No. 728,601. PATENTED MAY 19, 1903.

H. H. NORRINGTON.

MANIFOLD DUPLICATING DEVICE.

APPLICATION FILED OCT. 31, 1902.

NO MODEL.

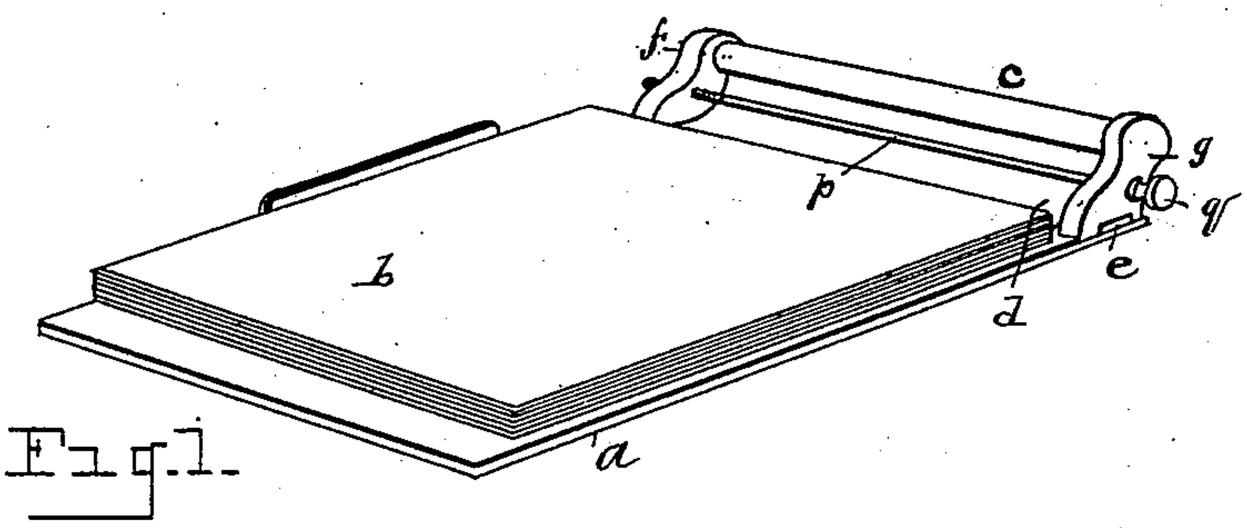

Fig. 1.

