

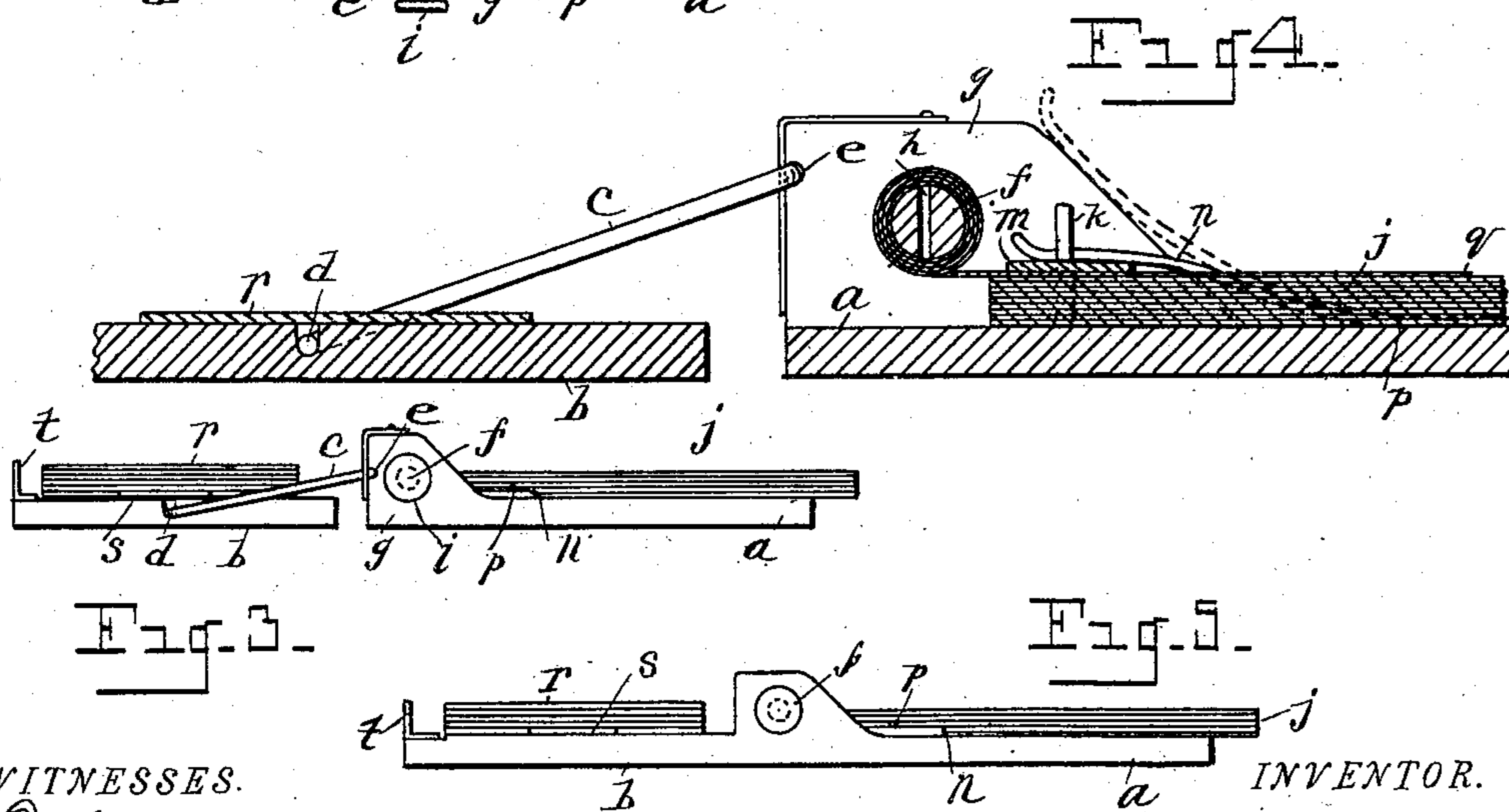
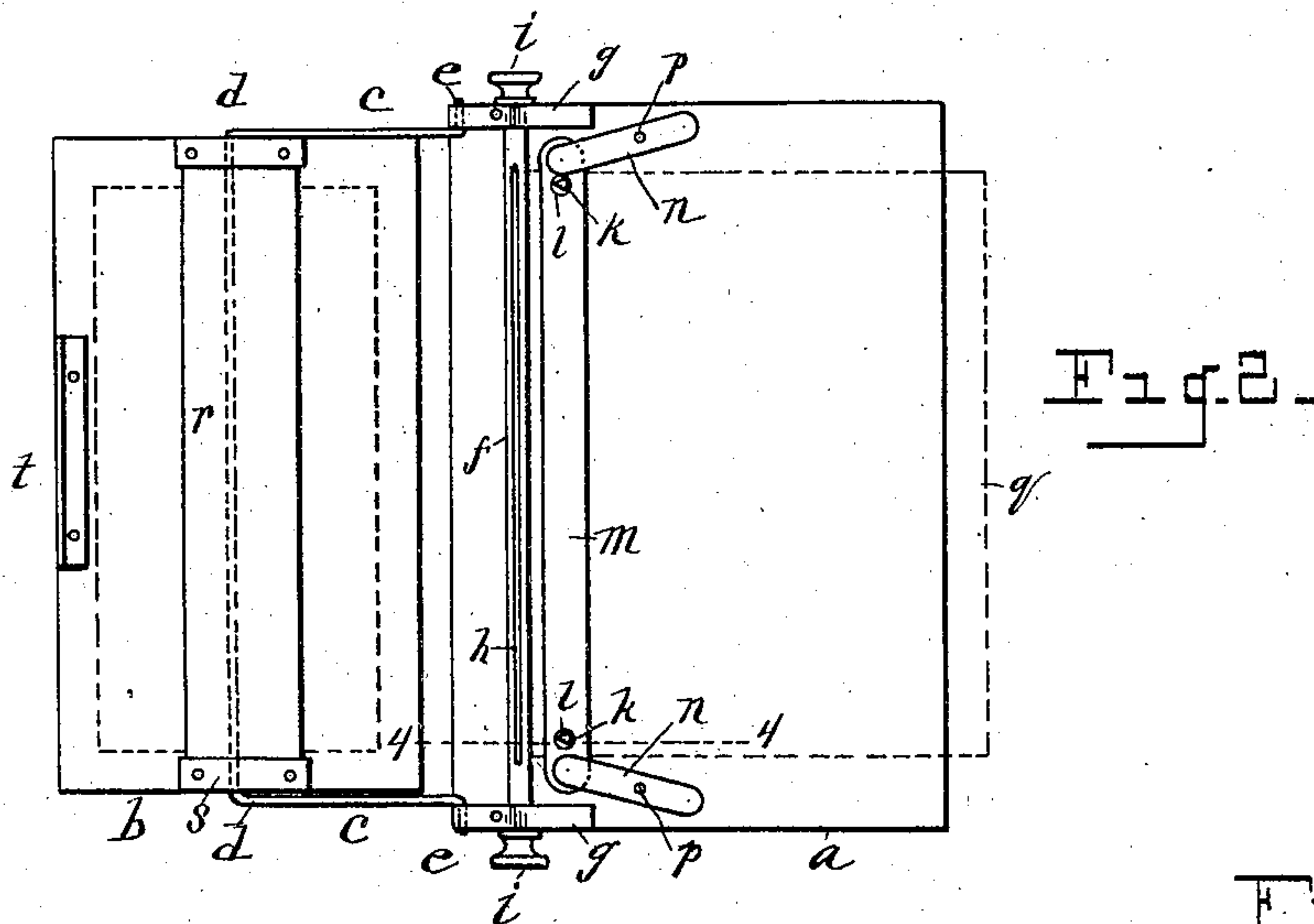
