(No Model.)

G. HOYER.

MACHINE FOR CUTTING FABRICS IN MEASURED LENGTHS.

No. 280,178. Patented June 26, 1883.

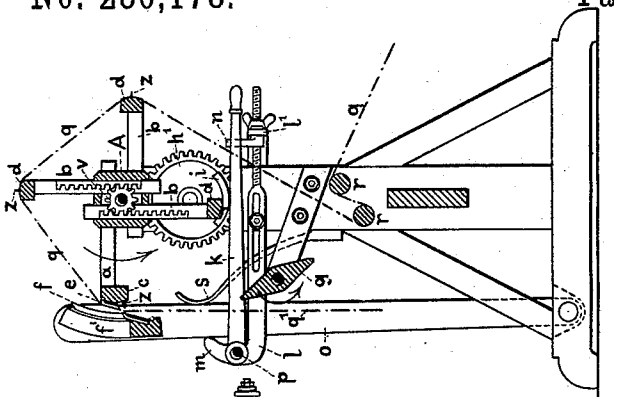


Fig. 2.

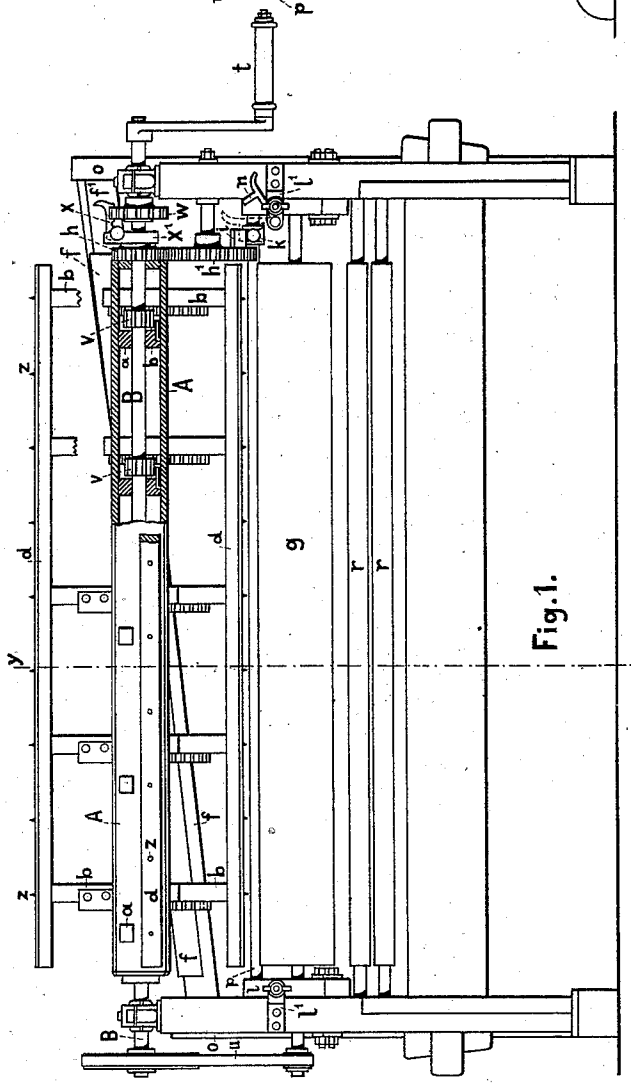


Fig. 1.

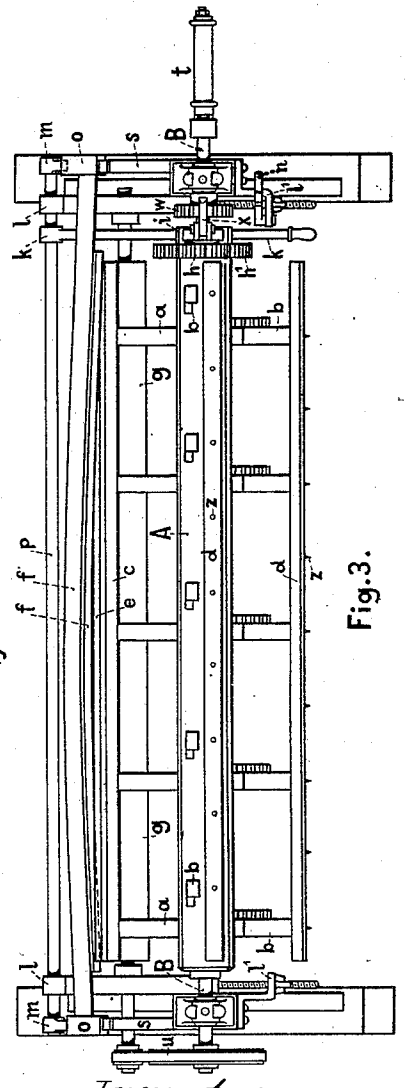


Fig. 3.

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UNITED STATES PATENT OFFICE.

GUSTAV HOYER, OF SCHÖNEBECK-ON-THE-ELBE, PRUSSIA, GERMANY.

MACHINE FOR CUTTING FABRICS IN MEASURED LENGTHS.

SPECIFICATION forming part of Letters Patent No. 280,178, dated June 26, 1883.

Application filed March 31, 1883. (No model.) Patented in Germany May 28, 1879, No. 7,613, and in Austria-Hungary November 16, 1882, No. 32,344.

To all whom it may concern:

Be it known that I, GUSTAV HOYER, residing in Schönebeck-on-the-Elbe, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Machines for Cutting Fabrics in Measured Lengths, (for which patents have been granted in Germany, No. 7,613, May 28, 1879, and in Austria-Hungary, No. 32,344, November 16, 1882,) of which the following is a specification.

