

M. MURPHY.
Paper-Bag Machines.

No. 146,774.

Patented Jan. 27, 1874.

Fig. 1.

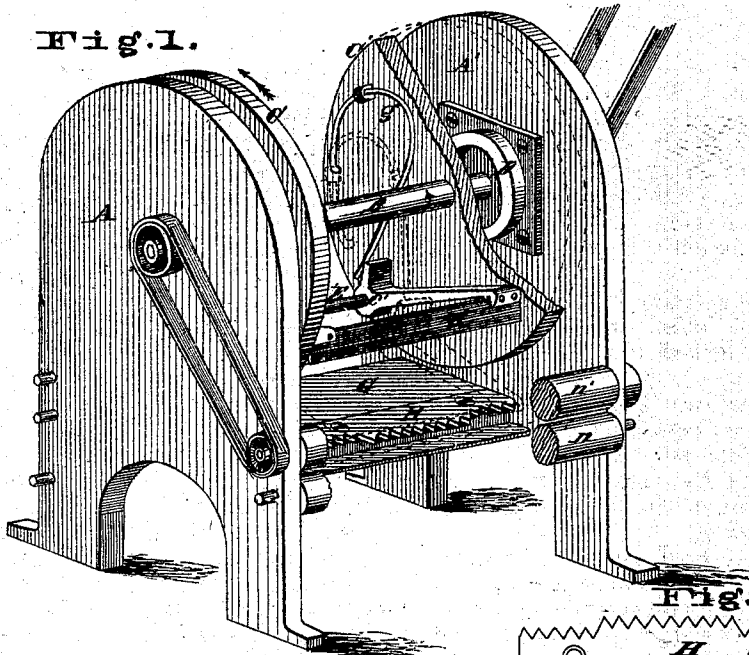
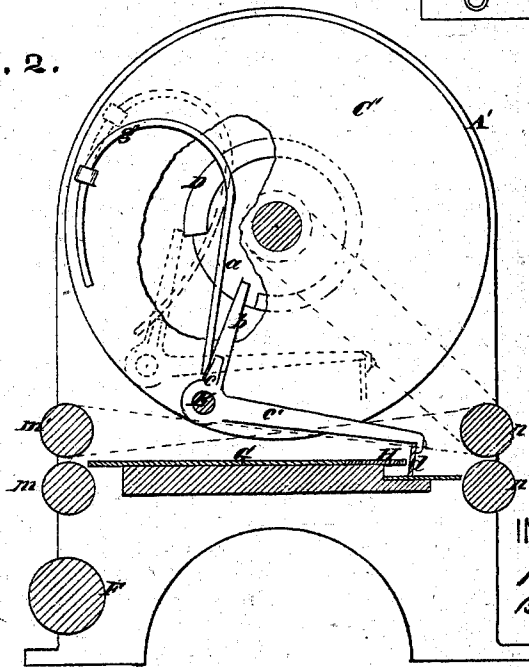


Fig. 3.



Fig. 2.



WITNESSES.

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IMPROVEMENT IN PAPER-BAG MACHINES.

Specification forming part of Letters Patent No. **146,774**, dated January 27, 1874; application filed December 2, 1873.

To all whom it may concern:

Be it known that I, MERRICK MURPHY, a resident of the city and county of St. Louis and State of Missouri, have invented new and useful Improvements in Paper-Bag Machines, 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 is a perspective view, part being broken away. The dotted lines indicate the position of the spring and knife when the latter is down. Fig. 2 is a sectional elevation. The dotted lines indicate the position of the spring and knife just before the paper is cut. Part of the knife-head is broken away, showing the eccentric and the recess in its periphery for the reception of the dog. Fig. 3 is a plan of the lower knife.

Like letters of like kind indicate like parts.

The object of my invention is to provide a device for cutting paper from a continuous roll into sheets of a desired size rapidly, and it is especially applicable to cutting from such rolls blanks from which paper bags are to be formed. It further consists in having such a construction that, by a simple change of one part merely, any desired outline or configuration may be given to the cut edge of the blank, thus adapting the machine to the production of blanks suitably shaped for various purposes.