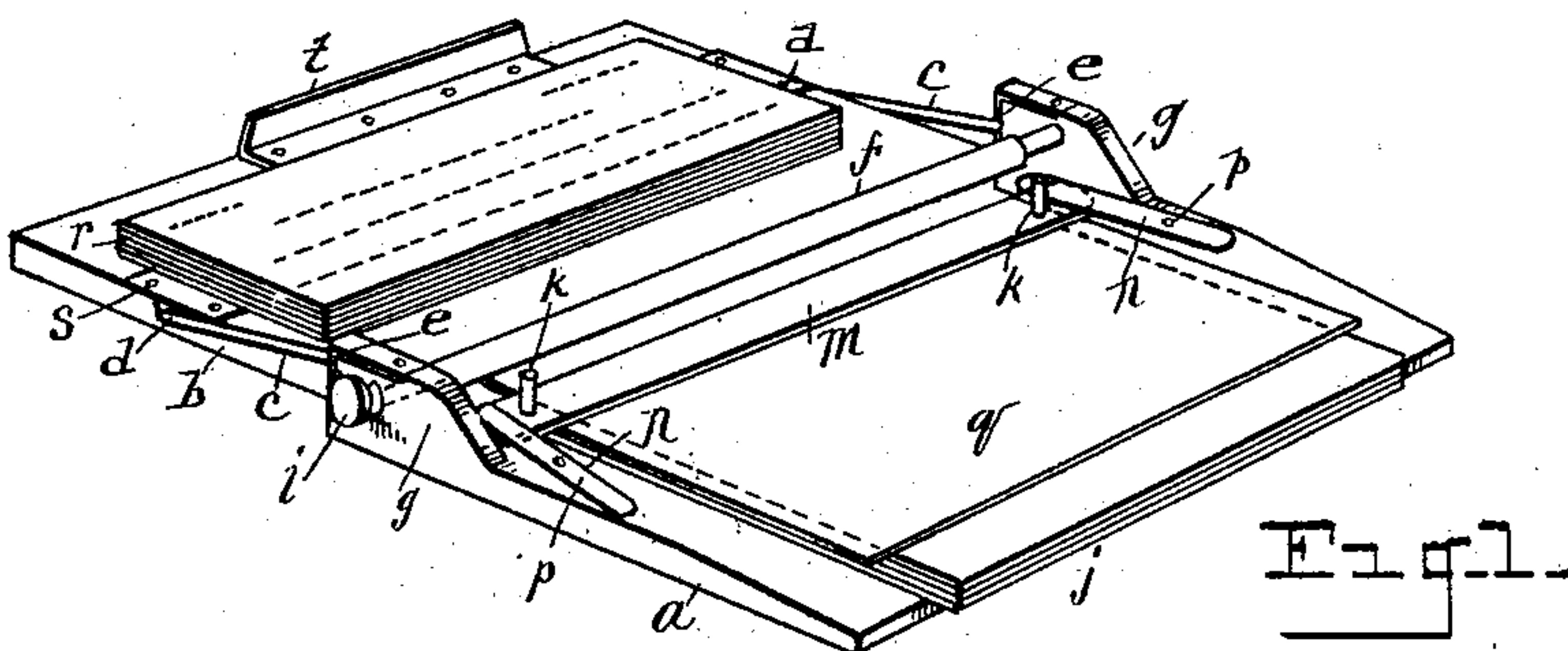
No. 709,853.

