

A. WARTH.

Machines for Piling Textile Fabrics.

No. 137,518.

Patented April 1, 1873.

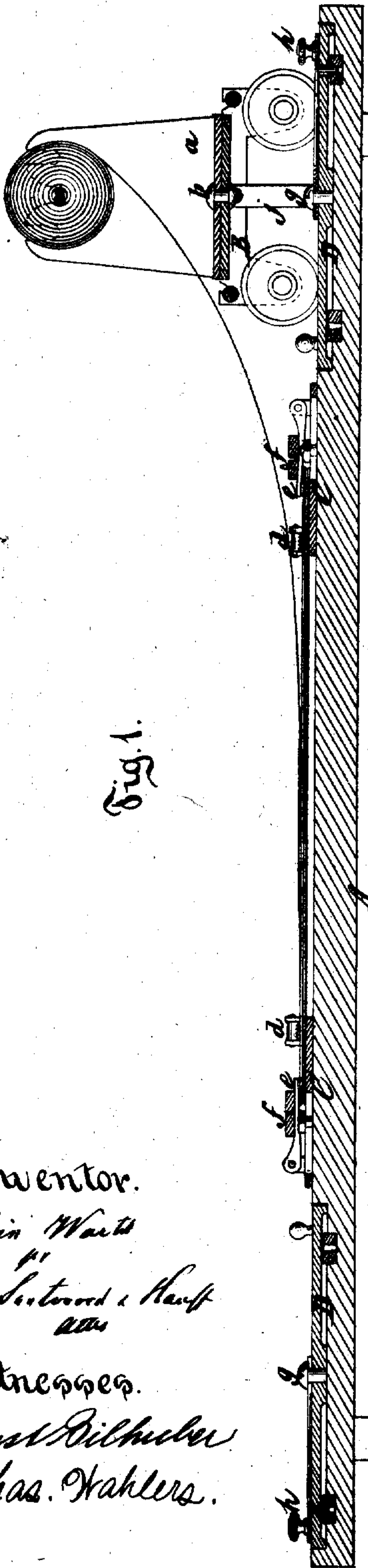


Fig. 1.

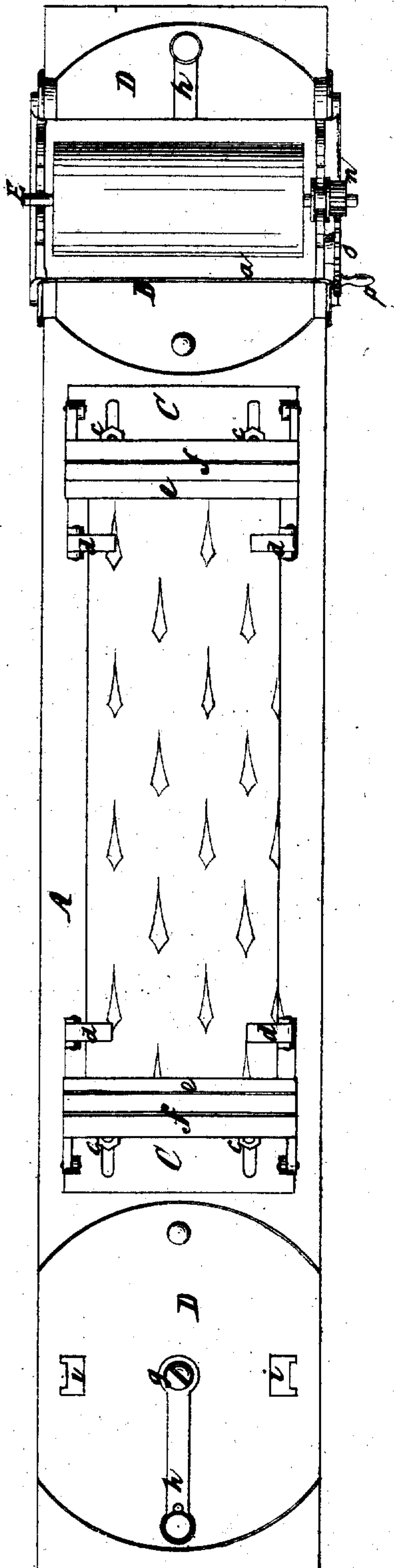


Fig. 2.

