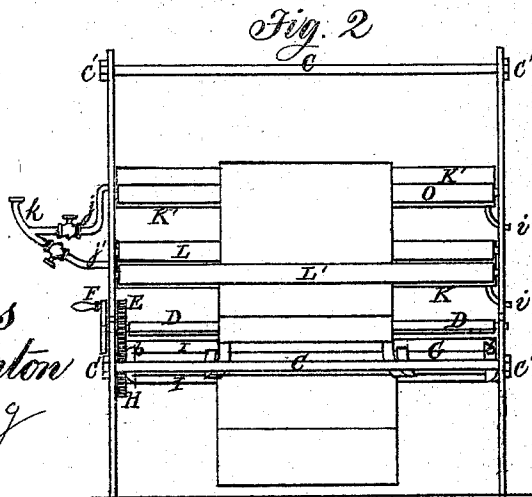
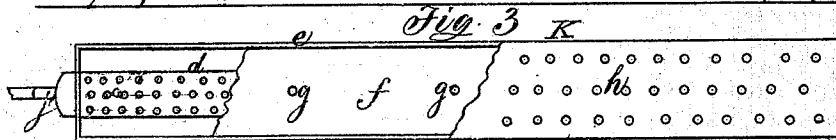
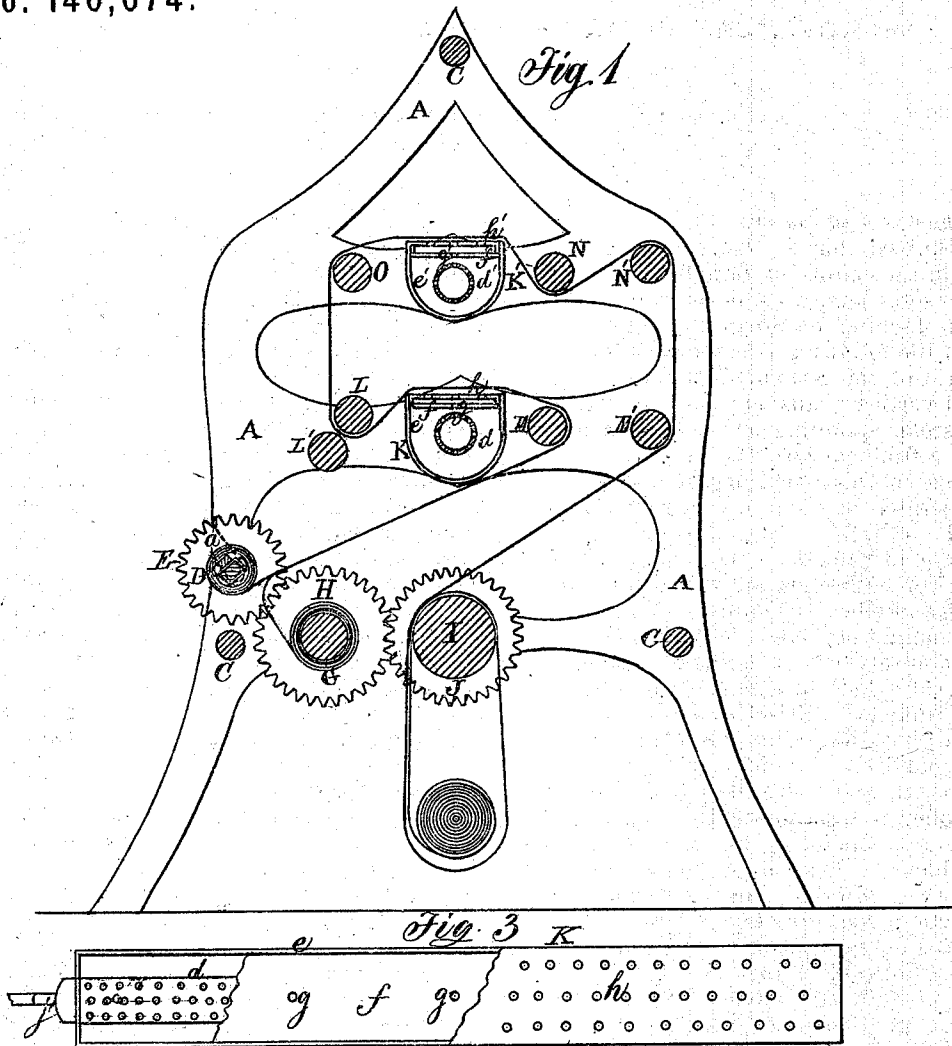


W. HEBDON.

Machines for Steaming Cloth.

No. 146,674.

Patented Jan. 20, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HEBDON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR STEAMING CLOTH.

Specification forming part of Letters Patent No. **146,674**, dated January 20, 1874; application filed December 15, 1873.

To all whom it may concern:

Be it known that I, WILLIAM HEBDON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Machine for Steam-Sponging Cloth, of which the following is a specification:

Figure 1 of the accompanying drawings is a central vertical transverse section of my improved steam-sponging and listing machine. Fig. 2 is a front view of the same.