Patented Sept. 23, 1902.

H. H. NORRINGTON.
MANIFOLD DUPLICATING DEVICE.

(Application filed Mar. 31, 1902.)

(No Model.)



WITNESSES.

O. B. Baenziger.
Anna White.

n a INVENTOR.
Henry H. Norrington
By Newell S. Wright.

His Attorney

UNITED STATES PATENT OFFICE.

HENRY H. NORRINGTON, OF WEST BAY CITY, MICHIGAN.

MANIFOLD DUPLICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 709,853, dated September 23, 1902.

Application filed March 31, 1902. Serial No. 100,794. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. NORRINGTON, a citizen of the United States, residing at West Bay City, county of Bay, State of Michigan, have invented a certain new and useful Improvement in Manifold Duplicating Devices; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a manifold duplicating device; and it consists of the construction hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective, showing the device in open position. Fig. 2 is a plan view of the same. Fig. 3 is an end view; and Fig. 4 is a view in section on the line 4 4, Fig. 2. Fig. 5 illustrates a modification.

More particularly my invention is intended to provide a device of this character whereby duplicate copies of original drafts, checks, notes, letters, and other original documents can be rapidly secured by use of a carbon-sheet without the necessity of removing the carbon-sheet each time that the sheet written upon is removed and without the necessity of insertion of the hand between the sheets to be used.

My purpose is to provide a simple and compact device of this nature of superior efficiency and utility.

As is well known, a usual method of making duplicate copies has been to insert by hand a loose carbon-sheet between the upper and lower sheets and after the copy is made then to remove the duplicate sheets, take out the carbon-sheet and insert it between the next two sheets. By my device the carbon-sheet is not required to be touched or replaced in making different duplicate copies.

