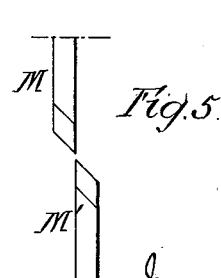
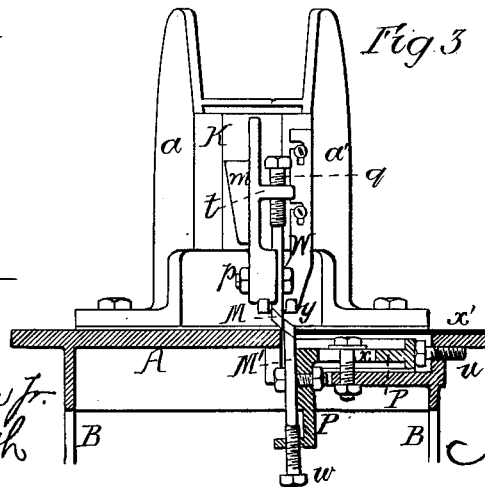
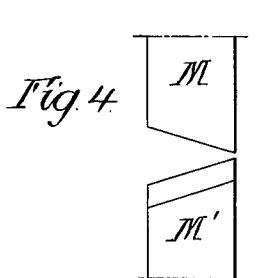
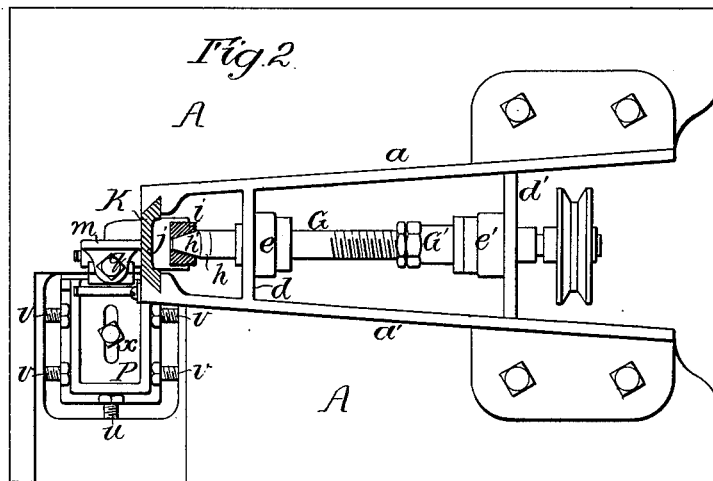
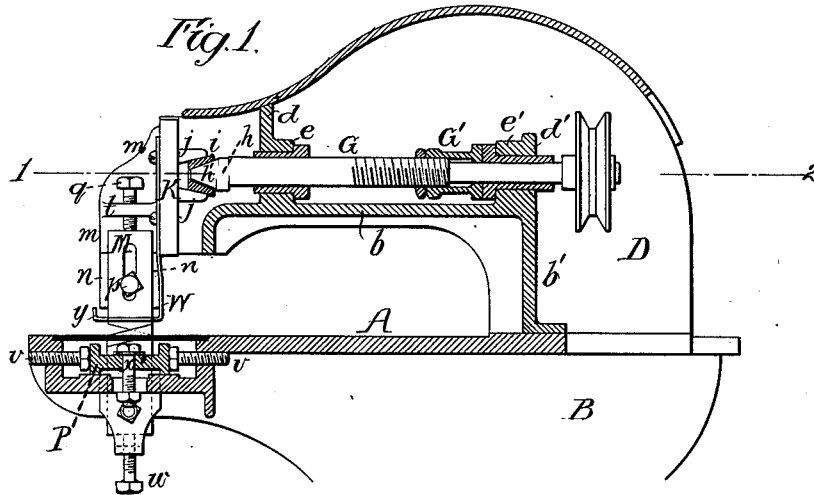


G. W. PATTON & J. H. KNOWLES.  
Rag-Clipping Machine.

No. 214,185.

Patented April 8, 1879.



Witnesses  
Henry Bowman Jr.  
Harry Smith

Inventors  
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by their Attorneys  
Henry Bowman

# UNITED STATES PATENT OFFICE.

GEORGE W. PATTON AND J. HENRY KNOWLES, OF PHILADELPHIA, PA.

## IMPROVEMENT IN RAG-CLIPPING MACHINES.

Specification forming part of Letters Patent No. 214,185, dated April 8, 1879; application filed February 12, 1879.