The object of this invention is to provide a machine, operated by hand or any motive power, by which cloth, &c., as it is unrolled, has both selvages or listings removed, and is "steam-sponged" on both sides, and rolled up in an expeditious and effective manner. My invention consists mainly of a machine for unrolling, removing two selvages or listings, steam-sponging both sides, and rolling up cloth or other material, arranged, as will be hereinafter more fully described, with an adjustable winding roller, spit, or mandrel, provided with a cog-wheel, meshing with and operating a cog-wheel of a listing-roller, that meshes with a cog-wheel attached to and operating an unwinding-roller, above which are located, one over the other, and between suitable guiding-rollers, perforated steam-boxes, provided within with suitable devices for preventing the rushing of water through the perforations, all of which I will now proceed more particularly to describe.

In the drawings, A represents a frame, of metal or any other suitable material, open and shaped as shown, or made in other desired shape or manner, and connected by suitable bars or rods C, held by screw-nuts C', or otherwise. At the front of the lower portion, extending from one end or side to the other of the frame A, is a winding spit, mandrel, or roller, D, formed with axle ends, or otherwise arranged to turn in the frame A, which is notched at *a*, or otherwise formed to receive it and allow of its ready removal. This spit, mandrel, or roller D is, on one end, on the inside of the frame A, provided with a cog-wheel, E, and has on its outside end a suitable crank, F, or is otherwise arranged to receive motive power. Below and in rear of the roller or spit D is located a listing or selvage roller, G, provided with suitable cap ends *b*, and a cog-wheel, H, that meshes with and is operated

by the cog-wheel E. In advance of the roller G, on the axle-line with it, is an unwinding-roller, I, turning in the frame A, and having at one end a cog-wheel, J, that meshes with and is operated by the cog-wheel, H. In the center, supported at each end of the frame A, and located one above the other, are steam-boxes K K', each having a semicircular or other curved bottom, and a perforated metal tube, *d d'*, extending longitudinally within an outer metal casing, *e e'*, having an upper horizontal partition, *f f'*, to prevent the forcing out of the water condensed from the steam onto the cloth or other material, the said partition being formed with a suitable number of orifices, *g g'*, to allow the escape of steam above the said partition to a passage or chamber formed between the partition and a perforated top or cover, *h h'*. Each of the boxes K K' is provided with an eduction-pipe, *i*. In front of the steam-box K are two guide-rollers, L L', located one above and a little in the rear of the other; and at the rear of the box K are two parallel guide-rollers, M M', one near the box and the other near the rear of the frame A, above which rollers M M', at the rear of the box K', are located two similar guide-rollers, N N', and in front of the box K', above the roller L', is a guide-roller, O. Connected with the tubes *d d'* of the steam-boxes K K' are branch pipes *j j'*, provided with suitable faucets and connected with an induction-pipe, *k*, through which steam is admitted to the tubes. The winding-roller D and unwinding-roller I may be either flat, round, or any other desired shape, their ends being arranged with axles, or otherwise arranged to turn in the sides or ends of the frame A, or otherwise arranged to rotate.

The operation of my invention is as follows: The cloth or other material is first placed upon the unwinding-roller I, and one end carried under the guide-roller M', over the roller N, under the roller N', over the steam-box K', and down over the roller O, between the rollers L L', over the steam-box K, until a sufficient quantity of material has been unrolled and is steamed on both sides to reach the winding spit or roller D, to which it is brought over the guide-roller M and held by a bar or otherwise. The steam is then turned off and the

selvages or listings on either side are connected with the listing-roller G, and steam is then admitted to the tubes *d d'* and motion imparted to the spit or winding-roller D, which rotates, by means of the cog-wheels E H J, the listing-roller G (which, in its rotation, separates and winds the selvages or listings on either side of the cloth,) and the unwinding-roller I; and thus the cloth is unwound and steamed on both sides, the steam issuing from the perforations of the top *h* acting on one side of the cloth as it is brought over the box K, and the steam issuing through the perforated top *h'* acting on the other side of the cloth in its passage over the box K', and the cloth or other material is rolled by one operation of the machine in an expeditious and effective manner.

It is necessary that all woollens, before being made into garments, should be sponged on both sides, and it is the custom of the trade that the selvages should be removed before the material is made up. Ordinarily, to steam the goods by machinery, the cloth was wound around a cylinder and steam forced through the bulk of the cloth, which was by this process saturated on the inside, while the outside was scarcely affected; or, in the ordinary cloth-brushing machine used for steam-sponging cloth, the cloth was passed over a single perforated steam-pipe, which only steamed it on one side, the cloth having to be turned when it was desired to steam the other side, which operation required a great deal of time and labor, after which above-mentioned operation the cloth had to be listed and then rolled

up, thus necessitating the expenditure of still more time and labor.

It will be seen by the description of my invention, reference being had to the drawings, that the objections above referred to are obviated by my improvements, the cloth being unwound, steamed on both sides, listed, and rolled up all at one operation of the machine, which requires the attention of but one person.

When required to steam only one side of the material it may be arranged on the rollers to be brought over only one of the steam-boxes.

Having thus described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. In a machine for steam-sponging cloth or other material, an unwinding-roller, I, listing or selvaqe roller G, and winding spit, mandrel, or roller D, arranged, respectively, with cog-wheels J H E, operated by hand or other motive power, in combination with guide-rollers L L' M M' N N' O and frame A, substantially as described, and for the purposes specified.

2. The steam-boxes K K', in combination with the rollers I G D, guide-rollers L L' M M' N N' O, and frame A, all arranged and operating substantially as described.

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

WILLIAM HERDON.

Witnesses:

CARROLL D. WRIGHT,
SAML. M. BARTON.