

R. W. MURPHY.

Paper-Bags and Machines for Cutting the Same.

No. 146,773.

Patented Jan. 27, 1874

FIG. 1.

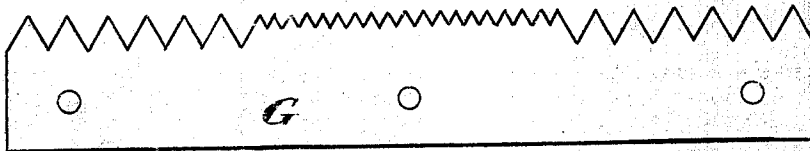


FIG. 2.

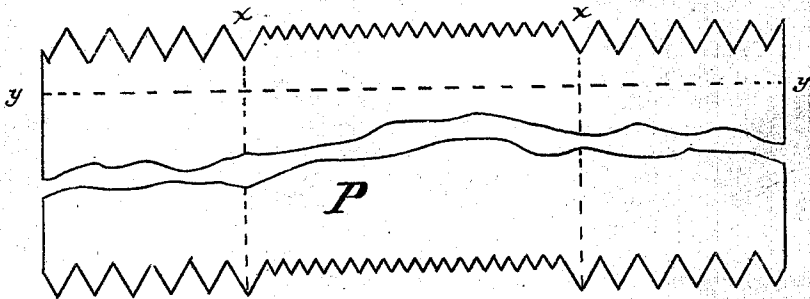


FIG. 3.

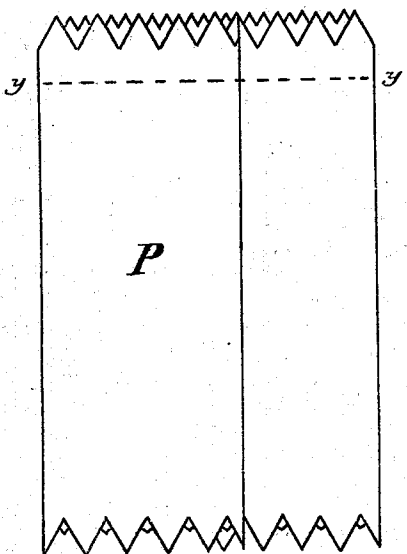
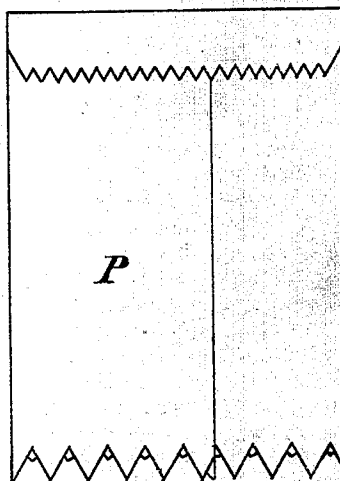


FIG. 4.



WITNESSES

Hamilton Moore  
Gerry A. Shelton

INVENTOR

Refus W. Murphy.  
By Chas. D. Moody  
att'y.

# UNITED STATES PATENT OFFICE.

RUFUS W. MURPHY, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN PAPER BAGS AND MACHINES FOR CUTTING THE SAME.

Specification forming part of Letters Patent No. **146,773**, dated January 27, 1874; application filed December 2, 1873.

*To all whom it may concern:*

Be it known that I, RUFUS W. MURPHY, of the city of St. Louis and State of Missouri, have invented new and useful Improvements in Paper Bags and Knives for Cutting Out the Same, of which the following is a full, clear, and exact description, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 represents a plan of my knife. Fig. 2 represents the blank cut by my knife. Figs. 3 and 4 represent the bag in its several stages of completion.

Similar letters indicate similar parts.

My invention relates to the lower or fixed knife used in those paper-cutting machines employing a striker; and consists in giving such knife a cutting-edge of peculiar form or outline by means of serrations in the same.

In the manufacture of paper-bags by machinery, one of the most important and essential points is the pasting and subsequent closing of the lap which forms the bottom of the bag; and since, when the sides of the bag have been folded and pasted, it is necessary, in order to close the bottom, to apply the paste on that portion of the bag which is then underneath the two sides thus folded over, it has been found necessary to give the blank from which the bag is formed a peculiar shape in order to enable this to be accomplished. The mode most commonly adapted to this end is to cut the blank with a projecting portion, such projection receiving the paste, and, when turned up upon the pasted and folded sides, forming and closing the bottom of the bag. This form of blank is objectionable, in that the projecting portion passes into, and is seized by, the drawing-rolls ordinarily used on bag-machines before the sides of the blank, thus frequently and almost invariably, save when the narrower blanks are used, causing the paper to be drawn irregularly through and under the knife. The form of the knife is objectionable, for the reason that its cut is not so clean and accurate as it would be were the points of the teeth in the same line.

To obtain the advantages of having the points of the teeth of the knife in the same line, and of having the side of the blank from which the bottom of the bag is formed, and

which is acted upon by the drawing-rolls, straight, while the opposite side, which, in the formed bag, constitutes the mouth, has suitable projections for the convenient opening of the same, are the main objects sought by me in my invention now to be described.

The knife G, Figure 1, is serrated, as seen, and is arranged beneath the striker in the ordinary manner, a convenient mode of such arrangement, and a suitable striker to operate in connection with it, being shown in the application of Merrick Murphy for "Improvement in Knives for Cutting Paper Bags," filed December 2, 1873. The teeth of this knife are of unequal depth and width—say, in the proportion of one to three—those in the center being less deep and wide than those at the sides of the knife; but the points of all the teeth are exactly in the same line, so that the blank cut by the knife will be of the shape P, Fig. 2. In forming a bag from this blank it is to be folded first in the lines  $x x'$ , and the sides pasted by any suitable mechanism, as shown in Fig. 3. In order to form the bottom the bag must be folded in the line  $y y'$ , Figs. 2 and 3, having been first properly pasted. Now, when the paste is applied to the upper side of the bag, as folded in Fig. 3, it is evident that, owing to the teeth on the upper side of the same being the larger, sufficient paste will pass through to the under side of the bag to insure a perfect adhesion of the lap when folded up, as shown in Fig. 4. The larger teeth at the mouth of the bag will, as seen, project beyond the smaller ones, thus enabling the mouth to be readily opened.

As, in some machines, the bottom lap of the bag is turned in the opposite direction to that shown—the paste in such being applied to the underside of the partially-folded bag, of course—when blanks cut by my knife are to be used with such machines, it will be necessary to arrange the teeth in the knife so that the deeper and wider serrations shall be in the center of the blank, instead of on the sides, as shown.

I am well aware there is no novelty in using a knife with a serrated edge for the purpose of cutting paper, and consequently disclaim such, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The knife G, having its cutting-edge serrated, the teeth forming such serration being of unequal depth and width, substantially as and for the purpose shown and described.

2. A paper bag, formed from a blank having two of its edges serrated with teeth of unequal depth and width, one of such edges being straight, and, when folded, forming the bottom

of the bag, while the opposite edge constitutes the mouth of the bag, and has a projection for the opening of the same, substantially as shown and described.

RUFUS W. MURPHY.

Witnesses:

CHAS. D. MOODY,

MERRICK MURPHY.