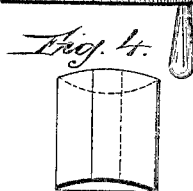
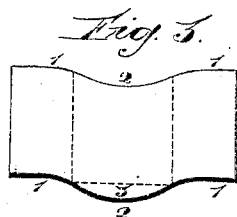
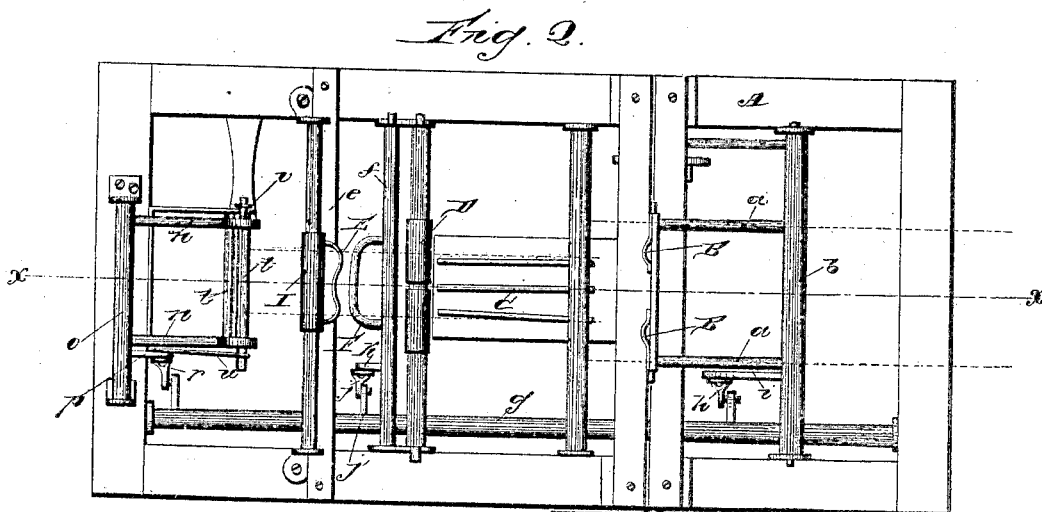
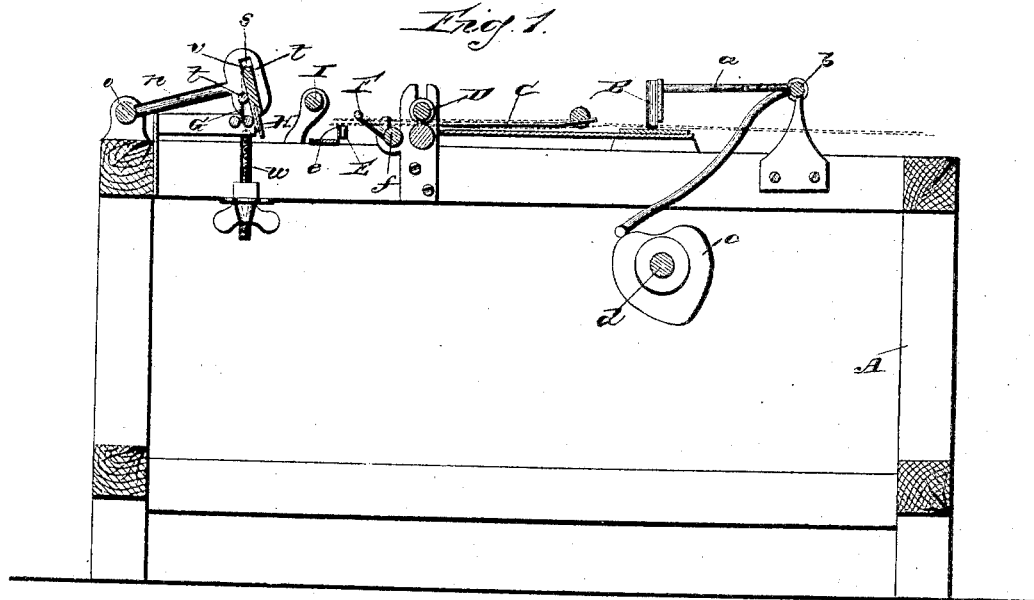


E. W. GOODALE.  
MACHINE FOR MAKING PAPER BAGS.

No. 49,951.

Patented Sept. 12, 1865.



Witnesses:  
*C. S. Luff*  
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# UNITED STATES PATENT OFFICE.

E. W. GOODALE, OF CLINTON, ASSIGNOR TO BENJAMIN S. BINNEY, OF  
SOMERVILLE, MASSACHUSETTS.

## MACHINE FOR MAKING PAPER BAGS.

Specification forming part of Letters Patent No. 49,951, dated September 12, 1865.

*To all whom it may concern:*

Be it known that I, E. W. GOODALE, of Clinton, in the county of Worcester and State of Massachusetts, have invented a new and Improved Machine for Making Paper Bags; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same. Figs. 3 and 4 are diagrams illustrating the form of bag made by my improved machine.

Similar letters of reference indicate like parts.

This invention consists, first, in giving to the side-cutters an irregular curve at or near their inside ends, in such a manner that the form of the paper cut by their action and the corners produced by folding said paper are of such a shape that the paste shall come upon the paper where it is single, and thus be enabled to hold better than it does when it is applied in the ordinary way.

