J. P. RAYMOND.

Manufacture of Paper Bags.

No. 201,832. Patented March 26, 1878.

A 201754

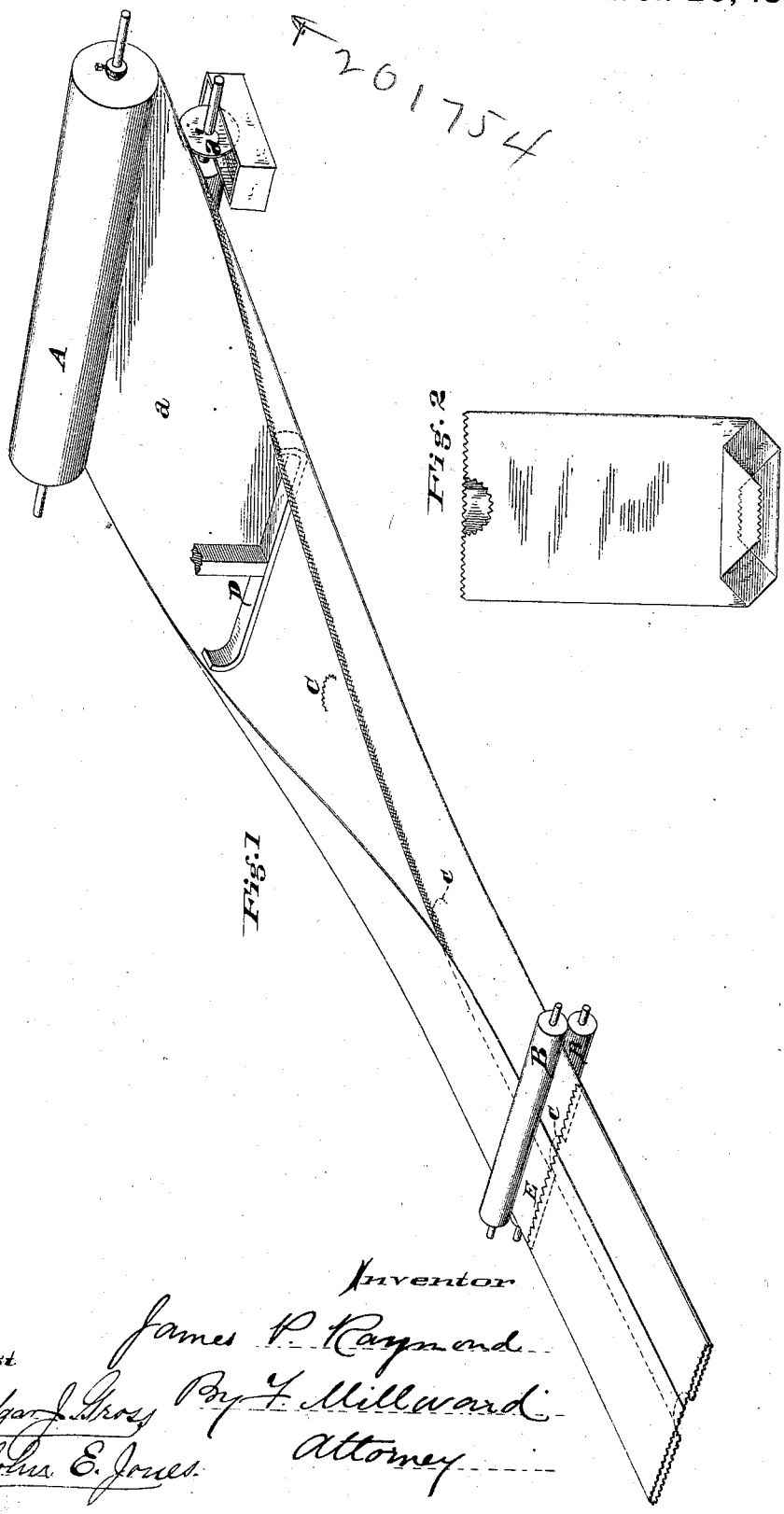

Fig. 1

Fig. 2

Witnesses:
Edgar J. Gross
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UNITED STATES PATENT OFFICE.

