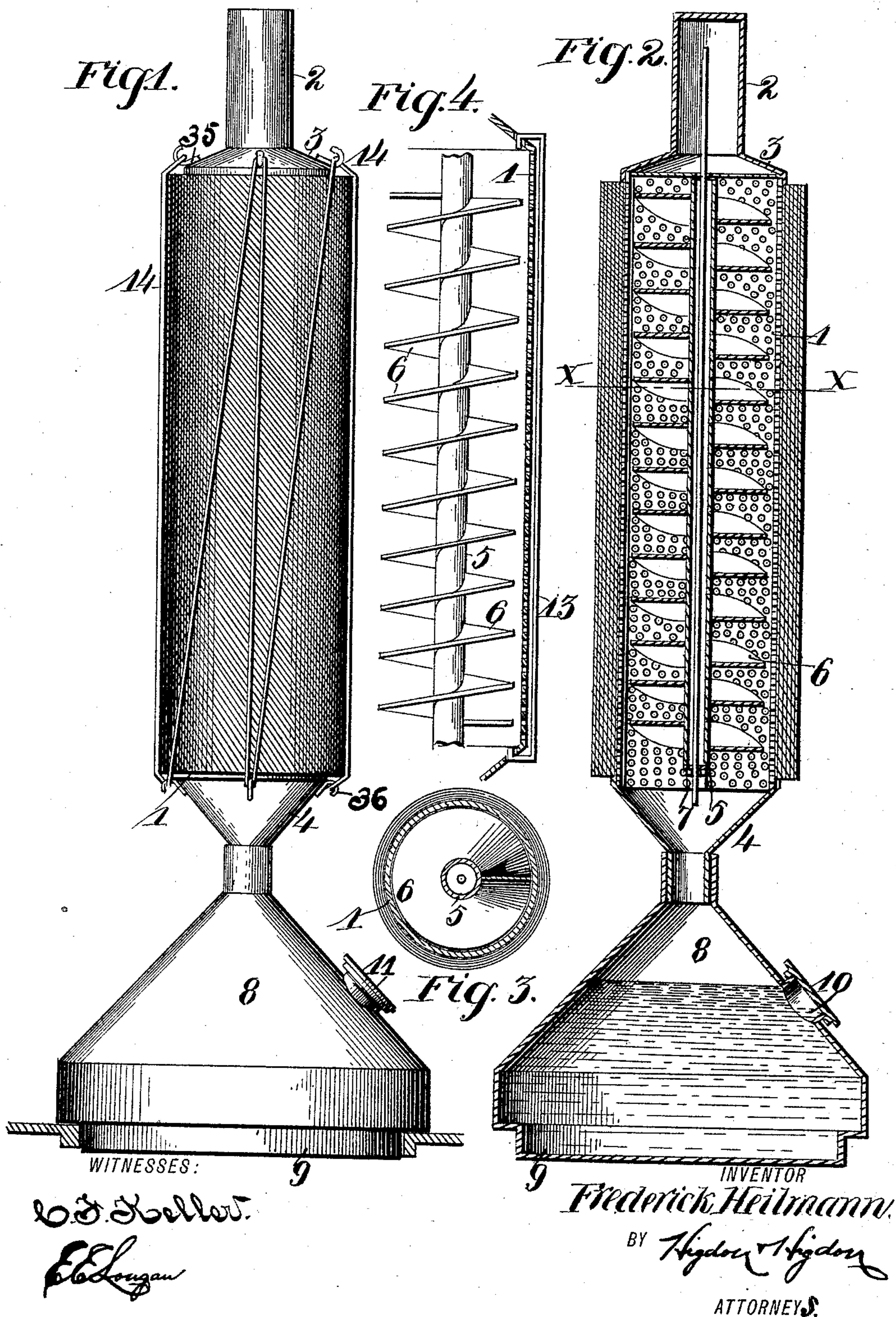


(No Model.)

F. HEILMANN.  
SHRINKING MACHINE.

No. 453,114.

Patented May 26, 1891.





# UNITED STATES PATENT OFFICE.

FRIEDRICH HEILMANN, OF ST. LOUIS, ASSIGNOR OF ONE-HALF TO HENRY B. HENNEMANN, OF SAME PLACE.

## SHRINKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,114, dated May 26, 1891.

Application filed December 24, 1890. Serial No. 375,719. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH HEILMANN, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Shrinking-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in shrinking-machine for cloths and other textile fabrics; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described and designated in the claims.

In the drawings, Figure 1 is a side elevation of my invention, showing cloth applied thereto. Fig. 2 is a vertical longitudinal section of my complete invention. Fig. 3 is a cross-section taken on the line  $x x$  of Fig. 2, and Fig. 4 is a side elevation of a fastening device secured to the perforated cylinder.

The object of my invention is to construct a device for shrinking cloth to take the place of the ordinary sponging process which has heretofore existed. The tediousness and slowness of the sponging process is well known to all engaged in the sartorial art.

Referring to the drawings, 1 represents a hollow perforated cylinder around which the cloth to be sponged is wrapped. Said perforated cylinder is of suitable diametrical dimensions and preferably about thirty-two inches in length, corresponding with the width of an ordinary roll of cloth. Said cylinder is provided with a closed upper end 3, which end terminates in a small cylindrical projection 2. On this closed end 3 any suitable number of hooks 35 are secured, which hooks are adapted to receive cord 14, by which the cloth is additionally secured to the cylinder, thereby keeping said cloth from slipping off from the cylinder when the same is in a vertical position.