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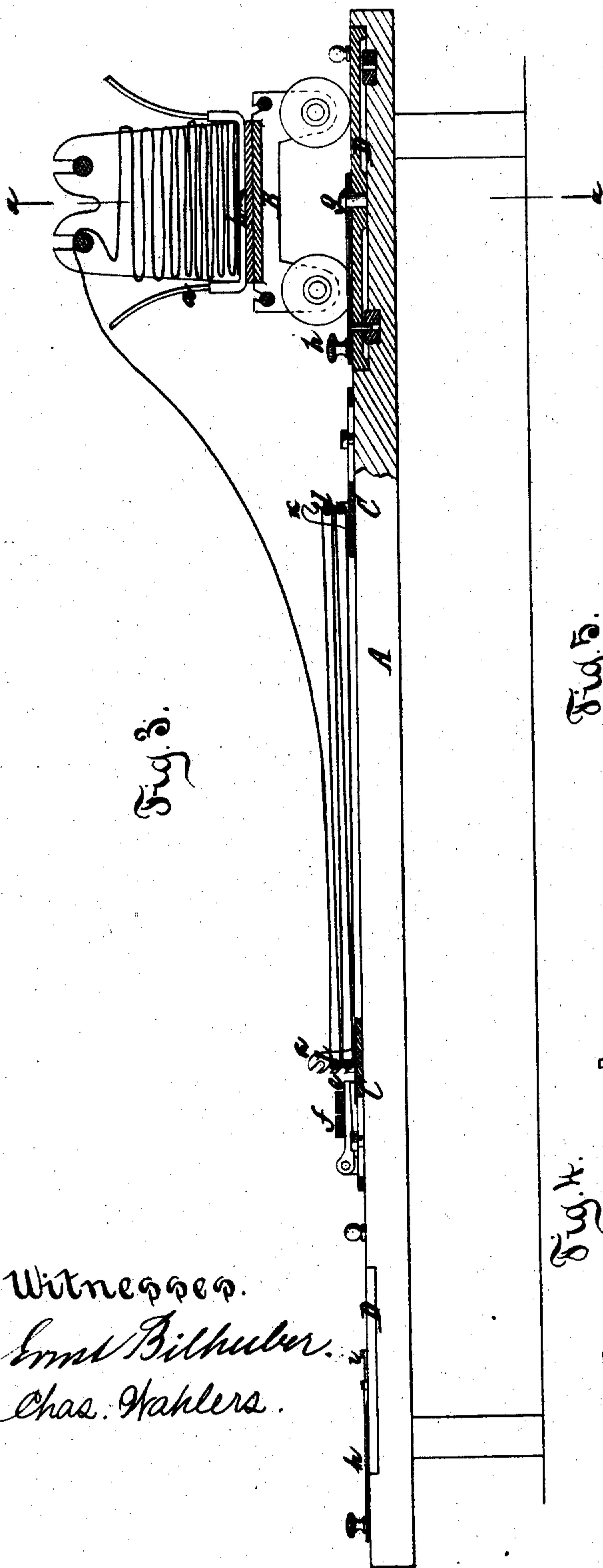


Fig. 3.

Fig. 5.