JAMES P. RAYMOND, OF CINCINNATI, OHIO.

IMPROVEMENT IN THE MANUFACTURE OF PAPER BAGS.

Specification forming part of Letters Patent No. **201,832**, dated March 26, 1878; application filed June 5, 1877.

To all whom it may concern:

Be it known that I, JAMES P. RAYMOND, of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Paper Bags, of which the following is a specification:

My invention relates to methods of cutting and forming by machinery paper into tubes for paper bags from a continuous strip of paper in the manufacture of satchel-bottom bags, which have, before the bottom is formed, both ends of the tube cut square across, with sides of equal length, and one end (for the mouth) with a notch cut to waste for the reception of the thumb in opening the bag.

Various plans have been devised for the formation of the cut for the thumb in the mouth of the bag. It has been cut after the tube has been formed and cut into lengths for bags, and it has been cut after the paper is formed into the tube, and before it is severed to lengths, by mechanism which is adapted to cut the notch in one side of the tube, and leave the other side of the tube uncut.

All the methods heretofore used involve either very slow manipulation by hand, or the use of very complicated and expensive machinery, or the production of an objectionable-shaped bag.

My method or mode of operation of forming the tube in lengths for bags with the thumb-notch in the mouth consists in feeding the sheet from the roll over an edge-paster and folding devices, in the ordinary way; then, while the sheet is yet partly open, cutting, by suitable mechanism, a curved or angular slit in this single thickness of paper; then, after the sheet has been completely folded over into a tube, the pasted edge overlapping the other edge, in the usual way, cutting the double thickness or tube of paper by a plain straight cut through both thicknesses in line with the ends of the extremities of the slit, so as to give a straight end, with even edges, at both ends of the short tube, and the notch at one side in the mouth.

In the accompanying drawing, Figure 1 is a perspective view of the sheet of paper, showing the successive cuttings to which it is subjected while being fed to form the tube and cut to length for bags. Fig. 2 is a view of the bag when the bottom is formed and flattened against the side for shipment, as is usual, showing it to be an ordinary satchel-bottom bag, with a notch in one side at the mouth.

A is the roll of paper, *a* being an extended strip thereof undergoing the process of feeding by rollers B, edge-pasting, and of cutting and tube-forming.

The first step in the manufacture of the bags is the usual preparatory step of pulling off a sufficient amount of paper to connect with the feed-rollers B, so that they are permitted to draw it continuously from the paper roll.

My method of cutting before and after the formation of the tube is as follows: Immediately after the paper leaves the roll A, and after its edge is pasted by disk *a'*, and while it is yet in a single sheet, I cut a curved or angular slit, C, in it, as shown.

The means may be any of the well-known appliances for cutting paper. I, however, use two cylinders, one on which the paper is supported, and the other having a semicircular serrated cutter to sever the paper as the cylinders revolve in unison in opposite directions, one above and one below the sheet. After this slit is cut, (and it is cut with simple, durable appliances, by reason of the paper being in a single thickness) the paper passes through the drawing-rolls B, by which its sides, which have been partially turned over by guide D, are brought together over the slits C, the pasted edge secured, and the tube thus completed. After the tube is formed it passes between cutting appliances, which sever it at the line indicated by strong and dotted lines at E, which is a straight line cut through both thicknesses together, and passing across the extremities of the cut C, so that when completed a piece of paper half-circular in form is cut to waste, leaving the usual notch for the thumb.

What I claim is—

As a new and useful improvement in the art of making notched-mouth paper tubes or bags from a continuous strip of paper, the cutting of a curved or angular slit, C, in the paper before the tube is formed, and after the tube has been formed severing the same in a single cut through both plies of paper across the extremities of the curved or angular slit, substantially as specified.

In testimony of which invention I hereunto set my hand.

JAMES P. RAYMOND.

Witnesses:

JOHN E. JONES,

J. L. WARTMANN.