(No Model.) 3 Sheets—Sheet 1.

N. HARRIS.

MACHINE FOR UNWINDING, DRAWING OFF, AND CUTTING CLOTH.

No. 386,068. Patented July 10, 1888.

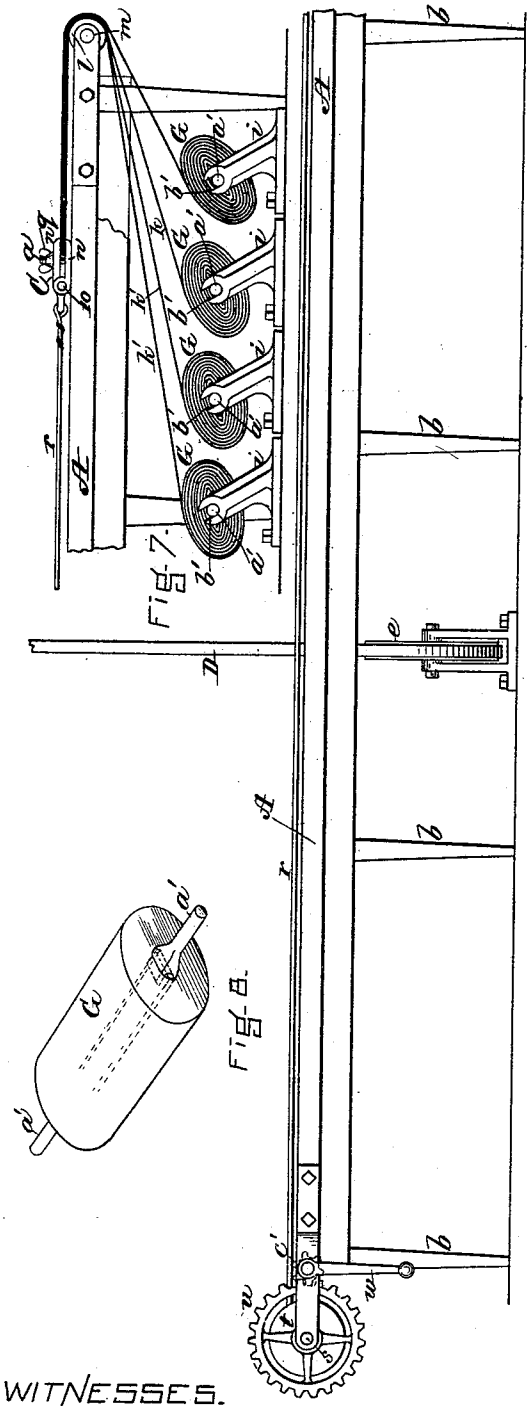


Fig. 7.

Fig. 8.

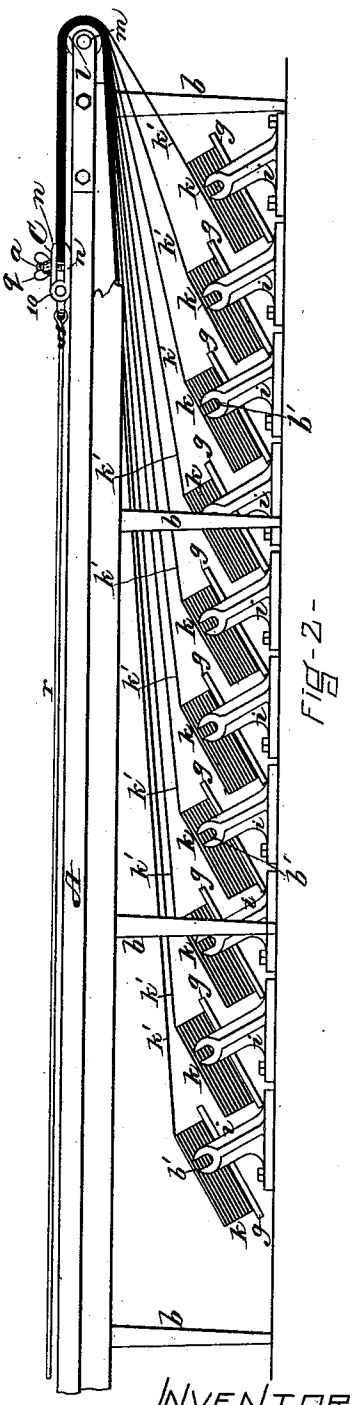


Fig. 1.

