

No. 825,476.

PATENTED JULY 10, 1906.

H. OSBORN.

SEPARATING MECHANISM FOR MAIL MARKING MACHINES.

APPLICATION FILED JUNE 16, 1905.

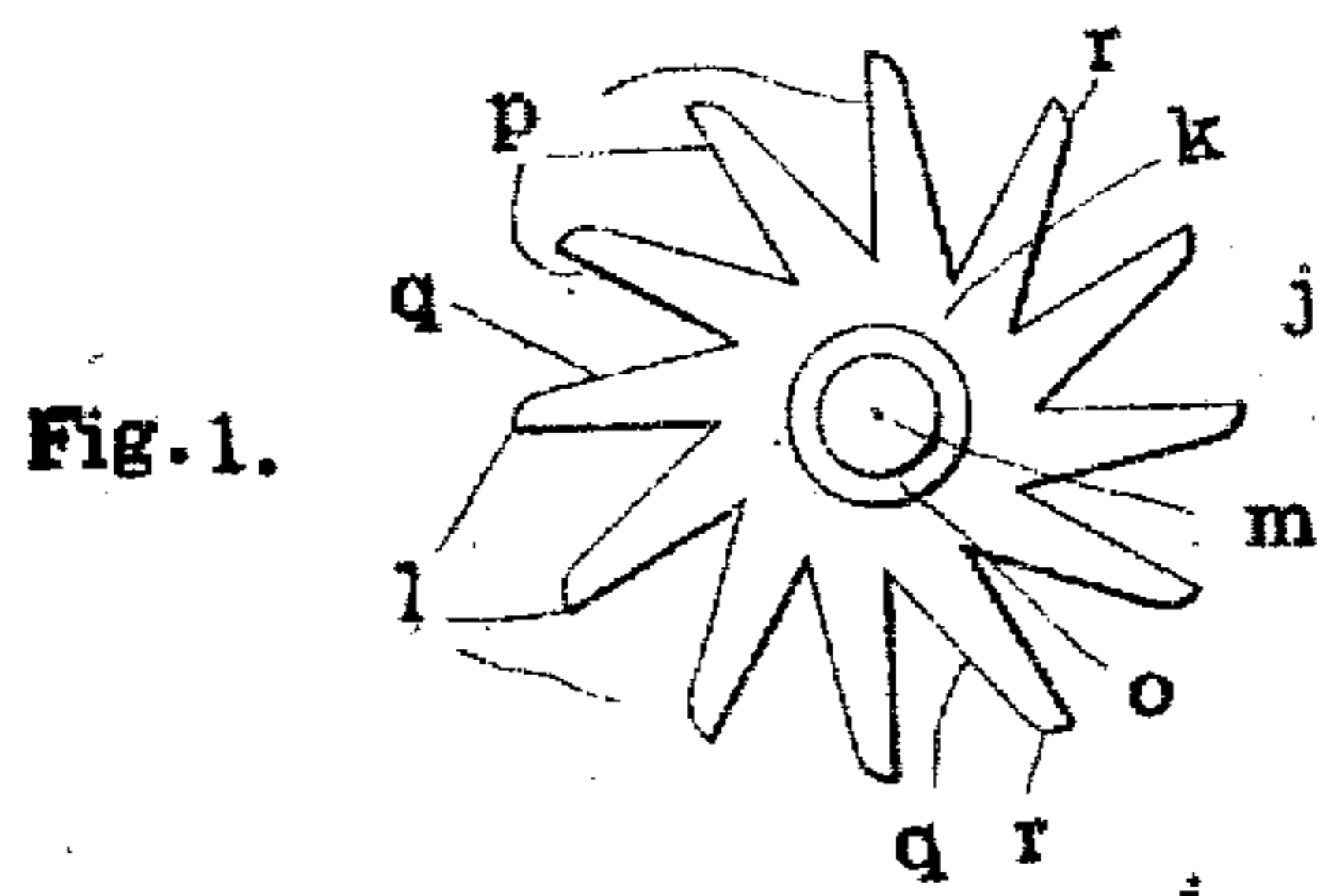


Fig. 1.