*To all whom it may concern:*

Be it known that we, GEORGE W. PATTON and J. HENRY KNOWLES, both of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Machines for Clipping Rags, of which the following is a specification.

The object of our invention is to make a substantial and effective machine for cutting rags for paper-stock and other purposes, and this object we attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of our improved rag-cutting machine; Fig. 2, a sectional plan on the line 1 2; Fig. 3, a front view, and Figs. 4 and 5 views of the cutting-blades.

The table A of the machine may be attached to or form a part of a suitable stand, B, and to this table is secured the frame D, which is shaped somewhat like the stationary arm of a sewing-machine, but is of a much more substantial character, as it is composed of the two deep plates *a a'*, converging from rear to front, Fig. 2, and connected together by the webs *b b'* and *d d'*, the whole being cast in one piece.

A departure may be made from this manner of constructing the frame, but we prefer it as best calculated, by its strength and rigidity, to prevent the tremor which would be the result of the rapid movements of the operating parts of the machine should a frame of less substantial character be used.

In the frame are formed two bushed bearings, *e e'*, for the driving-shaft G, at the front end of which is formed a crank, *h*, with a very short stroke, the pin *h'* of this crank being made conical to correspond with a conical recess in a slide, *i*, which is adapted to guides *j* on the vertically-reciprocating plate K, the beveled edges of the latter according with V-shaped guides in the front of the frame D. A portion of the shaft G is threaded, and to this threaded portion is adapted a nut, *G'*, which bears against the bush of the bearing *e'*. The shaft G revolves at such speed that all play of the crank-pin in its bearing should be obviated; otherwise the reciprocating movement of the plate K will be accompanied with jars and tremors.

The most accurate adjustment of the crank-pin in its bearing, so that it can revolve freely

therein without having any play, may be effected by the nut *G'*, which may be firmly secured to the shaft by a jam-nut after adjustment.

The plate K has a projecting flange, *m*, to which, between ribs *n n*, is fitted a blade, M, the latter having an elongated slot, through which, and through the flange *m*, passes a bolt, *p*, a screw-stud, *q*, passing through a lug, *t*, on the said flange and bearing on the upper end of the plate, so as to effect the vertical adjustment of the latter.

Through a slot in the table A passes the lower blade, M', which is bolted to the vertical portion of a bracket, P, the horizontal portion of the latter being bolted at *x* to the table A, in a recess formed in the same. A screw, *u*, serves to set up the bracket, so that the cutting-edge of the lower blade, M', shall be in proper contiguity with the cutting-edge of the upper blade.

There are also set-screws *v*, for the lateral adjustment of the bracket in the recess of the table A, and for assuring the parallelism of the face of one blade with that of the other.

The vertical adjustment of the lower blade is effected by a set-screw, *w*, passing through a lug on the bracket P. The recess in the table occupied by this bracket is covered by a removable plate, *x'*, the upper surface of which is level with that of the said table.

The cutting-edges of the two blades are beveled and inclined in relation to each other, as shown in Figs. 4 and 5, so as to have a shaving effect on the rags submitted to them.

The driving-shaft is caused to revolve at a very great speed, and the operator, seated in front of the machine, presents the rags to the cutters by placing them on the table below the lower forked end, *y*, of an adjustable bar, W, through which the upper knife passes, and which prevents the rags from rising with the knife.

The action of the knives on the rags is so rapid that more work can be done with the machine and one attendant than can be accomplished by a number of operatives with the hand-shears usually employed in cutting rags.

We claim as our invention—

1. The combination, in a rag-cutting ma-

chine, of the vertically-reciprocating plate K and its knife M with the blade M', secured to and made adjustable on the table of the machine, substantially as described.

2. The combination of the shaft G, made longitudinally adjustable in its bearings by a nut, G', and having a tapering crank-pin, with the vertically-reciprocating blade-carrying plate K and slide i, adapted to said crank-pin, all substantially as specified.

3. The combination of the vertically-reciprocating plate K, and blade M, adapted to a recess in said plate, with the bolt p and set-screw q.

4. The combination of the plate M' with the bracket P, adapted to a recess in the table A and made adjustable therein, substantially as set forth.

5. The combination of the bracket P with the adjusting-bolts v and clamping-bolt x, as specified.

6. The combination of the bracket P with the clamping-bolt x and the adjusting-bolts v and u, as set forth.

7. The combination of the vertically-reciprocating blade M with the bar W having a forked end, y, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE W. PATTON.

J. H. KNOWLES.

Witnesses:

WM. J. COOPER,

HARRY SMITH.