Fig. 2.

WITNESSES.

Edwin F. Edgett.

T. Vandevere Hayden

INVENTOR.

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N. PETERS. Photo-Lithographer. Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

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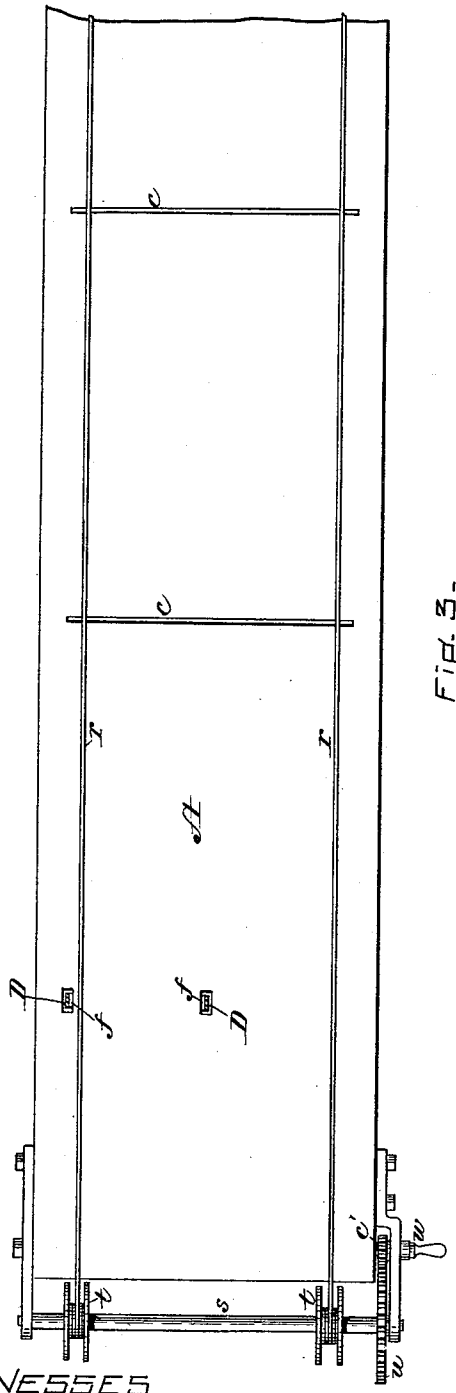


Fig. 3.