4 indicates a detachable funnel-shaped cap, which is adapted to be placed over the lower end of perforated cylinder 1. Said cap is also provided with three, or any suitable number of hooks 36, adapted to receive the cord 14 for holding on the cloth, as hereinbefore stated.

5 represents a cylinder provided with a

spiral 6. Said cylinder 5 is suitably journaled in the upper and lower ends of cylinder 1, and is adapted to revolve. The lower end of said cylinder is journaled in a suitable journal-bearing plate 7. Said plate is secured in the cylinder in any suitable and mechanical manner, as by soldering or riveting, &c. The spiral 6, formed on cylinder 5, distributes the steam and humid vapor as it emerges from the boiler or drum and passes into perforated cylinder 1. By this means the cloth is equally saturated with steam throughout its entire length. A high pressure of steam may perchance cause the cylinder to revolve. However its functional operation is complete without revolving, as its spiral elevation 6 will equally distribute the steam and vapor.

8 indicates a drum or boiler on which the perforated cylinder is adapted to be placed. Said boiler is preferably constructed in the form of a cone, and the funnel-shaped cap 4 is adapted to be inserted in the end of said drum or boiler. Said drum is provided at its base with a peripheral recess 9, and is adapted to fit in the place usually occupied by a stove-cap of an ordinary stove. Said drum or boiler is also provided with a supply-opening 10, through which the water is supplied to the boiler or drum.

11 indicates a screw-cap, by which said opening 10 is covered or closed.

13 indicates a rod provided with right-angled ends, having inwardly-projecting offsets adapted to engage apertures in the ends of the cylinder to hold a protecting-cloth thereon.

14 indicates an ordinary cord, by which the cloth is vertically secured and held to the cylinder.

Having given an explicit description of my invention, I will now proceed to describe its application and use. The parts are made and put together substantially as hereinbefore stated, so as to effectuate practical utility. Whenever it is desired to shrink cloth and other textile fabrics, the operator should first wrap around the perforated cylinder a piece of ordinary domestic or any other cheap goods, so as to protect the cloth to be shrunk from coming in contact with the rusty surface of the cylinder. One end of said domes-



tic is held to the cylinder by means of a rod 13, the ends of which are pivotally secured in the ends of the perforated cylinder, respectively, and adapted to be pulled over the end of the domestic when it is applied to the cylinder, whereby said domestic is held tightly to the cylinder. After the domestic has been secured to the cylinder, the operator should next wrap around the cylinder the cloth to be shrunk, the rod 13 being left in place and the cloth wrapped therearound. After it has been wrapped around, the cloth should be covered with a wrapper of domestic or any other cheap material. In other words, the cloth is interposed between layers of cheap material. The first layer of domestic, or the layer adjacent to the cylinder, is secured to the same by means of strings or bands tied around the same. The layer of cloth is also secured to the cylinder by means of strings or bands tied around it, as well as the outer layer of domestic. When the perforated cylinder is placed in a functionally vertical position on the drum or boiler 8, the heavy weight of the cloth may perchance make it slide from the same. To prevent the cloth from slipping off from the cylinder, a string or cord 14 is laced around the same, passing over the hooks 35. By this means the cloth is prevented from slipping off the perforated cylinder 1.

Having fully described my invention, what I claim is—

1. A shrinking-machine consisting of a hollow cylinder upon which the cloth is to be wrapped, said cylinder being adapted for connection with a source of steam-supply and a spiral within said cylinder, substantially as set forth.

2. A shrinking-machine consisting of a hollow perforated cylinder around which cloth is adapted to be wrapped, and a spiral within said perforated cylinder, the said cylinder being adapted for connection with a source of steam-supply, substantially as set forth.

3. A shrinking-machine consisting of a hollow perforated cylinder around which cloth is adapted to be wrapped, the said cylinder having conical ends and being adapted for connection with a source of steam-supply, and a spiral journaled within said cylinder, adapted to evenly distribute the steam, substantially as set forth.

4. A shrinking-machine consisting of a conical-shaped boiler, a hollow perforated cylinder, and a cylinder provided with a spiral journaled to revolve in said perforated cylinder, for distributing the steam and vapor throughout the length of the same, substantially as set forth.

5. A shrinking-machine consisting of a conical-shaped boiler, a hollow perforated cylinder, adapted for connection therewith and around which cloth is adapted to be wrapped, the said cylinder having conical ends, bearings also located in the cylinder, and a cylinder 5, provided with a spiral journaled in the bearings in said perforated cylinder for equally distributing the steam and vapor throughout its entire length, substantially as set forth.

6. In a shrinking-machine, a steaming-cylinder adapted for connection with a source of steam-supply around which the cloth is adapted to be wound, hooks 35, located on the edges of the ends of the same, and a cord adapted to be wound around the cloth to secure the latter to the cylinder and held in position by said hooks, substantially as described.

7. In a shrinking-machine, a steaming-cylinder adapted for connection with a source of steam-supply, apertures in the ends of the cylinder, and a rod 13, having fastening devices on its ends, consisting of right-angled portions having inwardly-projecting offsets adapted to removably engage said apertures and hold the protecting-cloth on the cylinder, substantially as described.

8. In a shrinking-machine, a steaming-cylinder adapted for connection with a source of steam-supply, hooks 35 on the edges of the ends of the cylinder, a cord adapted to hold the cloth on the cylinder and to be engaged by said hooks, apertures also in the ends of the cylinder, a rod 13, and right-angled portions having inwardly-projecting offsets on the end of said rod, adapted to engage said aperture, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDRICH HEILMANN.

Witnesses:

E. EVERETT LONGAN,  
C. F. A. MUELLER.