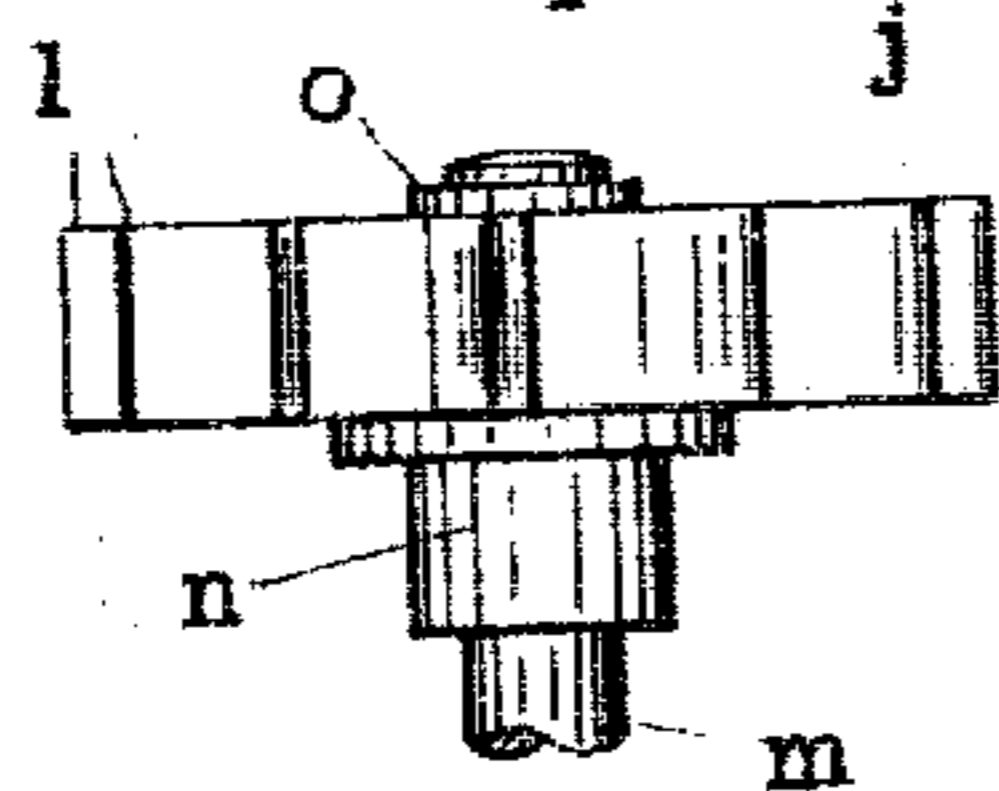


Fig. 2.