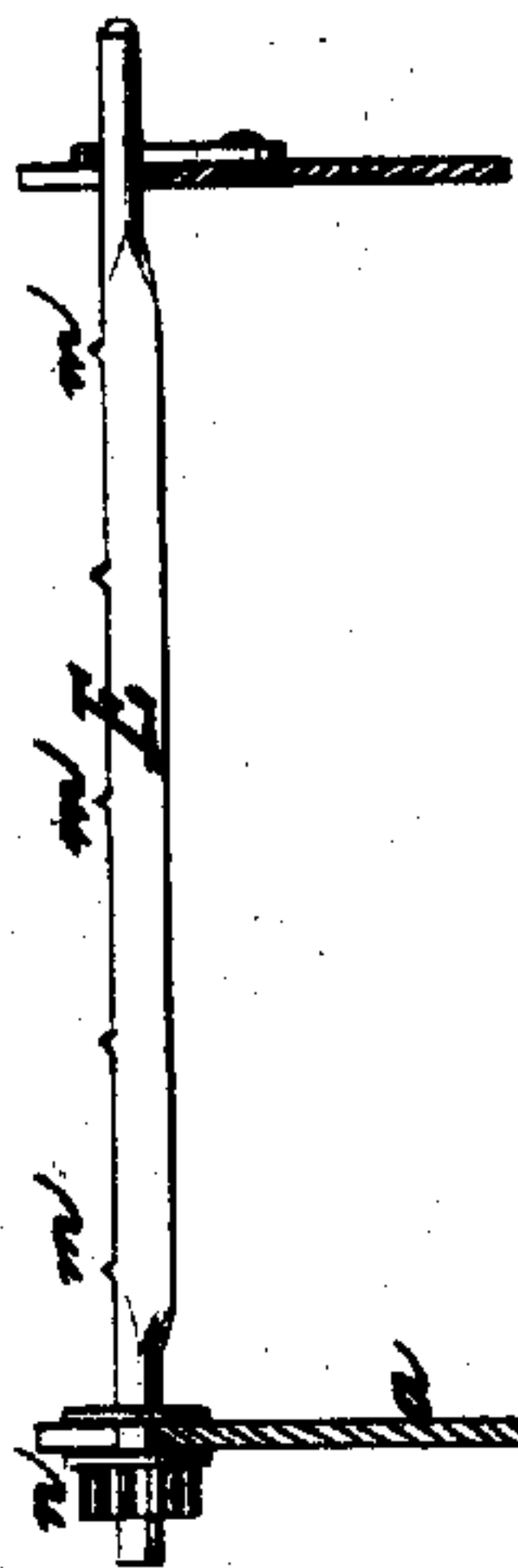
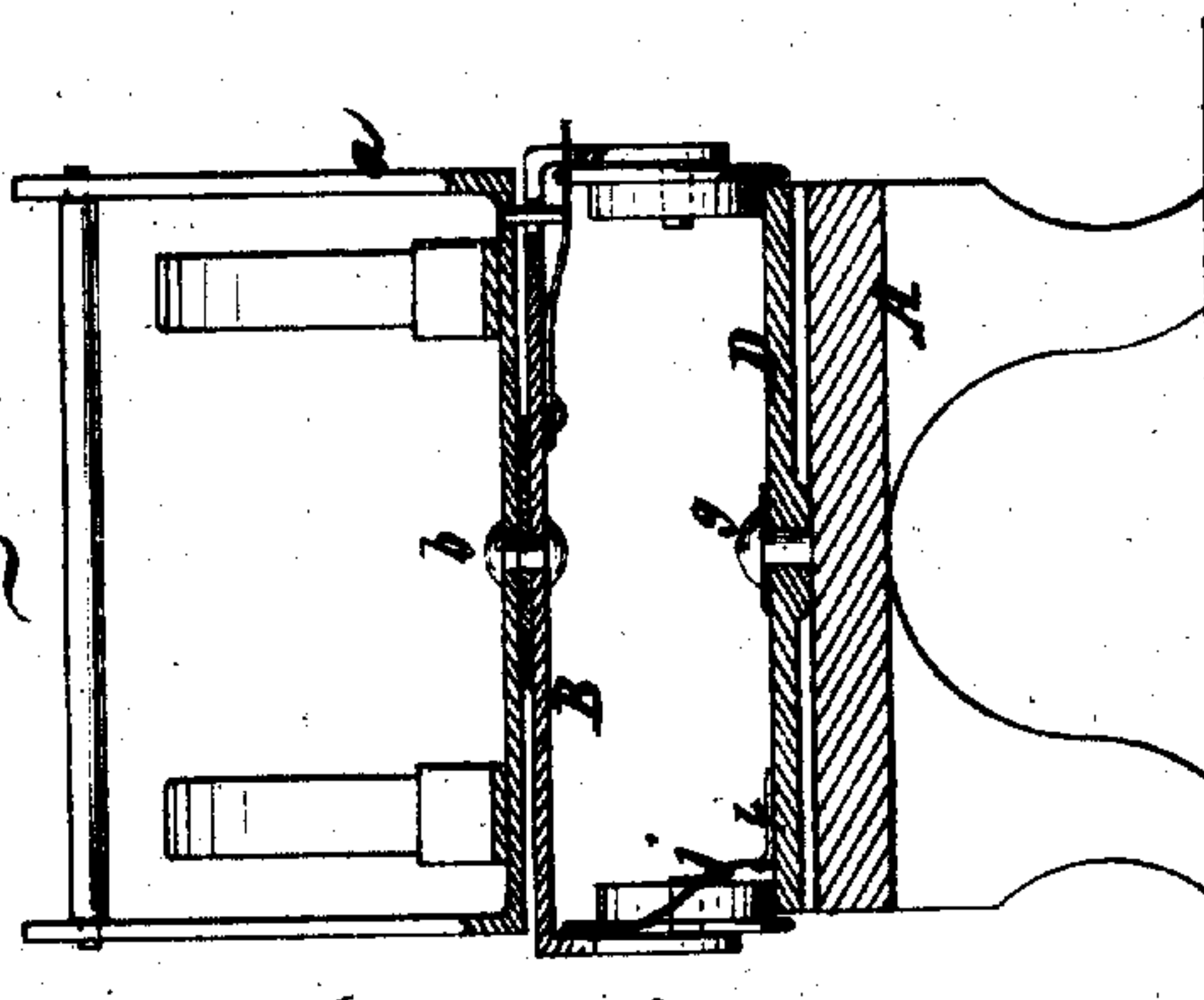


