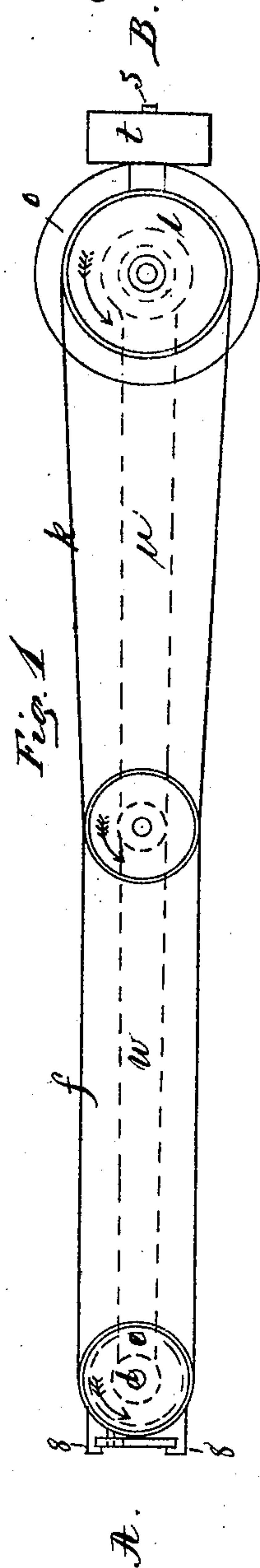
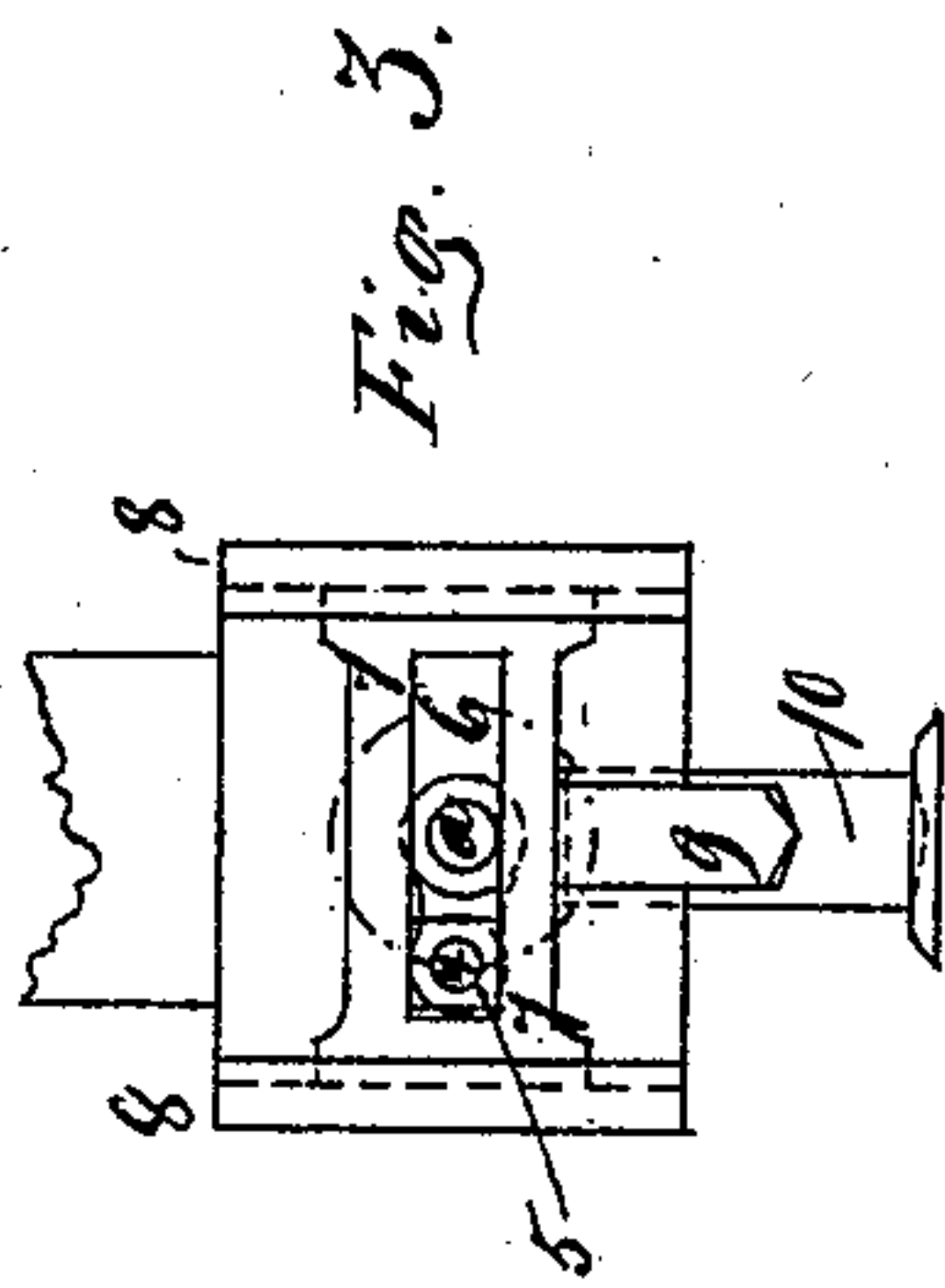