The object of my invention is the construction of a machine for cutting fabrics in measured lengths, as is required in the manufacture of bags, and for other purposes.

On the accompanying sheet of drawings, Figure 1 represents the machine in front elevation, partly in section. Fig. 2 is a transverse section on line *y'*, Fig. 1; and Fig. 3 a plan.

The machine consists, in the first place, of a box or block, A, carried by a shaft, B, and to which are secured, by a number of arms, *a*, the bar *c*, having the knife *e* attached to it, and by the arms *b* the three bars *d*. All these bars are provided with pins *z*, or faced with fish-skin.

f is a stationary knife. The same is placed obliquely to the knife *e*, and bent in such a form that it will co-operate properly with the latter. It is fixed to a bar, *f'*, carried by the legs *o*, which are pressed by springs *s* or weights against the short arms *m*, keyed on the shaft *p*. On this shaft is, besides, fixed the lever-arm *k*. When this arm is locked by the hook *n*, the knife *f* is kept immovably in its position, so that the knife *e* will then at every rotation of the shaft pass along the edge of the knife *f* in order to carry out a cut.

The cloth *q* having been conducted over the bars *r r* for the purpose of imparting to it the necessary tension, and hooked with its end on the pins of the bar *c*, the frame-work or drum formed by the parts A, B, *a*, *b*, *c*, and *d* is put in rotation by the crank *t*. The pins *z* drawing the cloth along, a piece thereof having a length equal to the circumference of the drum will be cut off at every rotation. In order to detach from the pins the part *q'* of the cloth to be cut off, and thus to prevent it from being coiled upon the drum, the rotating beater *g* has been arranged, which is put in motion from the shaft B by a strap, *u*. This beater strikes twice at every rotation against the part *q'* of the cloth, and thus causes it to leave the pins.

For the purpose of allowing the length of the pieces to be cut off to be varied, the arms *b* of the bars *d* are arranged to be simultaneously shifted outward or inward, so that the circumference of the drum may be increased or diminished at will. As represented by the drawings, the arms *b* are guided in holes in the block or box A, and provided with racks, in which gear the pinions *v*, keyed on the shaft B. This shaft, besides, carries a disk, *w*, having notches on its circumference, in which a catch, *x*, engages, pivoting in a part, *x'*, fixed to the block or box A. (The toothed wheel *h*, which is shown as forming one piece with the part *x'*, will be mentioned hereinafter.) While the catch *x*, which is held down by a spring, in the manner of a clasp-knife, is in engagement with the disk *w*, the drum is coupled to the shaft B, and rotates together with the same. When, however, the catch *x* is raised or thrown back, the shaft B may be rotated within the part A, and will then act, by the medium of the pinions *v* and the said racks, on the arms *b*, so as to move the bars *d* outward or inward, according as B is rotated one way or the other. The adjustment having been carried out, A and B are coupled again by turning down the catch *x* into the notch of *w*, being at the time opposite to it. (In the drawings the bars *d* are shown in their extreme position outward.)

By taking into use an additional mechanism the length of the pieces of cloth to be cut off may be doubled. This mechanism consists of the toothed wheel *h*, attached to the box A, of the toothed wheel *h'*, rotating on a fixed stud, and provided with a tappet, *i*, and of the parts *k*, *p*, and *m*, already mentioned. The wheel *h'* has double the diameter of the wheel *h*, with which it gears. When this mechanism is to be used, the hook *n* is thrown back and the arm *k* released. The springs *s*, or the equivalent weights, will then, in overcoming the weight of the lever-arm *k*, press backward the legs *o*, which are pivoted at their lower end, and cause

the knife *f* to come out of reach of the knife *e*, so that under these conditions the cloth will remain uncut when the knife *e* passes opposite to *f*. At every second revolution of B, however, the tappet *i* on wheel *h'*, during a suitable period, depresses the arm *k*, and thereby causes *f* to be brought close to the path of *e*, so that the cloth will then be cut.

The knife-bearing bar *c* cannot be made adjustable in the same manner as the bars *d*, because the distance of the edge of knife *e* from the center line of shaft B must correspond to the radius according to which knife *f* is curved. Nevertheless, the length of the arms *a* may be altered, provided another stationary knife bent to a radius corresponding to such altered length be put in place of the knife *f*. At the same time the legs *o* have to be adjusted accordingly. This is done by means of the two suitably-guided bars *l*, carrying each at one end a bearing of the shaft *p*, and having at the other end a screw-threaded part passing through a bracket, *l'*, so that by turning the nuts on the bars *l* the position of the knife can be regulated.

It remains to be mentioned that the machine may be driven by a strap and a pulley instead of the crank *t;* moreover, that the diameter of the wheel *h'* may be any desired multiple of the diameter of *h;* and, finally, that instead of the described coupling between the parts A and B any other coupling adapted to connect and disconnect these parts may be employed.

I claim as my invention—

1. In the described machine for cutting fabrics, a rotative frame-work or drum comprising the shaft B, block or box A, bar *c*, with knife *e*, bars *d*, adjustable by pinions *v* and racks on the arms *b*, and a coupling adapted to connect and disconnect the parts A and B, the said frame-work or drum co-operating with a stationary knife, *f*, and all parts being constructed and combined substantially as and for the purpose specified.

2. The combination, with the knife *f* and the rotative frame-work or drum carrying the knife *e*, of the wheel *h*, the wheel *h'*, with tappet *i*, the shaft *p*, with arms *k* and *m*, and the springs *s*, or equivalent weights, as hereinbefore described.

3. In combination with the machine as specified, the beater *g*.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV HOYER.

Witnesses:
OTTO ASPERGER,
GUSTAV REISSLE.