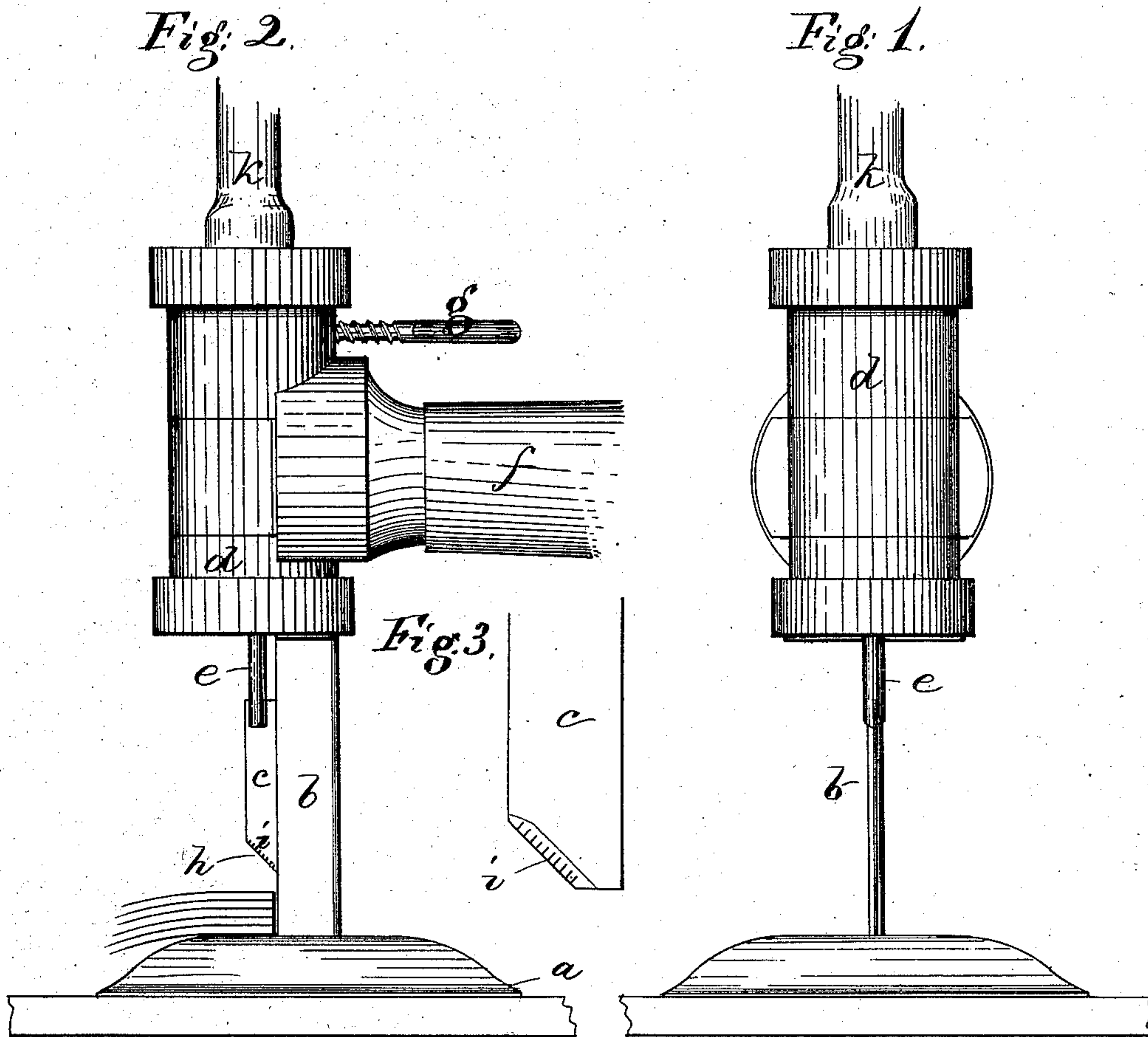


R. M. EASTMAN.
Cloth-Cutting Machines.

No. 156,551.

Patented Nov. 3, 1874.



Witnesses.
M. W. Frothingham.
L. H. Latimer.

Inventor,
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UNITED STATES PATENT OFFICE.

RUFUS M. EASTMAN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND GEORGE W. SIMMONS & SON, OF SAME PLACE.

IMPROVEMENT IN CLOTH-CUTTING MACHINES.

Specification forming part of Letters Patent No. 156,551, dated November 3, 1874; application filed
January 28, 1874.