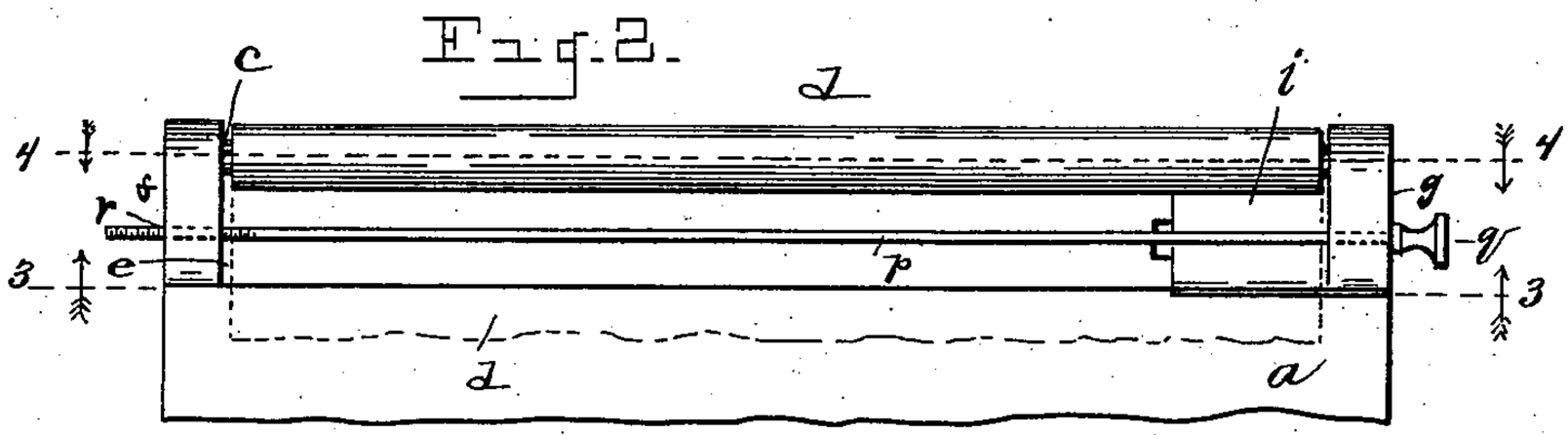

Fig. 2.

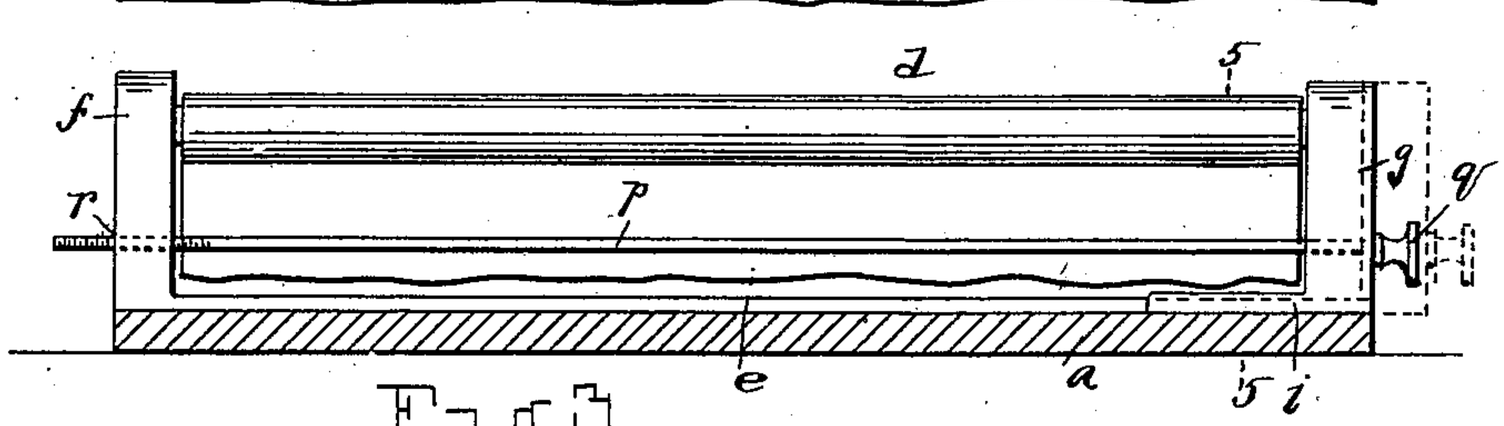

Fig. 3.

