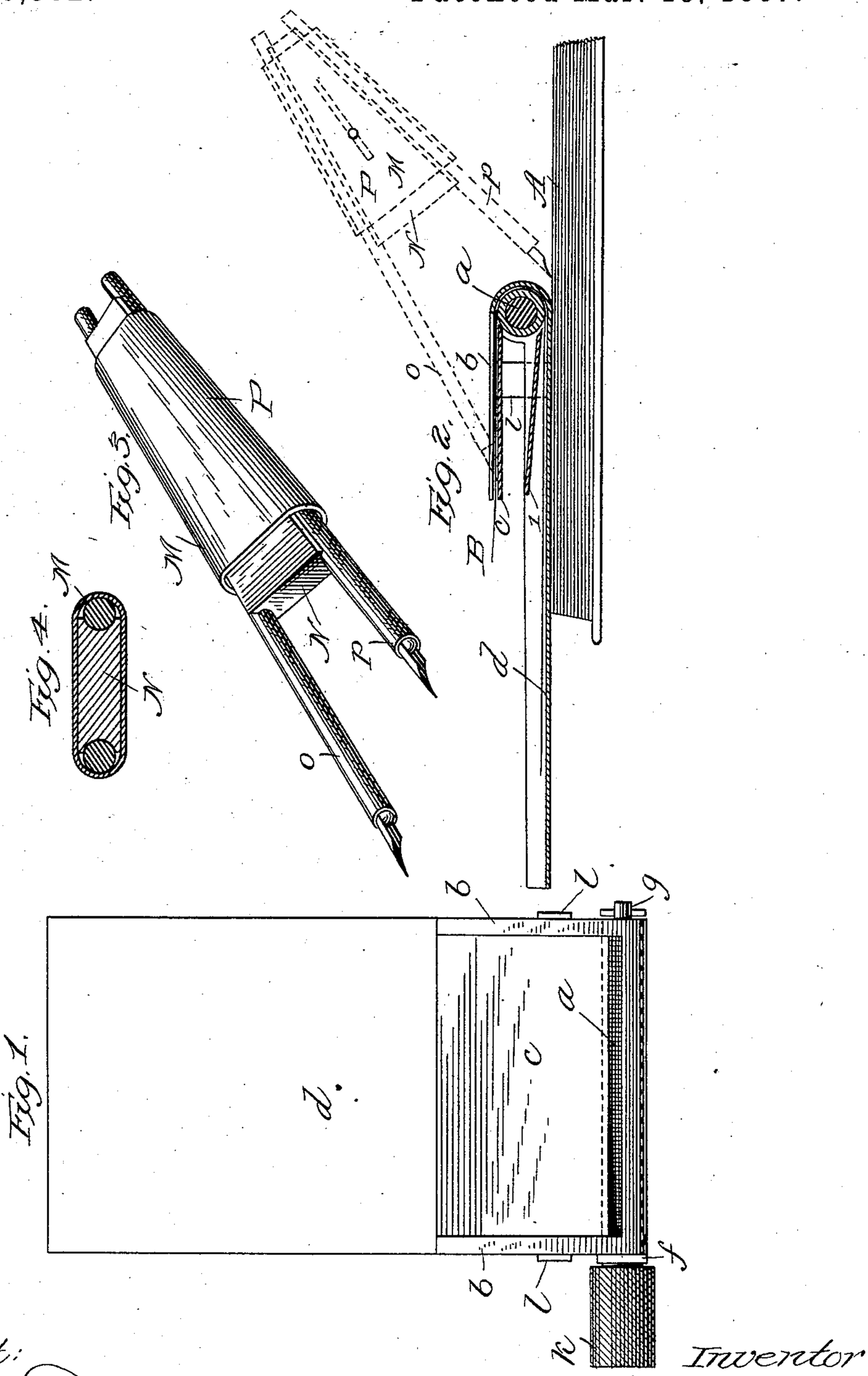
(No Model.)

R. J. WALLACE.

APPARATUS FOR MANUSCRIPT COPYING.

No. 359,582. Patented Mar. 15, 1887.



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APPARATUS FOR MANUSCRIPT COPYING.

SPECIFICATION forming part of Letters Patent No. 359,582, dated March 15, 1887.

Application filed January 7, 1886. Serial No. 187,841. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. WALLACE, a resident of Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Improvement in Apparatus for Manuscript Copying; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to apparatus for manuscript copying or tracing, its object being to produce by a single writing and simultaneously with the original a duplicate thereof on separate paper or in a book.

The invention consists of a paper-holder adapted to hold a sheet of paper, and having a roller at one end, whereby the end of the sheet of paper may be turned under and moved to bring the lines of the sheet successively to the end of the holder, said holder being adapted to be used in connection with a double-pointed or branched writing-instrument, all as hereinafter explained.

The writing-instrument proper consists of two or more holders of writing or tracing points, combined with a device by which the points are kept apart and are rigidly held in place in diverged position toward the points, or in a position parallel to each other, at a suitable distance apart.

The paper-holding device consists, essentially, of a plate combined with a roller by which the paper is moved to shift the lines, and supported in such position that it may be written upon always at the same point in relation to the end of the plate, so that the forked pen-holder may reach both the paper and the book or duplicate paper on which the copy is to be made.