To all whom it may concern:

Be it known that I, RUFUS M. EASTMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Cloth-Cutting Mechanism; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to the construction and method of operation of an apparatus or mechanism for cutting cloth, the invention being particularly intended for use in the wholesale manufacture of clothing in cutting out to a pattern layers of cloth assembled in a pile.

In my apparatus, I use a flat or flat-bottomed disk or plate, from which rises a thin perpendicular support that is slotted to receive and guide a vertically-reciprocating cutter-bar, said bar being connected with a spindle that has movement imparted to it in any suitable manner to actuate the cutter-bar. The bar is preferably made with a cutting-edge that cuts downward, said edge being formed either upon the inclined bottom of the bar, or upon an inclined shoulder extending from the bar, and having slits or incisions in it to improve its cutting action. The cutter-bar is driven by any suitable power that admits of a flexible connection with it, and the spindle extends through or into a stock or cylinder that is attached to a horizontal handle, by which the instrument is moved. The cutting-edge of the cutter-bar plays up and down from the top of the disk, and in using the instrument the pile of cloth to be cut is laid upon a table, and the edge of the disk is pushed under it until the edge of the pile touches the cutter-guide. Then the cutter is set in motion and the edge of the cutter cuts through the cloth, and continues to cut as long as the instrument is pressed forward, until the cutter leaves the cloth, the instrument being readily turned and guided by hand, and the cut being made on the pattern-line laid out upon the top of the cloth. The action of the machine is very rapid, and the operation of the machine is

only limited by the distance between the top of the disk and the position of the cutter at its extreme rise.

The invention consists in the organization thus generally described, and in details thereof to be hereafter referred to.

I prefer to operate the machine by a connection with an air-supply or exhaust, or a compressed-air or vacuum engine, and one part of my invention consists in combining with the mechanism, and more particularly with a cylinder containing a piston, to which the spindle of the cutter-bar is connected, a flexible tube, by which compressed air is admitted into the cylinder, or air is drawn from the cylinder to work the piston.

The drawing represents a mechanism or instrument embodying my invention.

Figure 1 shows the same in front view. Fig. 2 is a side elevation of it.

a denotes the disk or plate that lifts the cloth to present it to the cutter, this disk being made thin at the edge, and increasing in thickness, so that at the center it is sufficiently thick to admit the whole length of inclined cutting-edge of the cutter. From this disk rises the standard and cutter-bar support and guide *b*, which is a thin bar with a groove, into which the heel of the cutter-bar *c* extends. Upon this standard is mounted a cylinder or stock, *d*, in which plays the spindle *e* of the cutter-bar. Extending from the cylinder is a handle, *f*, by means of which the operator moves and guides the instrument. The handle and cylinder may be fixedly connected, or the connection may be such as to permit relative rotation, in which latter case the cylinder preferably has a knob or other projection, *g*, by which the operator, by gripping the handle, and pressing the knob or projection with his thumb, holds the cylinder stationary with relation to the handle. *h* denotes the cutting-edge of the cutter-bar. This edge is shown as formed by the bottom of the bar, or that part thereof extending out from the standard, and as made inclined, as seen in Fig. 2, and also at Fig. 3, which shows the cutter-bar enlarged. The edge of the bar is incised, as seen at *i*, in

Fig. 3, these incisions making the edge very effective in severing the cloth, and increasing its endurance. The bar may be made with a straight vertical cutting-edge, incised, but, with the instrument organized substantially as shown, I prefer the inclined bottom edge. The spindle *c* may be worked by a crank connection, but I prefer to attach it to a piston working in the cylinder with a flexible tube, *k*, by which the motive fluid is admitted to the cylinder from any suitable engine, or source of supply. Or a vacuum-engine may be connected with the cylinder by a flexible tube, there being in either case a suitable valvular mechanism to control the variable pressure of the fluid upon the respective sides of the piston to effect the reciprocation of the piston.

The operation of the instrument has already been described, and will be readily understood without further elucidation.

I claim—

1. The combination, with the thin-edged disk *a*, for lifting the cloth, of the cutter-guide *b* for sustaining the disk, and also guiding the cutter, and the reciprocating cutter-bar *c*, acting to cut through the cloth from the top only, the combination being and operating as described.

2. In combination with the reciprocating cutter-bar, the piston-cylinder, and the flexible tubular connector *k*, by which the piston may be worked from an air-compressing or air-exhaust engine or mechanism, substantially as shown and described.

Executed this 27th day of December, A. D. 1873.

RUFUS M. EASTMAN.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.