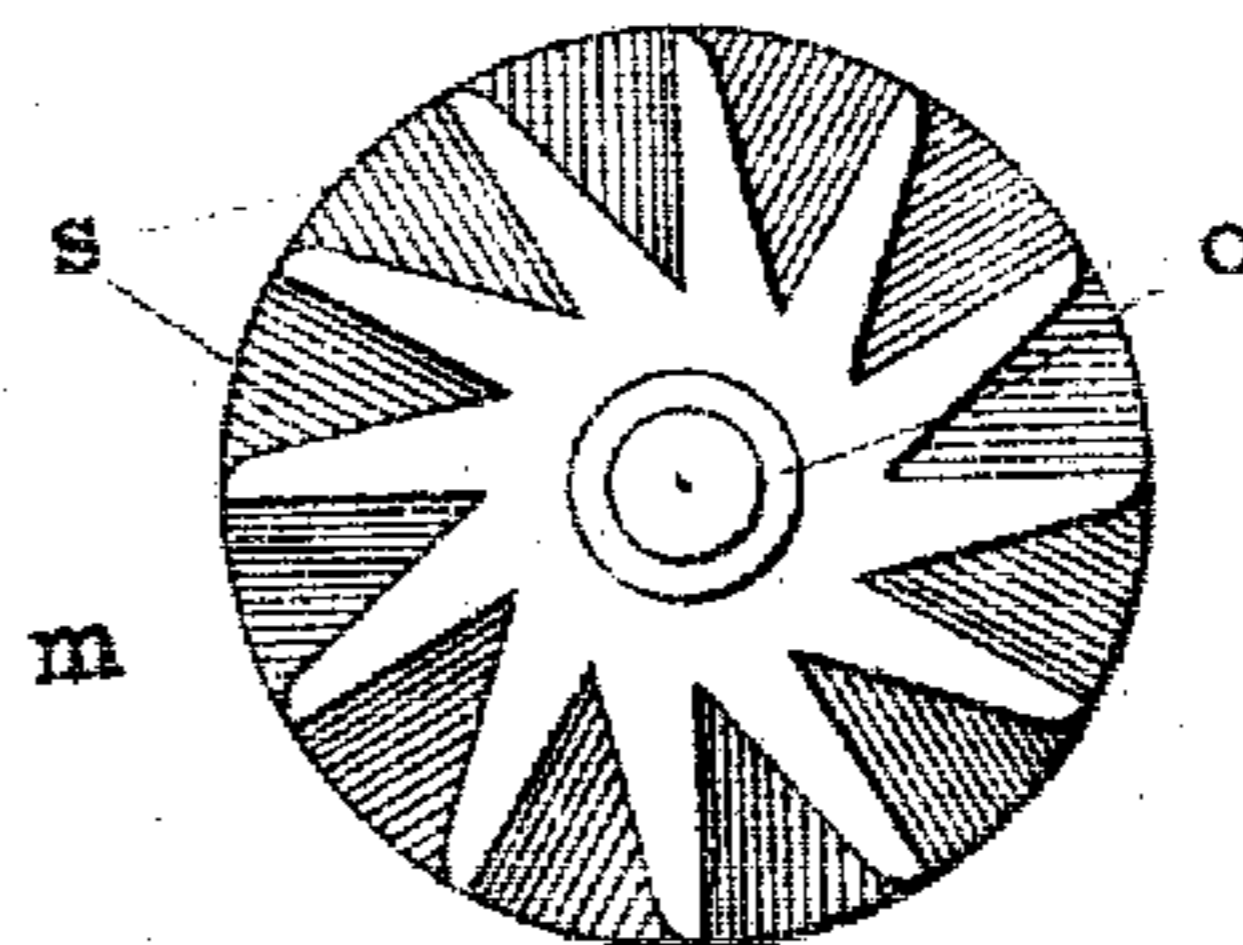


Fig. 4.