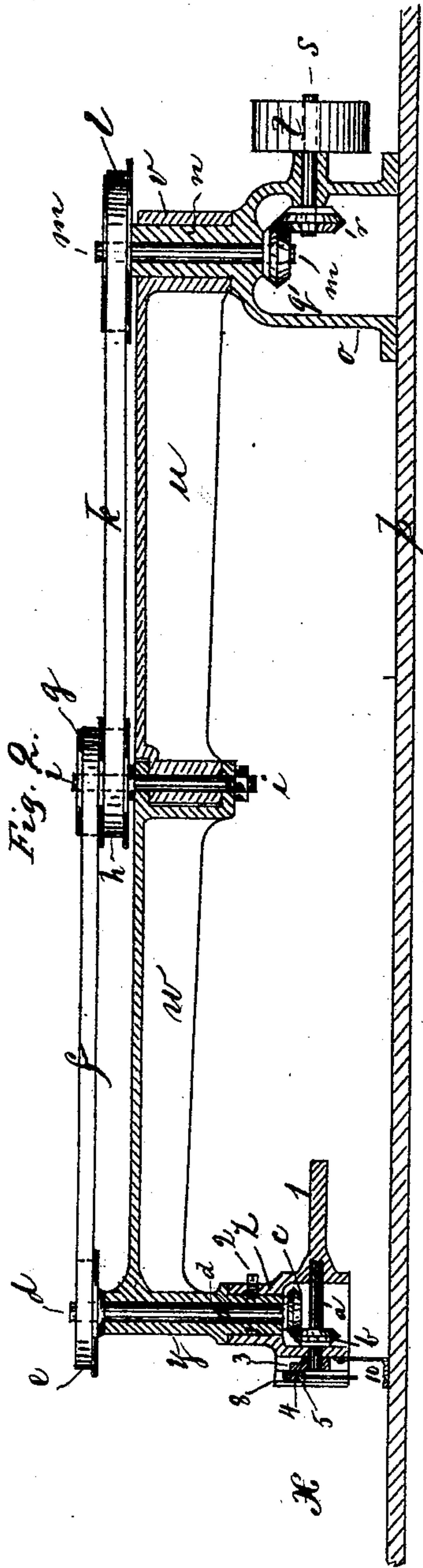


