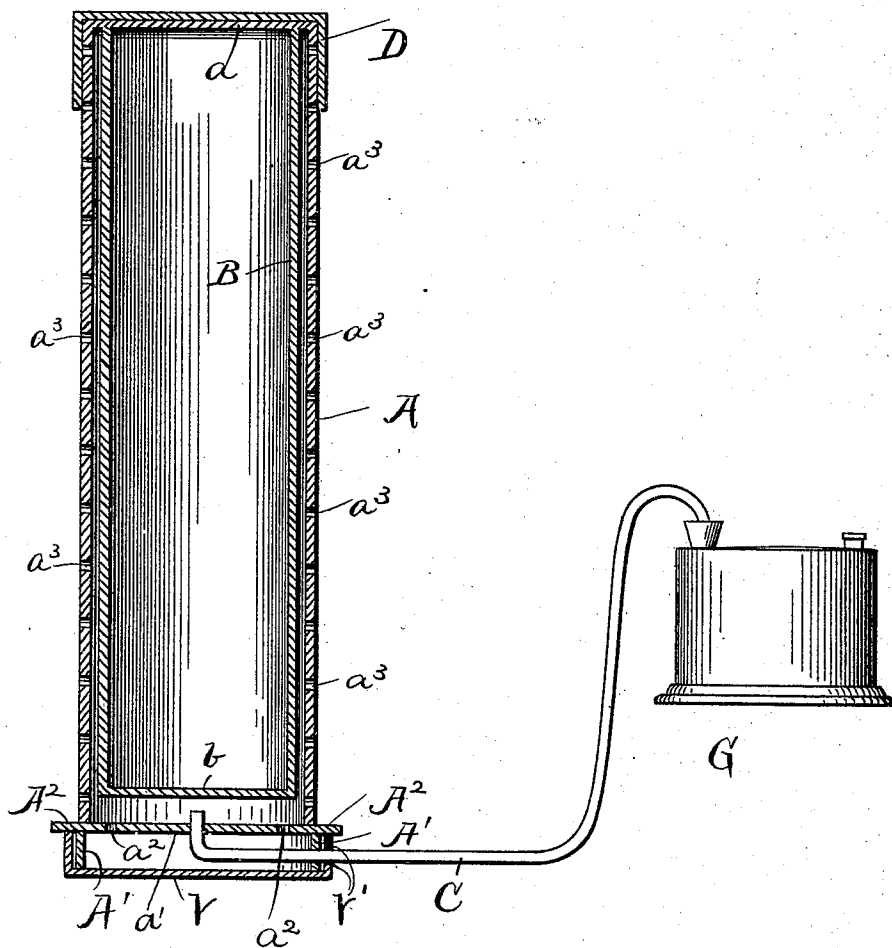


(No Model.)

C. W. SCHAEFER.
CLOTH SHRINKING MACHINE.

No. 486,739.

Patented Nov. 22, 1892.



Witnesses,

O Byron Gilchrist

Inventor,

Inventor.
Charles W. Scharfer
By *Frederick J. Rogers*
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. SCHAEFER, OF CLEVELAND, OHIO.

CLOTH-SHRINKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 486,739, dated November 22, 1892.

Application filed October 8, 1891. Renewed October 8, 1892. Serial No. 448,196. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SCHAEFER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cloth-Shrinking Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in apparatus for steaming cloth; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

The accompanying drawing is an elevation in central section of a device embodying my invention.

A and B represent upright hollow cylinders closed at the top by a head *a* in common and closed at the bottom by heads *b* and *a'*, respectively, cylinder B being imperforate and suspended within cylinder A. The relative size of the two cylinders is preferably such that there is about an inch space between the bottom heads of the cylinders and an annular space of, say, about an eighth of an inch between the sides of the cylinders. The outer cylinder has numerous perforations *a²* to allow the steam to escape from said cylinder into the cloth that is supposed to be wound around the cylinder. The lower head *a'* of the outer cylinder has one or more drip-holes *a²* for the escape of water of condensation, and said cylinder has preferably an annular depending rim *A'* at the bottom, that the cylinder stands on, and has a laterally-projecting annular rim *A²*, preferably integral with bottom *a'*, for the cloth to rest upon. Depending rim *A'* sets in a vessel *V*, and as soon as a little water of condensation passes beneath rim *A'* and accumulates in the vessel a water seal is formed around the lower edge of the rim of the cylinder that prevents the escape of steam at this point.

C is a steam-pipe that enters the cylinder from below through a central hole in head *a'* of the outer cylinder, depending rim *A'* being perforated for the passage of said pipe. Pipe C is of course made of sections united in any convenient manner, and drip-pan or vessel *V* is slotted at its side, as at *V'*, so that it can be

slipped over said pipe, and the latter connects with a steam-generator G. The discharge end of pipe C enters cylinder A preferably about a quarter of an inch, and the steam on entering said cylinder is by means of the bottom of the inner cylinder B spread and directed to the narrow annular space between the two cylinders and in a moment completely fills said annular space from top to bottom and issues from all the perforations of the outer cylinder into the cloth almost simultaneously and the cloth is shrunk practically uniformly. I would here remark that I have reduced my invention to practice, with the result of accomplishing the object of such like apparatus in one-tenth the time as compared with the devices heretofore employed.

The device is supposed to be of an ample size to accommodate the widest cloth to be steamed—that is to say, the narrow or single goods are wound singly on the cylinder, while the wide or double-width goods are wound double on the cylinder, so that usually there will be but a few inches in width variation in the different kinds of goods as applied to the cylinder. In case the cloth is narrow, if wound next to the bottom of the cylinder the perforations would not be covered by the cloth near the upper end of the cylinder, in which case the steam would largely escape through these unobstructed perforations, so that but little steam would enter the cloth and greatly retard the shrinking of the latter. To prevent this I provide a cap or cover D, mounted on the upper end of cylinder A. Cap or cover D should snugly fit the cylinder, so that it will be held in place by friction. When, therefore, the cloth to be shrunk has been wound upon the cylinder, cover D is slid or adjusted on the cylinder, as required, so as to close any perforations not covered by the cloth, and hence it will be observed that there is no possible opportunity for the steam to escape but into the cloth.

What I claim is—

1. In cloth-steaming apparatus, an upright hollow perforated cylinder having suspended within it an imperforate cylinder, with a narrow annular space between the cylinders closed at the upper end, both of said cylinders being closed at the bottom, the outer cylinder having connected therewith a steam-pipe

adapted to discharge steam into the space between the bottom of the respective cylinders, substantially as set forth.

2. The combination, with a cloth-steaming
5 apparatus comprising an upright hollow perforated cylinder having suspended within it an imperforate cylinder, with a narrow annular space between the cylinders closed at the upper end, both of said cylinders being closed
10 at the bottom, the outer cylinder having connected therewith a steam-pipe adapted to discharge steam into the space between the bottoms of the respective cylinders, of a cap or

cover mounted on the upper end of the apparatus and adapted to slide or move endwise 15 on the perforated cylinder and obstruct one or more perforations in the upper end of said cylinder, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 21st day of September, 1891. 20

CHARLES W. SCHAEFER.

Witnesses:

CHAS. H. DORER,
WARD HOOVER.