As my machine is to be specially used by me in the manufacture of paper bags, I have shown in the annexed drawing, and will now describe, the construction when arranged for this purpose.

Two suitably-arranged uprights, A A', afford bearings for the shaft B, having attached firmly to it the heads C C'. Between the head C' and upright A', and hanging on the shaft B, but fastened rigidly to the upright A', as seen, is an eccentric, D. A portion, *a*, of the periphery of this eccentric is removed, for the purpose hereinafter explained. The heads C C' furnish bearings for a shaft, E, one end thereof passing through the head C', and, beyond said head C', provided with an arm, *b*. This arm *b* is opposite the recess *a* in the eccentric, and operates therein in manner hereinafter explained. Rigidly attached to the same shaft E, and, respectively, just inside the heads C C', are two

similar arms, *c c'*, that project similarly from the shaft E. A cross-piece, *d*, extends transversely, connecting firmly at the extremities of the arms *c c'*. The inner ends of these arms have lugs *e e'*, which engage with the springs *g g'*, which are attached to the heads C C'. The uprights also afford bearings for the roller F, upon which the paper is wound, and for the two sets of feed-rollers *m m'* and *n n'*, arranged as seen. The cross-piece *d*, or striker, is simply a straight piece of metal having a blunt edge. A bed, G, is arranged beneath the shaft B on a line with the feed-rolls *m* and *n*. To this bed is attached a knife, H, having a serrated edge, whose outline is shown clearly in Fig. 3. This knife lies on its side, so that the paper can pass freely over it, and it extends slightly beyond the edge of the bed G, as seen.

The paper from the roll having been led through the rolls *m m'* and *n n'*, and motion being given to the driving-shaft, and from it, by suitable gearing, as seen, to the feed-rolls *m m'* and *n n'*, the operation is as follows: As the shaft B revolves in the direction indicated by the arrows, the heads, carrying the striker *d*, as above described, revolve with it. The arm or dog *b* moves over the periphery of the cam D until, reaching the point *o*, the swell of the cam causes the dog to raise the striker till the dog, falling into the recess *a* in the cam, allows the springs *g g'* to throw the striker sharply down in such manner that it makes a vertical blow, severing the paper. The dog, immediately passing from the recess *a*, causes the striker to rise in season to free it from the paper and to avoid any interference in the least with the movement of the succeeding portion of the paper; for the movement of the dog imparts a movement upward to the striker that is supplementary to that given by the rotary movement of the heads C C'. The blank that is cut is ready to be folded into a bag by any suitable devices which may be attached to and form a part of this cutter, as, for instance, in my machine patented 21st January, 1873, No. 135,145, or be separate and distinct from it.

The outline of the fixed knife may be varied at pleasure, the operation of the machine not depending upon any particular configuration of the cutting-edge of such knife.

By this arrangement of the rotary striker a

vertical blow is given, such being the direction most favorable, and at the same time the objection to vertical strikers, viz., interfering with the continuous movement of the paper, is entirely obviated, for with this device the paper moves continuously, without intermission.

I am aware there is no novelty in the use of a lower knife having a serrated edge of the irregular outline shown, or in the use of a revolving upper knife, or in cutting paper bags or other articles from a continuous roll of paper, and consequently I do not claim such; but

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

1. The combination of a fixed knife of suitable outline, uprights A A', shaft B, heads C C', eccentric D, shaft E, striker *d*, arms *c c'*, springs *g g'*, and dog *b*, as and for the purpose specified.

2. The combination of the uprights A A', shaft B, heads C C', eccentric D, shaft E, striker *d*, arms *c c'*, springs *g g'*, dog *b*, knife H, and rolls *m m' n n'*, as and for the purpose specified.

MERRICK MURPHY.

Witnesses:

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R. W. MURPHY.