In the accompanying drawings, Figure 1 is a plan view of the paper-holding apparatus. Fig. 2 is a section on line *x x* of Fig. 1, with the writing-instruments in place over the holder and book. Fig. 3 is a perspective view of the writing-instruments and the clamp for holding them apart. Fig. 4 shows a convenient form of the clamp for the pen-holders in cross-section.

In the drawings, *d* represents a rectangular plate, preferably of sheet metal, made of any suitable length, and in width adapted to that of the paper to be used. It is bent near one end on a curve to fit a roller, *a*. The bent end of the plate is turned back into a plane parallel with the body of the plate, and it is cut away on the top of the roller on a line directly over the axis of the roller and nearly the whole width of the plate, so as to leave arms *b b* on each side. These arms are rigidly connected to the body of the plate below by supports *l l*; or, instead of these supports, side pieces may be soldered or otherwise fixed to the edges of the plate, and arms form the sides of the paper-holder. Under the arms, and in plane parallel with the plane of the arms, is fixed a plate, *c*, supported on the posts or sides in the same manner as the arms, and at a distance below the under surface of the arms sufficient to admit the paper. The upper edge of the plate *c* extends from nearly to the periphery of the roller, and is arranged so as to receive the paper when it is turned around the roller and brought back, as hereinafter explained.

The roller *a* is provided with a head, *k*, by means of which it may be turned by the left hand, or may be inverted so as to be turned by the right hand, and has bearings *f g*. The bearing *f* is of the same size as the roller, and is next to the head. The bearing *g* is similar and projects through a similar hole in the side of the casting at the left-hand end of Fig. 1 in the drawings. The bearing in the side of the casting in the right-hand side being of the same diameter as the roller, the roller may be slipped in from that side, and may be held by a pin or nut at the other end. The incline plate *l* is placed across the bottom underneath the plate *c*. At its rear or lower edge it is slightly raised above the bottom and slopes down at its front edge underneath the roller, so that when the paper is pushed forward on the bottom of the receptacle the plate *l* guides it under the roller, where it is caught between the surface of the roller and the inner surface of the curved part of the plate. The plate, being made of smooth metal, offers but little resistance to the movement of the paper. The periphery of the roller is formed of rubber or some other suitable material which adheres better to the surface of the paper, and when the roller is turned moves it forward. It is turned by the curve of the plate back over the plate *c*, upon which it is held by the arms *b*. These arms serve as guides. The paper is put into the case in an inverted position—that is, with the face side

down. It is reversed in passing around the roller, which is turned to bring the top of the sheet near the forward or upper edge of the plate *c*, and between the outer surface of the roller and the overlapping plate. These parts act as a clutch to hold the upper edge of the paper. The upper part of the sheet is therefore exposed on the plate *c*, and is ready for writing.

In Fig. 2 a paper-holder is represented as in position upon a book, A. The paper B has been turned back by the roller to bring its upper edge in the proper position on the plate *c*. The writing-instruments consist of two pen-holders, *o p*, held by a common clamp or holder, P. These pen-holders diverge, or are parallel to each other at a required distance apart. The pen-holder *p* forms the shorter leg of the instrument, and is adapted to rest upon the surface of the book, which is lower than the plate *c*, on which the pen-point of the holder is rested. The pen-holders, being clamped securely together, are moved simultaneously by the writer to trace a line upon the paper, and at the same time he traces with the other pen-point a line exactly similar on the book-surface. He may continue writing without moving either the paper-holder or the paper therein until the pen-holder *p* comes in contact with the curved upper end of the paper-holder. Then the writer slips down the holder upon the book a suitable distance, depending upon the distance between the pen-holders, and turns the paper a corresponding distance upon the plate *c*. After this he writes, as before explained.

The pen-holder clamp may be formed for use with ordinary pen-holders out of sheet metal or similar material, and in the form of a frustum of a cone flattened to adapt it to the diameter of the pen-holders. This is shown at M, Fig. 3. The pens are placed in the rounded parts, and are held by a wedge, N, the edges of which may be grooved to fit the pen-holders; but a simple strap or string may be used to bind the pen-holders on the wedge-shaped piece N.

The roller *a* should be of the smallest diameter consistent with its function of turning or moving the paper, in order to give the least possible difference in height between the pen-points in the operation of writing.

I claim as my invention—

1. A paper-holder having a single roller at one end, and made with this end curved to conform to the shape of said roller, and a space beneath the roller adapted to receive the paper and allow it to move freely, and a plate, C, in line with the roller, said holder being adapted to operate in connection with a double-pointed instrument for writing and copying, substantially as described.

2. The described paper-holder, consisting of the plate *d*, bent at its upper end, the roller *a*, adapted thereto, plate *c*, and the arms *b*, adapted to be used with the pair of pen-holders held together at an angle to each other, whereby the writing of one page upon the book or other sheet will be duplicated by the other pen upon the copy-sheet, substantially as described.

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

ROBERT J. WALLACE.

Witnesses:

GEO. F. DUNKLER,

L. C. NORTHROP.