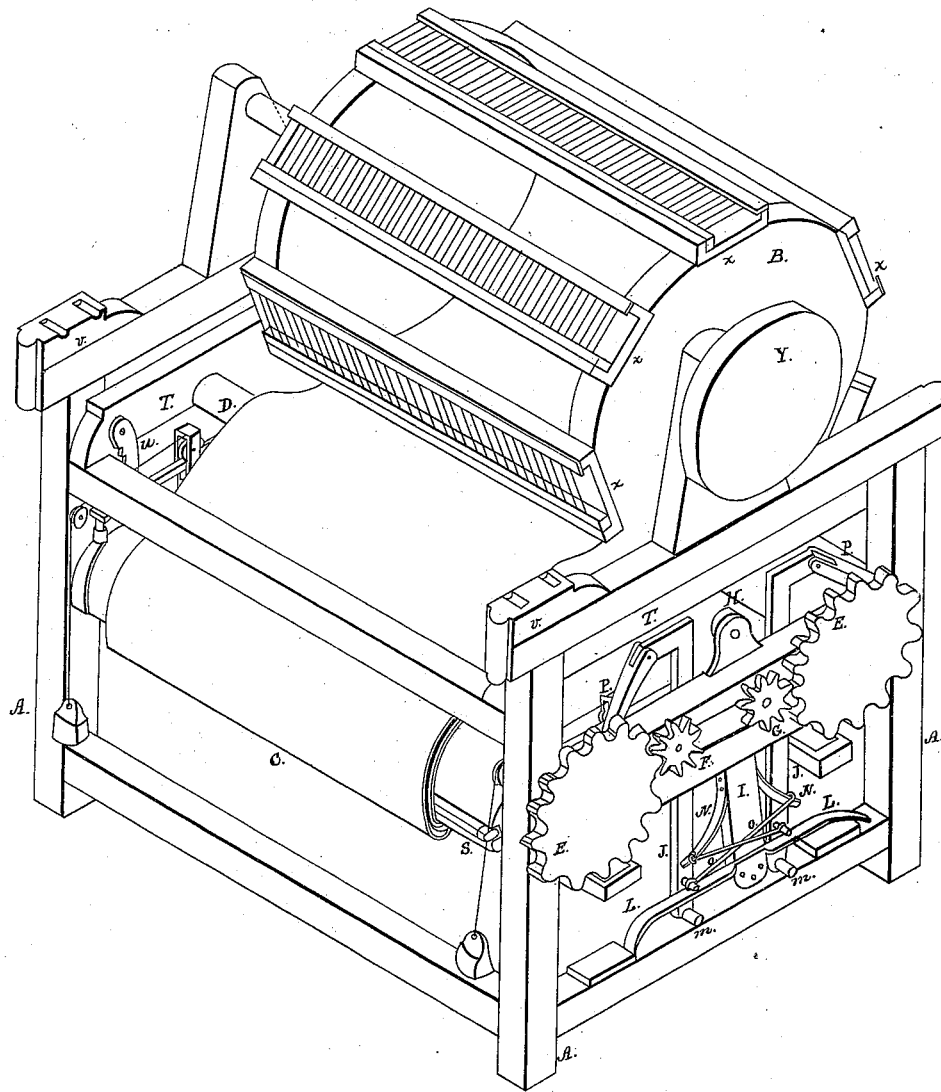


B. Swasey.
Napping Mach.

N^o 350

Patented Aug. 8, 1837.

Fig. 1.



Witnesses,
S B Vance
F B Clark

Inventor,
Benjamin Swasey

UNITED STATES PATENT OFFICE.

BENJ. SWASEY, OF MOUNT VERNON, MAINE.

MACHINE FOR TEAZELING OR NAPPING CLOTH.

Specification of Letters Patent No. 350, dated August 8, 1887.

To all whom it may concern:

Be it known that I, BENJAMIN SWASEY, of Mount Vernon, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Machines for Teazeling or Napping Cloth; and I do hereby declare the following is a full and exact description, reference being had to the accompanying drawings.

Figure 1 is a representation of the machine as it stands ready for use; A, A, A, the frame work; B, B, the large cylinder on which are placed the teazels; C, C, the cylinders on which the cloth to be dressed or napped is rolled. D, D, smaller cylinders or rollers over which the cloth passes before it comes to the teazels. E, E, cog wheels on the ends of the cloth cylinders D, D. F, a small pinion or spur gear wheel notching into E. G, a similar pinion upon a shaft, which alternately matches into the large cog wheel E on the right, and the pinion F, on the left. H, I, an upright lever swinging on the pivot at H, and serving by swinging to the right and left to shift the pinion *g* into one or the other of the wheels F, or E. I, I, two upright levers swinging on pivots toward their upper ends, and thereby lifting by means of the pins *m m* at their lower ends, the spring L, L, which is fastened to the lever H, I, and carrying it together with the pinion *g* to the right or left accordingly as one or the other lever acts. N, N, are springs attached to H, I, having wires *o, o*, passing into the upper pins in the levers. They serve to bring them back to their place after having lifted the springs L, L, and shifted the pinion *g*. P, P, are pawls or levers attached to the levers J, J. These have their lower ends resting upon the cloth cylinders C, C, ready to catch into the projection which is thrown up by a spring, when the cloth unrolls and suffers it to rise; S, S, the spring mentioned above, running the whole length of the cylinder and settling into a groove in the cylinder when the cloth is wound tightly around it, but rising up when the cloth is wound off and coming against the lever or pawl or hand P, pushes it up and thereby pushes the lever J and raises the spring L and shifts the pinion *g* into the other wheel. T, T, are levers, one on each side of the frame in which are placed the rolls D, D, over which the cloth passes before it gets to the teazels. These are fastened at one end