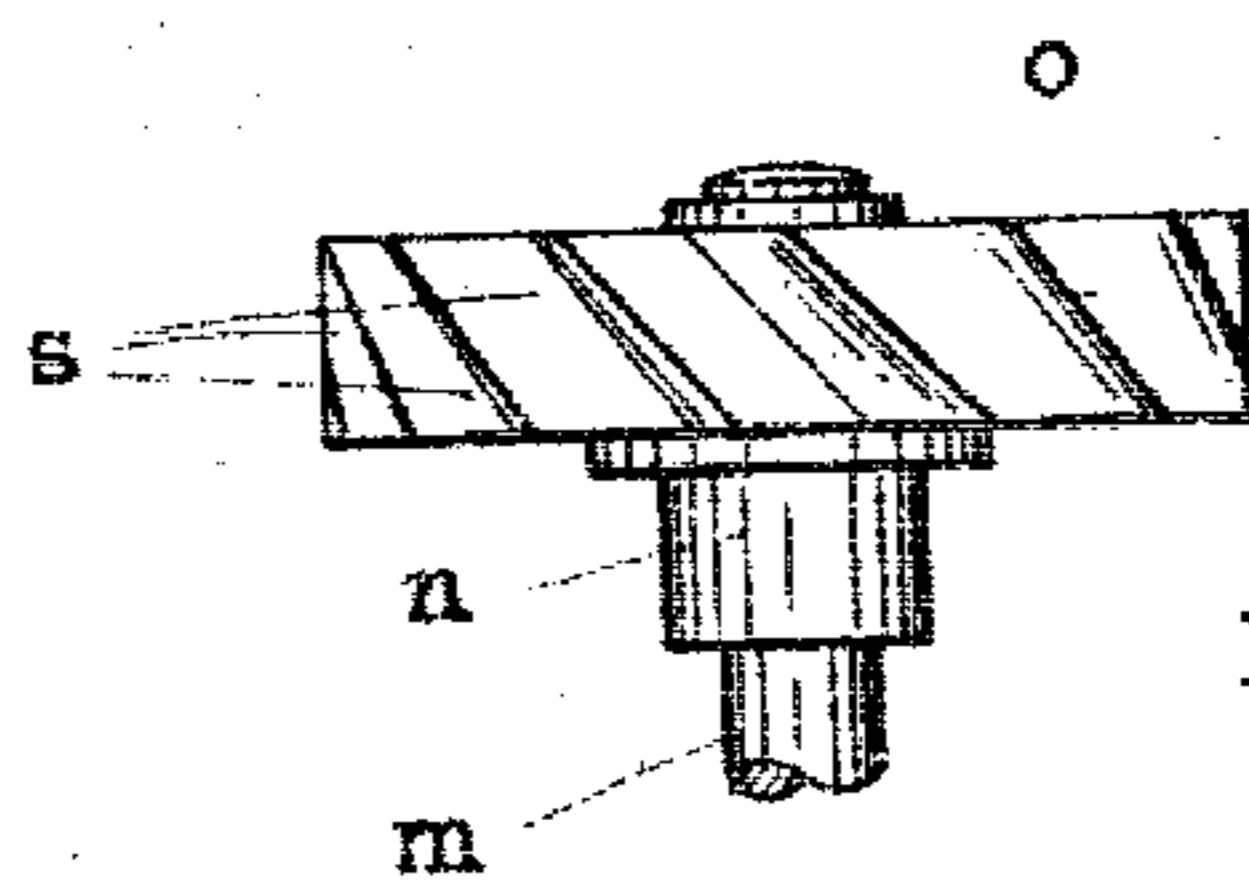


Fig. 5.

