, so far as I know. They have considerable capacity for yielding, and at the same time maintain a firm, sure hold on the letter, acting, in a measure, like the fingers of the hand.

I claim as my invention—

1. The combination, with the dies *d'* and the letter-supporting devices, substantially as described, of the chain-carrier provided with fingers *c*, adapted to hold the letter against said supports and to transport it, substantially as hereinbefore described.

2. The combination, with the dies *d'*, the letter-supporting devices, substantially as described, and the transporting-fingers *c*, of the guard *s*, arranged between said supports and the path of the fingers, whereby the time and point of contact of said fingers with the letter are made uniform, substantially as hereinbefore set forth.

3. The combination of the dies *d'*, the letter-supporting devices, the flexible transporting-fingers *c*, and the supporting and carrying devices for said fingers, the fingers being mounted on said carrying devices in a position substantially at right angles to their lines of travel, and being of a length greater than the distance between said carrier and the table *n*, and of less thickness at their operative extremity than at their base, whereby said extremity is adapted to be bent over abruptly when in contact with the letter, substantially as hereinbefore set forth.

4. The combination, with the dies *d'*, of the chain-carrier provided with fingers *c* and the opposing inclined table *n*, whereby the letter may be held with a relaxed grasp as it reaches the gage which adjusts it for the stamping operation, substantially as hereinbefore set forth.

5. The combination, with the rotating dies *d'*, a roller or disk, *l*, and the transporting-fingers *c*, of the disks *r*, covered with india-rubber or other similar material, and rotating contrary to the direction in which the letters are moved by the fingers *c*, substantially as and for the purposes described.

6. The combination, with the rotating dies *d'*, the roller or disk *l*, fingers *c*, and disk *e*, with segments *e'*, of the lever *i*, operated upon by the cams *h*, and provided with springing arms *k* and spring *i'*, as hereinbefore specified, and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILH. LÖFFELHARDT.

Witnesses:
HENRY SPRINGMANN,
BERTHOLD ROI.