The invention consists, also, in a former made of three parts, one in the center and two on the sides, in such a manner that by moving the side parts closer to or farther from the middle the width of the former can be adjusted to the width of different bags, and bags of different size can be made on the same former.

The invention consists, finally, in an oscillating paster connected to a shaft which has its bearings in the ends of arms extending from a rock-shaft, and applied, in combination with an adjustable strap and with a revolving paste-roller, in such a manner that the quantity of paste applied to a bag is regulated according to the size of the bag.

A represents a frame made of wood, of any suitable form or shape, and arranged to support the various working parts of the cutting-off, folding, and pasting mechanism of a paper-bag machine. The side-cutters B, which serve to cut the paper so that the sides may fold and make the seam in the center of the bag, are secured to the ends of arms *a*, which extend

from a rock-shaft, *b*, that rises by the action of a cam, *c*, on the driving-shaft *d*, and falls by its own gravity or by the action of a spring or weight. These cutters or knives are bent in an irregular curve near their inner ends, so that the paper cut by their action and the corners produced by folding said paper are such that the paste shall come upon the paper where it is single, and that it will hold better than it does when applied to the paper in the usual manner. After having been cut by the side-cutters B the paper passes under the former C, over which the paper is folded, so that it produces a bag of the requisite size. The means by which the sides may be pasted and folded upon the former C constitute the subject of a previous patent granted to me. It will therefore be unnecessary to give a description of the folding devices in this specification. This former is made of two or more parts, three being shown in the drawings, the middle one of which is stationary, while the side parts may be so arranged that they can be adjusted in any known manner toward and from the middle part, according to the size of the bag to be produced. If the side parts are adjustable, one and the same former serves to make bags of different size. From the former C the folded paper passes to the measuring-rollers D, the circumference of which is equal to the length of the bag to be made or nearly so, and which have an intermittent motion given to them in any known manner.

The cut-off cutter E serves to sever the bag after the sides are folded, and the arm F is to move simultaneously with the side-cutters B and with the knife G that turns up the bottom flap. Said cut-off cutter is secured to a stationary cross-bar, *e*, and the arm F extends from a rock-shaft, *f*, which receives an oscillating motion by a suitable mechanism connecting it with the rock-shaft *b* that carries the side-cutters. In the drawings a shaft, *g*, extends throughout the entire length of the frame A, having its bearings in suitable hangers or boxes, and this shaft connects by a rod, *h*, with an arm, *i*, extending from the rock-shaft *b*, and by a rod, *j*, with an arm, *k*, extending from the rock-shaft *f*, and by these means the oscillating motion of the shaft *f* and the arm F is made to move simultaneously with the side-cutters B.

The knife G, which turns the end flap, is suspended from a rod, *l*, which is rigidly connected to the outer ends of two arms, *n*, extending from a rock-shaft, *o*, as clearly shown in the drawings. This rock-shaft connects by an arm, *p*, and rod *r* with the longitudinal shaft *g*, and by these means motion is imparted to it from the rock-shaft *b*. The outer ends of the arms *n* form heads which are provided with slots *s* to form the bearings for the rod *t*, to which the paster H is secured. The bearings of the paster H are allowed to play in slots, in order that when the paster strikes the roll it can rise in said slots, so as to allow the knife to strike down between the rolls to fasten the lap.

The ends of the rod *t* extend through the slots *s*, and one end connects to an elastic cord, *u*, in such a manner that by the action of said cord the paster is turned down to the position shown in Fig. 1. From the other end of the rod *t* extends a strap, *v*, to a screw, *w*, whereby it (the strap) can be lengthened and shortened at pleasure, and the upper end of said strap is wound round the rod *t* in such a manner that when the arms *n* rise the rod *t* turns and the paster H is thrown out and brought in contact with the paste-roll I. This roll is intended to derive its motion from the measuring-rollers, and it is calculated to run in the paste, so that it takes up a sufficient quantity for pasting each bag, and the paste taken up by the roll I is transmitted to the paper by the action of the paster H. By lengthening or shortening the strap *v* the paster is caused to take up less or more paste, as may be desirable.

By these improvements the mechanism requisite for folding and pasting paper bags is materially simplified, and one and the same machine can be easily arranged to make bags

of different size. The operation of making the bags, or, more properly speaking, so much of it as is concerned in the present invention, has been incidentally described in the course of the above description. It will be understood that the present invention does not relate to the means of feeding the paper to the machine shown, or to the means for applying the paste to the center of the bag. Neither does it, as before stated, include the devices for turning the sides of the bag over the former C. In Figs. 3 and 4 the form of the bag is shown. In Fig. 3 the form of the blank is given, and in Fig. 4 the bag complete. The lines 1 1 designate the cuts made by the side-cutters B, and 2 the cut which is made by the knife E after the side flaps of the bag have been folded together. 3 is the bottom flap, which is turned up by the knife G.

I claim as new and desire to secure by Letters Patent—

1. Making the side-cutters B with curved ends, substantially as and for the purpose set forth.
2. Making the former C in two or more parts, substantially as and for the purpose described.
3. The paster H, in combination with the adjustable strap *v*, knife G, and paste-roll I, constructed and operating substantially as and for the purpose set forth.
4. The arrangement and combination of the side-cutters B, former C, measuring-rollers D, cutter E, oscillating arm F, paste-roll I, paster H, and knife G, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

E. W. GOODALE.

Witnesses:

D. H. BEMIS,  
WM. GOODALE.