Fig. 4.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MACHINES FOR PILING TEXTILE FABRICS.

Specification forming part of Letters Patent No. 137,518, dated April 1, 1873; application filed March 21, 1873.

To all whom it may concern:

Be it known that I, ALBIN WARTH, of Stapleton, in the county of Richmond and State of New York, have invented a new and Improved Machine for Piling Textile Fabrics; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a longitudinal section of the same when rigged up for the purpose of adjusting the gage-plate. Fig. 4 is a detached section of the package-carrier in the plane *x x*, Fig. 3. Fig. 5 is a detached view of the winding-shaft.

Similar letters indicate corresponding parts.

This invention relates to certain improvements on that class of machines for which a patent was granted to me March 18, 1873. These improvements consist in combining with the package-carrier a reversible receptacle, in such a manner that whenever it may be desired the package contained in the package-carrier can be reversed with ease and convenience; also, in the arrangement of a turntable in one or both ends of the piling-table, for the purpose of turning the package-carrier in any direction; further, in combining, with the package-carrier, a winding mechanism, for the purpose of taking in the fabric after the gage-plates on the piling-table have been adjusted to correspond to the exact length of the fabric in the package; also, in the arrangement of a grooved holder on each of the gage-plates, for the purpose of facilitating the operation of cutting the fabric in layers of the required length; further, in a series of removable arbors which have their bearings in standards rising from the gage-plates, in combination with a package-carrier and piling-table, in such a manner that by carrying the fabric round and round these removable arbors the gage-plates can be readily adjusted at the proper distance apart according to the actual length of the fabric forming the package.

In the drawing, the letter A designates my piling-table, which forms the support for the

package-carrier B, the wheels of which are provided with flanges overlapping the edges of the table, so that the same are not liable to run off. On my package-carrier is secured a receptacle, *a*, which turns on a pivot, *b*, so that it can be readily reversed—an operation which is desirable in forming piles of such materials that have a nap or a design, as will be hereinafter more fully explained. A suitable spring-catch locks the receptacle in the required position. If desired, the receptacle can be made to turn in a vertical plane instead of in a horizontal plane, as shown. The reversible receptacle *a* is arranged for the reception of a roller-package, (see Figs. 1 and 2,) or for the reception of a folded package, (see Figs. 3 and 4,) and after the package has been placed in the receptacle the fabric is paid out and formed into a pile to be delivered to the cutting-machine. On the piling-table A are secured two gage-plates, C, which are adjusted at the required distance apart by means of set-screws *c*, and each of these gage-plates is provided with side catches *d*, and with a holder, *e*, both the side catches and the holder being hinged to their plates, so that the same can be turned up for the purpose of admitting the successive layers. Each of the holders *e* is provided on its back with a groove or shoulder, *f*, for the purpose of facilitating the operation of cutting the fabric at the proper places.