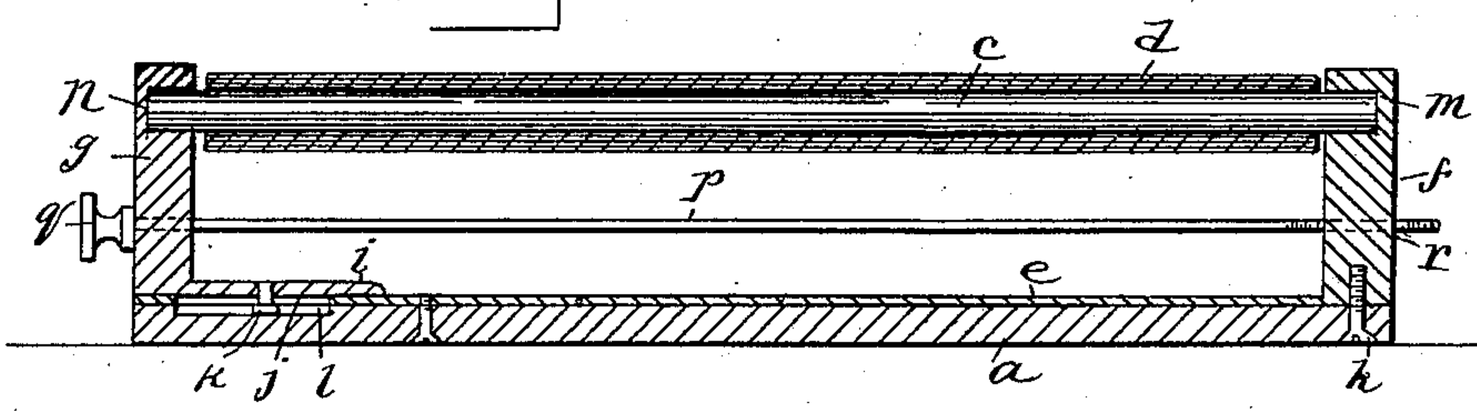

Fig. 4.

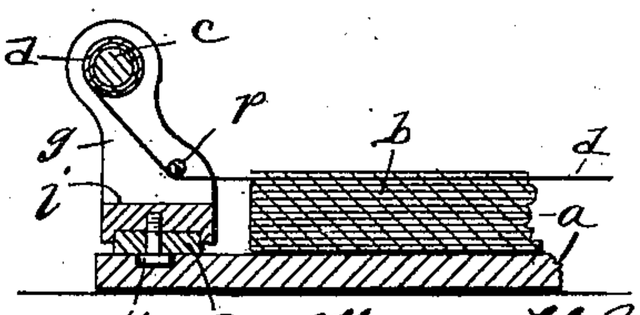

Fig. 5.

WITNESSES.

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No. 728,601. Patented May 19, 1903.

UNITED STATES PATENT OFFICE.

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

MANIFOLD DUPLICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 728,601, dated May 19, 1903.

Application filed October 31, 1902. Serial No. 129,583. (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, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

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

Figure 1 is a view in perspective, illustrating features of my new invention. Fig. 2 is a partial plan view of the same, illustrating features of my invention. Fig. 3 is a view in section on the line 3 3, Fig. 2, and showing parts in elevation. Fig. 4 is a view in section on the line 4 4, Fig. 2. Fig. 5 is a view in section on the line 5 5, Fig. 3.

The object of my present invention is to provide a manifold duplicating device of simple and economical construction and of superior efficiency.

Among the objects of my present invention I contemplate more particularly providing my improved duplicating device with a carbon-sheet mounted upon a roller, the carbon-sheet being supplied to the trade so mounted, dispensing with the necessity of engaging a carbon-sheet with the roller when it becomes necessary to renew the carbon-sheet. The carbon-sheets being supplied to the trade mounted upon rollers, in order to renew the carbon-sheet simply requires the insertion of the roller upon which the fresh carbon-sheet is mounted in suitable brackets, as hereinafter set forth, the aim of my present invention being to facilitate the engagement of such a roller in the device, the removal of a roller therefrom when its carbon-sheet has become worn, and the ready adjustment of the device permitting the carbon-sheet to be unrolled and the roller to be held rigidly in place in any desired position of adjustment.

I carry out my invention as follows:

In the drawings, *a* represents any suitable base, upon which may be engaged in any suitable manner a block or sheets *b*, upon which the duplicate copy is to be made. A roller *c* is provided, upon which a sheet of carbon is mounted, (indicated at *d*,) the sheet of carbon being permanently engaged with the roller in any desired manner. Toward one edge of the base is a track *e*. To support the roller, I provide brackets *f* and *g*, one of the said brackets, as the bracket *f*, having a fixed engagement upon the base in any suitable manner, as by a screw *h*. The other bracket, as the bracket *g*, has a sliding engagement upon the adjacent end of the track and longitudinally of the track in any suitable manner. As shown, the bracket *g* is provided with an arm *i*, resting upon the adjacent end of the track, the lateral edges of said arm turning downward to form flanges extending over the adjacent edges of the track to assist in holding the bracket upon the track. To further aid in holding the movable bracket from vertical disengagement from the track, the track is constructed toward one end thereof with an elongated orifice *j*, the arm *i* being provided with a headed pin, (indicated at *k*,) the base *a* being countersunk, as indicated at *l*, to receive the head of the pin, the stem of the pin projecting through the orifice *j*. The brackets are constructed toward their upper ends to receive the ends of the roller, as in recesses *m* and *n*, in the corresponding brackets. To hold the two brackets in desired position of adjustment the one relative to the other, I provide a threaded rod, (indicated at *p*,) which may be provided with a milled head *q* at one end thereof, the adjacent end of the rod being passed through the movable bracket *g* and having a threaded engagement in the opposite bracket, as indicated at *r*. When it is desired to insert a carbon-roller into the brackets, the rod *p* will be unscrewed, permitting the bracket *g* to be moved away from the opposite bracket, permitting the roller to be inserted in the sockets of the brackets. The rod may then be screwed up as may be required, forcing the movable bracket toward the adjacent bracket to hold the roller in place and to cause the two brackets to bind suitably upon the adjacent ends of the roller to hold the roller from accidental rotation, thereby holding the roller in any given posi-

tion of adjustment. When it is desired to unroll the carbon-sheet, the rod *p* is simply loosened, permitting the sheet to be turned out the required distance, when by screwing up said rod the roller will be held in given position. It is preferred to have the carbon-sheet passed under the rod *p*, the rod thus serving to hold the adjacent end of the sheet more firmly down upon the sheets *b*. The rod *p* may also serve as a guide in placing the main sheet upon the carbon-sheet and over the sheets to receive the duplicate impression.

It will be understood that in the operation of the device the carbon-sheet is drawn down over the sheets *b*. The sheet upon which the main copy is to be made is then placed over the carbon-sheet and the desired inscription made thereupon. The main copy being removed, the carbon-sheet may be lifted up from the blanks *b* and the duplicate copy detached. The carbon-sheet then falls into position over the blank sheets *b*, and the device is again in readiness for making another duplicate copy. As already observed, when a given portion of the carbon-sheet has become worn it may be torn off, the rod *p* being loosened up, permitting the drawing out of a fresh portion of the carbon-sheets over the sheets *b*, the rod *p* being screwed up again to hold the roller in fixed position in the brackets.

The device is obviously simple, not liable to get out of order, and may most readily be operated.

While I prefer to employ a carbon-sheet furnished to the trade already mounted upon a roller, I do not limit myself solely thereto, as my invention contemplates as coming within its scope the employment of any roller with which the carbon-sheet may be engaged, held in place by suitable supports, one of said supports adjustable toward and from the other support.

What I claim as my invention is—

1. In a duplicating device the combination of a base, a roller extending across one end of the base to hold a roll of carbon-paper, supports upon opposite edges of said base at one extremity thereof to hold the roller, one of said supports adjustable transversely of the base toward and from the other support to permit the insertion and removal of the roller, and means to unite said supports and to hold said supports in adjusted position.

2. In a duplicating device the combination of a base, a roller to hold a roll of carbon-paper, supports for said roller, one of said supports adjustable toward and from the other support, and a rod having a threaded engagement with one of said supports to unite said supports.

3. In a duplicating device the combination of a base, a roller to hold a roll of carbon-paper, brackets to support the roller, one of said brackets adjustable toward and from the other bracket, and a rod passed through one of said brackets and having a threaded engagement with the other bracket.

4. A duplicating device having in combination a base, a track upon the base provided with an elongated slot, a roller to hold a roll of carbon-paper, brackets to support the roller, a rod passed through one of said supports and having a threaded engagement with the other support, one of said brackets provided with an arm having a movable engagement lengthwise of said track.

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

HENRY H. NORRINGTON.

Witnesses:
HARRY J. MILLER,
DANIEL M. SHAVER.