I. FENNO & P. HOWE.
Cloth-Cutting Machines.

No. 130,910.

Patented Aug. 27, 1872.



Witnesses:
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Inventors:
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UNITED STATES PATENT OFFICE.

ISAAC FENNO AND PATRICK HOWE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CLOTH-CUTTING MACHINES.

Specification forming part of Letters Patent No. 130,910, dated August 27, 1872.

We, ISAAC FENNO and PATRICK HOWE, both of Boston, in the county of Suffolk and State of Massachusetts, have jointly invented certain new and useful Improvements on Machines for Cutting Cloth or other textile and fibrous materials, of which the following is a specification:

Nature and Objects of the Invention.

The nature of our invention relates to improvements on cutting-machines for cloth, &c., consisting in the employment of a reciprocating cutter, made to move up and down in suitable bearings attached to a jointed arm. The cutter is operated by means of belts and gearings, or their equivalents, in a manner as will now be shown and described.

On the drawing, Figure 1 is a ground plan. Fig. 2 is a central longitudinal section over the line A B taken on Fig. 1. Fig. 3 is an enlarged end view, seen from *x* on Fig. 2.

Similar letters refer to similar parts wherever they occur on the drawing.

This, our invention, is an improvement on the application filed by us in the United States Patent Office April 15, 1872; and it differs mainly from that application in this wise, that we now employ a reciprocating cutter instead of a revolving disk cutter, as we formerly employed. The reciprocating cutter is operated in the end of a jointed arm, as will now be shown.

The horizontal shaft *a* is set in motion by a bevel-gear, *b*, attached to the said shaft *a*. The bevel-gear *b* gears into a similar bevel-gear, *c*, attached to the upright shaft *d*, as shown. On the upper end of the shaft *d* is keyed a pulley, *e*, that is set in motion by means of a belt, *f*, leading from the pulley *g*. The pulley *g* is made in one piece with or attached to the pulley *h*, and both pulleys *g* *h* are made to revolve loosely around the upper end of the hinge-pin *i*. The pulley *h* is set in motion by means of the belt *k*, leading from the pulley *l*, keyed to the upright shaft *m*. The shaft *m* revolves in the hub *n*, being the upper part of the standard *o*. The standard *o* is held firmly to the operating-table *p* by means of screws, bolts, or otherwise. On the lower end of the shaft *m* is attached a bevel-gear, *q*, that gears into a similar bevel-gear, *r*, attached to the driving-shaft *s*, supported

in a suitable bearing in the standard *o*. On the shaft *s* is also keyed or attached the driving-pulley *t*, to which the power is applied in any of the ordinary ways. The arm *u* is provided with a perforated hub, *v*, that fits over the hub *n*, and around which it is made to swing easily. The arm *u* is hinged to the arm *w* by means of the hinge-pin *i*, as shown on the drawing. The extreme end of the arm *w* is made as a sleeve, *y*, that constitutes a bearing for the upright shaft *d*. Over the lower end of the sleeve *y* is fitted the cylinder *z*, provided with a handle, *1*, by means of which the whole may be guided in any direction over the material that is to be cut. The cylinder *z* is kept in place by means of the small set-screw *2*, that projects in a groove turned on the sleeve *y*, as shown, by which arrangement the cylinder *z* can be swung around the sleeve *y* without being detached from the same. On the forward end of the shaft *a* is attached a crank or its equivalent, *3*, provided with a crank-pin, *4*, fitted with the block *5*, shown in Figs. 2 and 3. The block *5* is made to play in the groove *6* that is cut in the guide-piece *7*. The guide-piece *7* is made to move up and down in guides *8* *8* attached to the cylinder *z*. On the under side of the guide-piece *7* is secured the reciprocating cutter *9*, that is made to move up and down by means of the parts, or their equivalents, hereinabove described. An adjustable foot-piece, *10*, is attached to some convenient place on the guides *8* *8* or the cylinder *z*, in such a manner that it may be raised up or adjusted according to the thickness of the material that is to be cut. The cutter *9* may be pointed, as shown, and made sharp on both edges, so as to cut in any direction in which it is moved.

Having thus fully described the nature, construction, and operation of our invention, we wish to secure by Letters Patent, and claim—

In combination with the jointed arms *u* *w*, the reciprocating cutter *9*, operated by the moving parts or their equivalents, as and for the purpose herein described.

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A. K. FOLMAN.