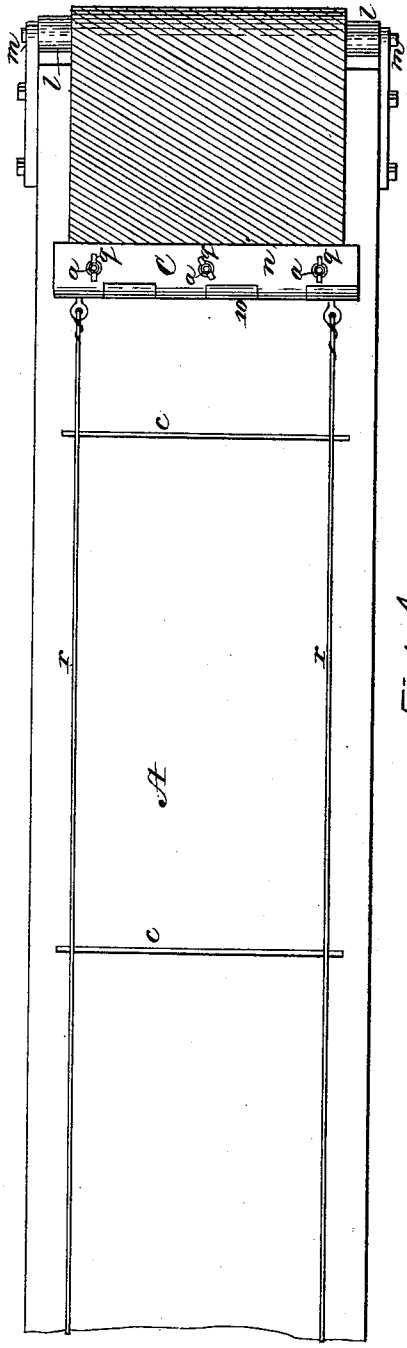


Fig. 4.

WITNESSES.

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INVENTOR.

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(No Model.) 3 Sheets—Sheet 3.

N. HARRIS.

MACHINE FOR UNWINDING, DRAWING OFF, AND CUTTING CLOTH.

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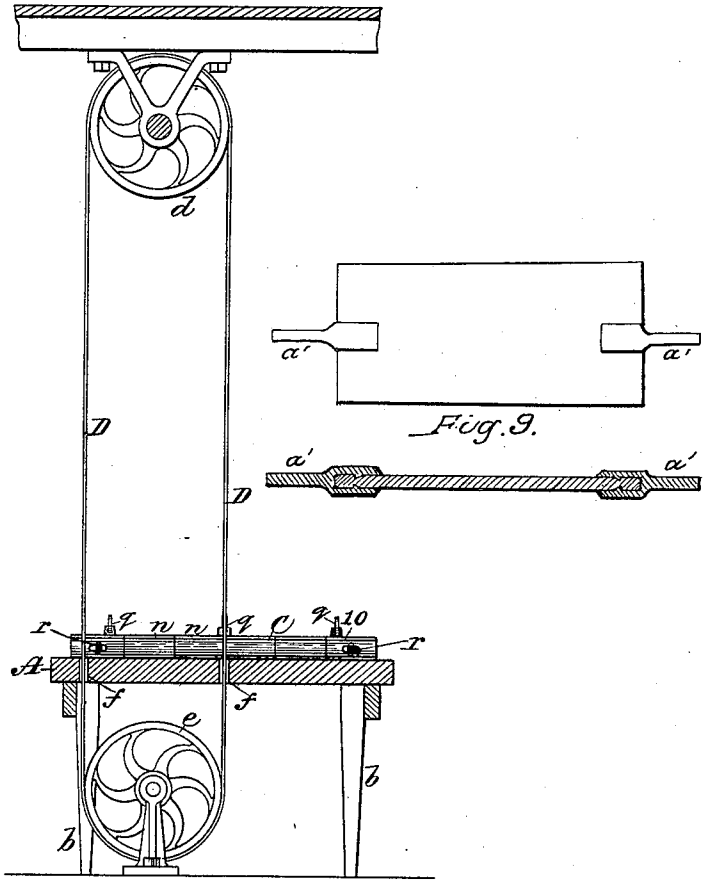


Fig. 5.

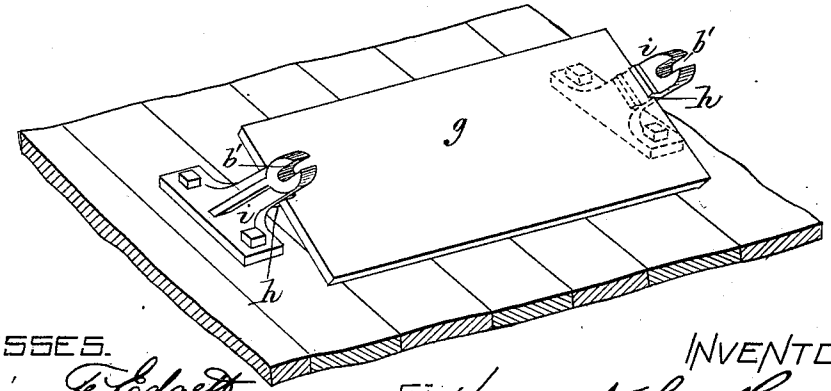


Fig. 6.