I carry out my invention as follows:

In the drawings, *a* denotes a base, and *b* a cover therefor, the cover being preferably reversible to fold either side uppermost when open or closed and to this end is shown connected with the base by swinging arms *c c*, jointly connected with the cover, toward

the longitudinal center thereof, and with the base, as shown, as by ears *d* and *e*. Toward one edge of the base is located a revolving shaft or roller *f*, which may be suitably journaled to the base in any proper manner, as in bearings or brackets *g*. This revolving shaft may be slitted, as indicated at *h*, to hold one end of a continuous sheet of any desired length rolled thereupon. Any desired means may be provided to clamp or hold the carbon-sheet upon the roller. The shaft or roller is provided at its extremities with means to operate the same, as with heads *i*, to facilitate the rolling or unrolling of the carbon-sheet thereupon. Upon this base *a* is secured the blanks, (indicated at *j*,) which may either be padded or bound or which may be loose or perforated. The base *a* is shown with posts *k*, upon which the blanks may be secured, said posts preferably formed with sharp edges, (indicated at *l*,) so that the blanks can be more easily torn away therefrom. Over the block of blanks *j* is also preferably located a pressure-plate, (indicated at *m*,) said plate being located upon the posts *k*. Springs *n* are also preferably employed, bearing upon the extremities of said plate, said springs being preferably fulcrumed, as indicated at *p*, so that they can be swung out of the way or off from the pressure-plate, as indicated in the dotted line in Fig. 4. The carbon-sheet *q* is drawn outward underneath the pressure-plate and over the block of blanks *j*. Upon one surface of the cover is engaged in any suitable manner a series of blanks (indicated at *r*,) the blanks being secured to the cover in any desired manner. If a block of blanks is employed, the lower cardboard base of the block may be secured underneath a loop or pocket *s*, which will serve to hold the blanks *r* in place. When it is desired to make a duplicate copy, one of the blanks *r* is detached and placed over the carbon-sheet *q*, which lies above the blanks *j*. The blank *r* may then be written upon, a carbon-copy being made thereby upon the upper sheet of the blanks *j*. In placing the sheet *r* upon the carbon-sheet it may be guided by placing its upper edge against the pressure-plate, thereby bringing the printed blank *r* immediately over the duplicate blanks *j*, lying under the carbon-sheet. The pressure-plate when the springs exert their ten-

sion thereupon will hold the duplicating-sheets and carbon in place. The edge of the pressure-plate will also serve as a straight edge to aid in tearing off the carbon-sheet when it has become worn. Obviously whenever a portion of the continuous carbon-sheet has been used up its ends may be torn off and the sheet unrolled from the roller *f*. The cover-plate is also preferably provided with a bracket or flange *t* to prevent the blanks *r* from falling out when the cover is reversed and closed down over the base and over the blanks *j* and carbon-sheet *q*. When the duplicate sheets are exhausted, they can obviously be conveniently replaced, the blanks *j* being inserted in place by removing the pressure-plate. When the carbon strip has been entirely exhausted, a new strip can be readily secured upon the roller.

The device, it will be seen, is adapted for making duplicate copies of deposit-slips, drafts, checks, notes, and letters used chiefly by banks, as well as for miscellaneous correspondence, sale-slips, &c.

The operation of the device is obviously simple and convenient.

In the operation of the device an absolute facsimile is obtained and a considerable saving in time is also effected.

I do not limit myself to any particular means for holding the blanks in place. When a duplicate copy has been made, the sheet underneath the carbon is detached, leaving the carbon in place for the next duplicate copy. The carbon-sheet may be unrolled, so as to leave sufficient marginal blanks to be

readily engaged by the hand of the operator to detach the blanks without touching the carbon. The carbon is thus self-adjustable.

I do not limit myself to the employment of a hinged cover, inasmuch as the base might be extended to form a support for the blanks, as shown in Fig. 5, within the scope of my invention. The cover when in unfolded position constitutes practically an extension of the base, and I contemplate an extension of the base to hold the blanks *r* with or without said extension being hinged to the base.

What I claim as my invention is—

1. In a duplicating device, a base, provided with a revoluble carbon-roller, means to secure a series of blanks upon the base, a pressure-plate, and springs having a removable engagement upon said plate.

2. In a duplicating device, a base, brackets upon said base, a revoluble carbon-roller carried by said brackets, means for holding a block of blanks upon said base, a reversible cover provided with arms pivotally engaged at their extremities with said brackets, and with the cover intermediate the longitudinal marginal edges thereof whereby the cover may fold either side uppermost when opened or closed, and means to hold a separate block of blanks upon said cover.

In testimony whereof I sign this specification in the presence of two witnesses.

HENRY H. NORRINGTON.

Witnesses:

N. S. WRIGHT,
JAMES F. HILL.