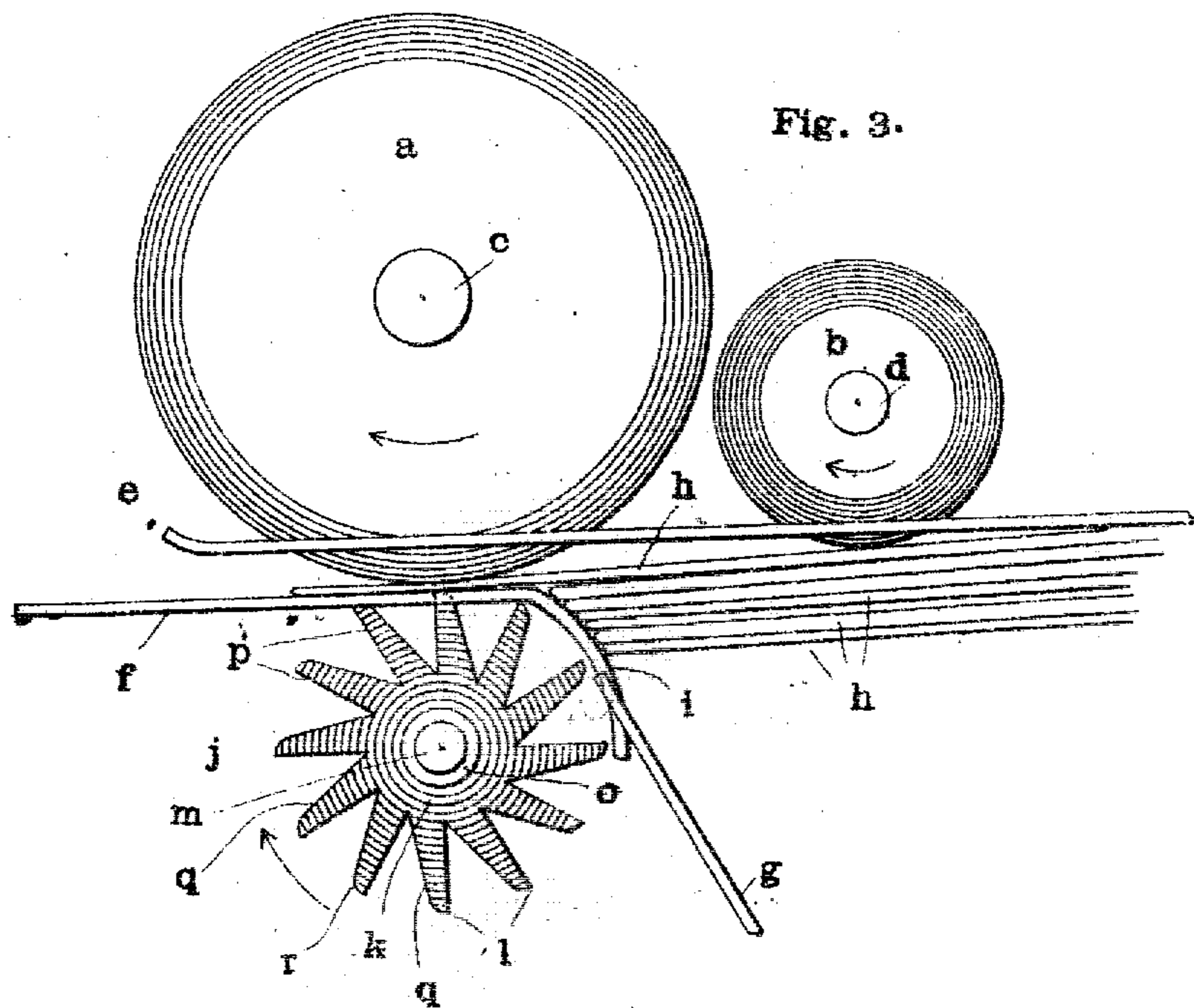


Fig. 3.

Witnesses:

R W Martindale
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UNITED STATES PATENT OFFICE.

HOWARD OSBORN, OF CHICAGO, ILLINOIS. ASSIGNOR TO TIME MARKING MACHINE COMPANY, A CORPORATION OF THE DISTRICT OF COLUMBIA.

SEPARATING MECHANISM FOR MAIL-MARKING MACHINES.

No. 825,476.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed June 18, 1905. Serial No. 265,607.

To all whom it may concern:

Be it known that I, HOWARD OSBORN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Separating Mechanism for Mail-Marking Machines, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding letters of reference in the different figures indicate like parts.

The object of my invention is to provide a simple, cheap, and effective mechanism for separating mail-pieces as they are fed to a mail-marking machine which shall be so constructed as to permit the advancement of but one piece at a time, while providing for the passage, without obstruction, of pieces of varying thicknesses.

To these ends my invention consists in the combination of elements hereinafter more particularly described, and definitely pointed out in the claims.

In the drawings, Figure 1 is a plan view of my improved separator. Fig. 2 is an elevation of the same, showing a portion of the shaft upon which it is mounted. Fig. 3 is a diagrammatic view in plan of a mail-feeding mechanism, showing my improved separator or retarder combined therewith. Fig. 4 is a plan view of a modified form of separator, and Fig. 5 is an elevation thereof.