WITNESSES.
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INVENTOR.
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N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

NATHAN HARRIS, OF BOSTON, MASSACHUSETTS.

MACHINE FOR UNWINDING, DRAWING OFF, AND CUTTING CLOTH.

SPECIFICATION forming part of Letters Patent No. 386,068, dated July 10, 1888.

Application filed September 24, 1887. Serial No. 250,632. (No model.)

To all whom it may concern:

Be it known that I, NATHAN HARRIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Machine for Unwinding and Drawing Off Cloth and Cutting the Same, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of a portion of my improved machine. Fig. 2 is a side elevation of the remaining portion. Fig. 3 is a plan of the portion of the same shown in Fig. 1. Fig. 4 is a plan of the portion of the same shown in Fig. 2. Fig. 5 is a transverse vertical section of the machine. Fig. 6 is a perspective view of one of the rests or supports for a web or piece of cloth. Fig. 7 is a side elevation of a portion of the machine, illustrating the manner in which rolls of cloth wound upon boards are supported to enable them to be rotated as the cloth is unwound therefrom. Fig. 8 is a perspective view of a roll of cloth having short removable supporting shafts or gudgeons applied to opposite ends of its winding-board to enable it to be hung in the supporting-brackets shown in Fig. 7. Fig. 9 represents details showing in plan and section a winding-board with the removable gudgeons in place.

Where large quantities of cloth are cut up into garments it is often customary to lay on a cutting board or table a series of folds or thicknesses of the cloth, one upon the other, and then cut the whole number at a single operation with a suitable knife or cutter. To prepare the cloth for this method of cutting, it has to be taken from the roll or web and cut into suitable lengths, which are then placed or folded separately one upon the other until the desired number of thicknesses have been placed together. To simplify this operation, which is laborious and consumes considerable time, and to enable any desired number of folds or thicknesses of cloth to be placed simultaneously one upon the other on the table ready for cutting, is the object of my invention, which consists in the constructions and combinations of devices, which I shall hereinafter fully describe and claim.

In the said drawings, A represents the cutting board or table, supported upon suitable legs, *b*, and provided with transverse slots *c*, for a purpose to be hereinafter described.

D is an endless band knife or cutter, which is supported on pulleys *d e* above and below the table, the said band-knife passing through slots or apertures *f* in the table, as seen in Figs. 3 and 5.

A series of inclined supporting boards or rests, *g*, Figs. 2 and 6, is placed within suitable grooves, *h*, in the inner sides of a series of arms or brackets, *i*, beneath the table A, and upon these boards are laid the folded webs or pieces of cloth, *k*. With this arrangement the several layers or thicknesses *k'* of cloth, as they are drawn from the webs or pieces *k*, lie one over the other, as seen in Fig. 2, the ends of the several pieces being brought evenly together and carried over a roller, *l*, supported in suitable bearings, *m*, at one end of the table A, after which they are placed within a clamping device, C, extending transversely across the table, said device consisting of two jaws, *n n*, hinged at 10 and adapted to be clamped together by screws *a* and thumb nuts *q*, the ends of the several pieces of cloth being thus grasped and held firmly together at one point.