In forming a pile, the end of the fabric is drawn out of the receptacle *a* of the package-carrier and secured on the table by placing it beneath the side catches and the holder of the nearest gage-plate. The package-carrier is then moved to the other gage-plate. The side catches of this second gage-plate are lifted up and made to drop on the top of the layer, and the fabric is cut by passing a knife through the groove *f* in the holder, and by raising the holder and allowing it to drop on the layer. This layer is retained in the desired position on the table. If the fabric has a nap or a design the package-carrier is moved back to the first gage-plate, the receptacle *a* is reversed on its pivot *b*, and the second layer is formed, as above described; and by following this process the naps or the designs of the successive layers all run in one and the

same direction, and the layers are formed in pairs, the two layers forming each pair being placed with their corresponding sides against each other, so that the same can be conveniently cut up into patterns for garments. In the ends of the piling-table A are secured turn-tables D, which revolve on pivots *g*, and are secured in position by suitable stops *h*. On these tables are secured forked brackets *i*, which engage with a spring-catch, *j*, Fig. 4, secured to the package-carrier, so that if the package-carrier is pushed on one of said turn-tables, it will be retained in position by its spring-catch, and by revolving the turn-table the package-carrier can be turned in any desired position, either for the purpose of running the same on an adjoining table or for the purpose of reversing the package. Previous to forming the fabric into a pile it is necessary to ascertain the exact length contained in a package, since packages marked to contain, say, fifty yards, many times contain only forty-six or forty-seven yards, and if the gage-plates should be set at a distance of five yards apart the last layer would be several yards short, and the consequence would be that a part of the fabric would be wasted.

This disadvantage I have obviated by providing each of the gage-plates with two standards, *k k*, which form the bearings for a series of arbors or rollers, *l*, Fig. 3. The package to be divided off in layers of uniform length is placed in the receptacle of the package-carrier, its end is drawn out and secured under the holder of the nearest gage-plate, the package-carrier is moved to the other gage-plate, one of the rollers *l* is placed in its bearings over the first layer, the package-carrier is moved to the first gage-plate, a second roller, *l*, is placed into the standards of this gage-plate over the second layer of the fabric, and so on until the entire package has been paid out and formed into layers, one of the rollers, *l*, being placed into each of the bights at the connections of the successive layers. The gage-plates are then loosened on the piling-table, and by moving them toward or from each other, the last end of the package can be brought exactly over one set of rollers *l*, so that all the layers of the pile will be of uniform length. When this has been accomplished, the gage-

plates are secured in position, and the fabric is returned to the package-carrier ready to be formed into a pile fit to be cut up into patterns for garments.

The operation of returning the fabric to the package-carrier is facilitated by a winding mechanism, which consists of an arbor, E, (see Fig. 5,) which has its bearing in the sides of the receptacle *a*, and which is provided with teeth *m*, so that the end of the fabric can be readily fastened to it. On one end of said arbor is mounted a pinion, *n*, which gears in a cog-wheel, *o*, provided with a hand-crank, *p*, so that by turning this crank the arbor E receives a rapid revolving motion, and the fabric is taken in without much loss of time. The pile is then formed in the manner previously described. If the fabric has no nap or design, the operation of returning the same to the package-carrier may be dispensed with. In this case the rollers *l* are simply withdrawn, and the pile after having been properly fastened and marked is ready for the cutting-machine.

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

1. The combination of a reversible receptacle, *a*, with a package-carrier, B, and a piling-table, A, substantially as shown and described.
2. The combination of a turn-table, D, (one or more,) with a piling-table, A, and package-carrier B, substantially as and for the purpose set forth.
3. The combination of the winding mechanism with the package-carrier B, substantially as shown and described.
4. The holders *e* provided with a shoulder or groove to form a guide in cutting the fabric, in combination with the gage-plates and with a piling-table, A, and package-carrier B, substantially as set forth.
5. The standards *k k* on the gage-plates C, in combination with rollers *l*, and with a piling-table and package-carrier, substantially as and for the purpose described.

This specification signed by me this 19th day of March, 1873.

ALBIN WARTH.

Witnesses:

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E. F. KASTENHUBER.