Referring to the drawings, *a* and *b*, respectively, Fig. 3, represent the usual well-known feed-rolls, mounted, as is customary, upon vertical shafts *c* *d*, supported in bearings upon a table (not shown) upon which is also supported the customary guide-plates or shields *e*, *f*, and *g* for the purpose of controlling the mail-pieces *h*. The feed-rolls having the usual frictional surfaces are caused to rotate in the direction indicated by the arrows thereon to feed the mail-pieces forward between the shields *e* and *f*.

The "bunch" or package of mail-pieces is placed upon the feeding-table in the usual manner, with the ends against the curved portion *i* of the shield *f*. This causes the forward end of each successive mail-piece from that next to the feed-rolls to stand slightly in the rear of its predecessor, as shown, and aids in initiating the forward movement of the one

next to the feed-rolls, but does not insure their separation, and, as is well known, it often happens that two or more mail-pieces will be advanced together unless special means is provided to cause such separation. For the purpose of effectually accomplishing this result I provide a separator or retarder, which is generally designated by *j* and consists of a revoluble element having a hub portion *k* and a series of projecting arms *l*, formed from india-rubber or other flexible material, preferably the former. The hub portion *k* is provided with a central bore adapted to receive a shaft *m*, to which it may be rigidly attached by means of a collar *n* and ring *o*, secured in the usual way. I prefer to make the arms *l* integral with the hub portion and to so form the arms that what may be termed the "rear" face *p* of each may be in a radial line, while the forward or working face *q* may be oblique thereto and rounded at the end, as shown at *r*. The separator is arranged to rotate in the direction indicated by the arrow shown in Fig. 3 and is so placed opposite to the feed-roll *a* that the arms *l* may project through an opening in the shield *f* in the pathway of the mail-pieces. The frictional action of the flexible arms *l* upon the mail-piece in contact with the feed-rolls being less than that of said rolls, notwithstanding said arms are caused to move in an opposite direction, the forward mail-piece is advanced in its pathway, said arms yielding to permit such movement in conformity to the requirements of thick or thin pieces. At the same time the frictional action of said arms upon the remaining pieces is such as to effectively prevent their forward movement until the foremost piece is caused to be fully advanced by the feed-rolls, when the next will be actuated, and so on successively, the separation in each instance being reliable and certain and that regardless of the varying thickness or length of the mail-pieces.

In the construction described I have represented the faces of the arms or projections as being parallel to the plane of the axis of the driving-shaft; but I prefer to place such faces obliquely thereto, as shown at *s* in the modified construction represented in Figs. 4 and 5, or, in other words, to arrange them spirally upon the periphery of the hub portion. By this construction a portion of a given arm is

brought into contact with the mail-piece at or about the same time that a portion of the preceding arm is separated therefrom, thereby rendering the contacts smoother and less abrupt in their action.

I do not wish to be confined to the exact construction shown, as it is obvious that the same may be varied without departing from the principle involved.

10 Having thus described my invention, I claim—

1. In a separating mechanism for mail-marking machines, the combination of means for feeding the mail-pieces forward, of a retarding device consisting of a revoluble element having yielding arms with frictional surfaces to permit the passage of articles of varying thickness.

20 2. In a separating mechanism for mail-marking machines, the combination of means for feeding the mail-pieces forward, of a retarding device consisting of a revoluble element having yielding arms to permit the passage of articles of varying thickness, said device being arranged to act upon the opposite

side of the mail-pieces from that of the feed mechanism and in a direction opposed thereto.

3. In a separating mechanism for mail-marking machines, the combination with means for feeding the mail-pieces forward, of a retarding device consisting of a revoluble element having yielding arms with frictional surfaces, said arms being arranged in contiguity with each other, whereby at least one arm shall be brought into operative contact at all times during the passage of a mail-piece.

4. In a separating mechanism for mail-marking machines, a retarder consisting of a revoluble element having yielding projections arranged spirally upon the periphery of a central hub.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 14th day of June, 1905.

HOWARD OSBORN.

Witnesses:

D. H. FLETCHER,

W. B. MARTINDALE.