To the clamping device C are secured near its opposite ends a pair of straps or cords, *r*, which extend lengthwise over the table A, and are attached to a drawing device or winch consisting of a winding-shaft, *s*, provided with drums or pulleys *t*, to which the straps or cords are secured, said shaft having at one end a gear, *u*, which engages a pinion, *c'*, on a short shaft provided with a crank-handle, *w*, and thus as the shaft *s* is rotated by turning the handle *w* the straps or cords *r* are wound upon their drums *t*, which causes the clamping device C to be drawn forward and the several folds or thicknesses *k'* of cloth placed one upon the other, as described, to be drawn simultaneously over the roller *l* onto the table A. After the several thicknesses of cloth have thus been drawn over onto the table, the desired patterns are marked out upon the upper layer or thickness, and the cloth is then cut up into suitable lengths by means of a long knife, which is adapted to pass through the narrow transverse slots *c* in the table in a well-known manner. The clamping device C is then loosened and

removed from the cloth, (or it may be removed from the cloth before it is cut up into lengths,) after which the goods, cut up into lengths and marked, as above described, are brought by the operator into contact with the endless band-knife D and moved with his hands in such manner as to cause the cloth to be cut according to the pattern marked out thereon. I prefer to use an endless band-knife, as shown; but, if desired, a long hand-knife adapted to work in slots in the table, or an ordinary short knife adapted to work without slots, or any other suitable cutter may be used instead of the band-knife. After the goods have been cut up according to the desired patterns, the clamp C is again secured to the ends of the cloth near the roller *l*, when the drawing operation is repeated, and so on until the webs or pieces of cloth, *k*, have become exhausted.

Where goods come folded, instead of in rolls, or where they have been unrolled and sponged and then folded, instead of being rerolled, the inclined supporting-boards *g* (shown in Figs. 2 and 6) are employed to support the said pieces of goods; but where the goods are to be drawn directly from the original rolls I apply to the opposite ends of the winding-boards short removable gudgeons or journal-pieces *a'*, Figs. 7 and 8, which are provided at their inner ends with jaws (seen dotted in Fig. 8) to receive the end of the winding-board, which fits tightly therein. The inclined supporting-boards *g* are then removed from between the bracket-arms *i* to allow the rolls G of cloth to be hung between the same, as seen in Fig. 7, the gudgeons *a'* being dropped into open slots or sockets *b'*, formed at the upper ends of the bracket-arms *i*, which thus form bearings within which the gudgeons freely revolve as the cloth is unwound from the rolls and drawn upon the table by the clamp C and winding mechanism previously described.

Any desired number of folds or thicknesses of cloth can thus be laid one over the other upon the table at a single operation, ready for cutting, and a material saving in time and labor thus effected, while the mechanism is of simple construction, easily operated, and does not interfere with the employment of cutting mechanism of any desired description.

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

1. The combination, with a cutting board or table, A, provided at one end with a roller, *l*, and having the endless band knife or cutter D, passing through slots in said table, of a series of rests or supports for the webs or pieces of cloth, hinged clamping-jaws for grasping and holding the ends of the several pieces of cloth, and a drawing or winding device consisting of straps or ropes *r*, attached to the clamping device and to a winding shaft or winch, all operating substantially in the manner and for the purpose set forth.

2. The combination, with a cutting board or table, A, and the cloth clamping and drawing mechanism, of the arms or brackets *i*, and the removable cloth-supporting boards *g*, placed between the said arms, substantially as and for the purpose set forth.

3. The combination, with the cutting board or table A and the cloth clamping and drawing mechanism, of the arms or brackets *i*, provided with open slots or sockets *b'*, and the removable gudgeons or journal-pieces *a'*, provided with jaws adapted to fit over the ends of the boards on which the webs or pieces of cloth are wound, substantially as set forth.

4. The combination, with a cutting board or table provided at one end with a roller, *l*, of a series of rests or supports for the webs or pieces of cloth, a clamping device comprising two jaws hinged together at one end and provided with screws and thumb nuts, said jaws grasping the ends of the several pieces of cloth and holding them together at one point, and a drawing or winding drum attached to said clamping device, whereby the several folds or thicknesses of cloth are drawn forward simultaneously and laid one over the other upon the table at a single operation ready for cutting, substantially as described.

Witness my hand this 22d day of September, A. D. 1887.

NATHAN HARRIS.

In presence of—
P. E. TESCHEMACHER,
EDWIN F. EDGETT.