by a bolt or pivot, but have a piece of iron *u*, with teeth in it, which when you wish to elevate, catch on a piece of steel in the rail on which it rests, and holds it at any required height. V, V, are sockets into which, if necessary, may be put rolls over which to strain the cloth. X, X, are the hands or wires on which the teazels are placed when in use. Y is a pulley over which passes a band for driving the machine. At the other extremity is another pulley from which a band passes down to another pulley on the shaft of the pinion G.

Fig. 2, represents the shifting levers divested of the frame work and giving an end view; H, I, the upright or swing lever; G, the pinion; I, I, the upright levers for lifting the springs, L, L, the springs attached to the lever H, I. *m m*, the pins or projections which lift the springs, *n, n*, the springs which back the levers I, I; *o, o*, the wires which connect them with the springs; P, P, the pawls or hands which catch into the projections of the cylinders C, C. S, S, the springs or projections above named.

Fig. 3, is an end view of the cloth cylinders C, C; C, the cylinder. 1, is a band of brass passing around the end of the cylinder. There is one of these at each end. One end is fastened firmly by a pin *a* attached to the frame work. The other end is attached to the lever 2. On this lever is placed a stirrup having a truck which slides back and forth on the lever at 3. To this stirrup is attached a cord passing over the pulley 6. Having a weight 7 hung to it below the stirrup is a wire having a rod 4 attached to it and below this a heavy weight 5. These two weights keep the rod 4 snug up to the cloth as it winds up or off of the cylinder.

Fig. 4, is a perspective view of the same, the figures referring to the same parts.

Fig. 5, is a view of the cloth cylinder with the spring C, the cylinder S the spring.

Fig. 6, as the frame or hand upon which are placed the teazels before placing them into the frame. When necessary, the teazeling cylinder may be taken out and a cylindrical card put in its place.

Fig. 7 is a section of the cylinder C, C, S, S, the spring which rises when the cloth is wound off and relieves the pressure upon them, the projecting part (6) may be made of wood or metal. The spring part below may be flat or spiral.

Fig. 8, the spring detached, S, S, the lower part or spring *a* the projecting part.

Operation: The teazels being put in to the frames or hands *x, x, x*, and the cloth
 5 put upon the cylinders C, C, ready to be wound from one to the other, the machine is set in motion. The band upon the shaft of G turns this pinion and as it notches into one of the cog wheels E, E, it turns it, and
 10 the cloth acting as a band, turns the other. This continues until the cloth is wound off of one cylinder and all the cloth has been under the teazels. As the cloth is wound off the spring S having no pressure upon
 15 it starts out and coming in contact with the pawl P and thereby pushes it back, this starts the pin *m* forward, lifts the spring L out of its place and shifts the pinion E from out of E into F. As soon as it matches
 20 into F the cloth cylinder rolls the other way and the cloth is wound back again on to the cylinder from whence it was wound before. It continues to roll on again until it is wound off of the other cylinder, the
 25 spring in this projects, pushes the pawl P of the other lever, lifts the other end of the spring L and shifts the pinion G back again into E. This instantly increases the order and it is rolled back again and thus con-
 30 tinues to roll from one cylinder to the other as long as the machine is in operation,

shifting without the aid of any person to match and unmatch the gear work F and G.

What I claim as my improvement is—

1. The springs in the cloth rolls under- 35
 neath the cloth which operate on a hand or pawl connected with upright or perpendicular levers and which operate on a spring below attached to the shifting or swinging lever of the center shaft, and all the ap- 40
 pendages of said shifter which are used in putting it in and out of gear and in holding or retaining it in its proper position, as above specified and described.

2. Also, the application of the friction 45
 bands on the ends of the cloth rolls, together with the apparatus for applying the movable weights and the rod to keep the cloth snug and smooth as it rolls off and on as above specified and described. 50

3. I also claim the mode of setting the teazels on wires in hands as above described.

In testimony that the above is a true specification of my said improvement I have 55
 hereunto set my hand this 22 day of March 1837.

BENJ. SWASEY.

Witnesses:

DAVID MORRELL,
 SHUBERT B. PAULL.