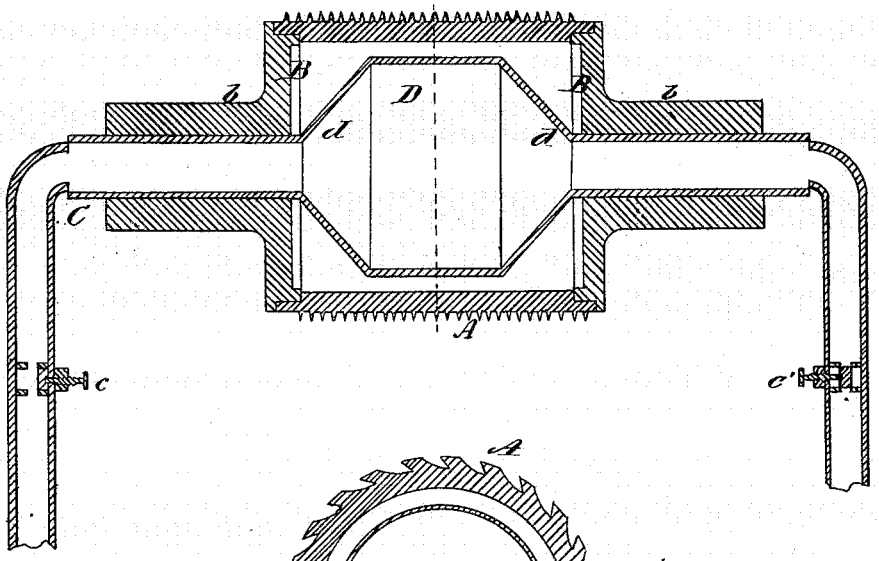
J. K. PROCTOR.

Cylinder for Wool Carding and Combing Machines.

No. 164,593. Patented June 15, 1875.

Fig. 1.



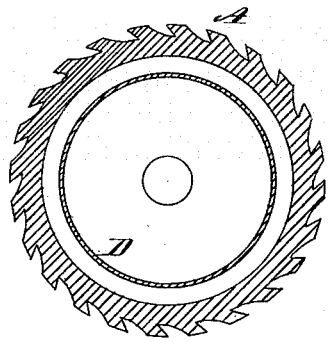


Fig. 2.

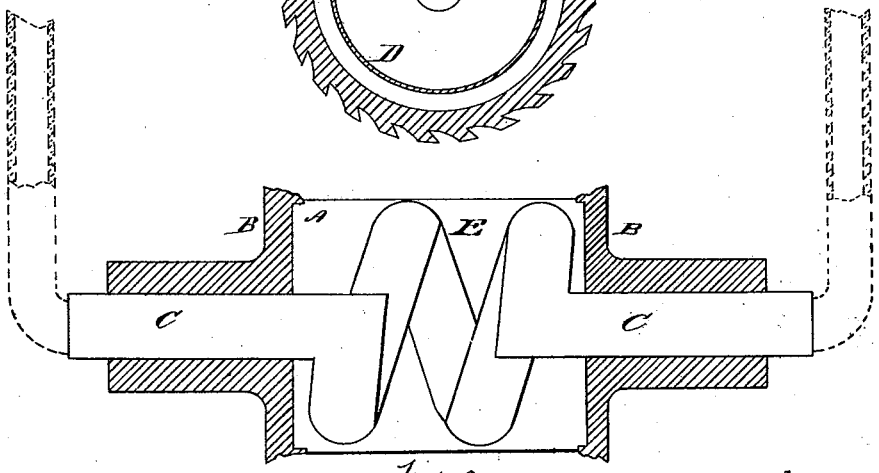


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOSIAH K. PROCTOR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES SMITH & CO., OF SAME PLACE.

IMPROVEMENT IN CYLINDERS FOR WOOL CARDING AND COMBING MACHINES.

Specification forming part of Letters Patent No. **164,593**, dated June 15, 1875; application filed November 28, 1874.

To all whom it may concern:

Be it known that I, JOSIAH K. PROCTOR, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Means for Combing and Carding Wool; 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 it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a vertical longitudinal section of a cylinder illustrating my improvements. Fig. 2 is a vertical transverse section of said cylinder. Fig. 3 is a plan of a modification of one of the details.

The object of my invention is to improve the construction of wool combing and carding cylinders, in which heat is used as an agent for softening the grease contained in the stock.

My invention consists in constructing such cylinders with one or more movable heads, and providing said heads with tubular journals, through which pass steam-pipes communicating with a stationary steam-chest, or equivalent chamber, located within the cylinder.

In the accompanying drawing, A represents a wool combing or carding cylinder, made of metal, and covered with teeth formed in wire wound in grooves or in steel rings.

It is essentially necessary that the cylinder should be made of metal, either wholly or in part, so as to conduct the heat from its interior to its exterior surface.

B B represent the heads of this cylinder, one of which heads, at least, is movable, and both are provided with tubular journals. These heads fit tightly into or upon the walls of the cylinder, so as to make the latter close, in order to prevent unnecessary waste and escape of heat. *b b* are the journals of the cylinder, which are tubular, and revolve in suitable bearings. D is a tight metallic chest, or equivalent vessel or holder, (for which a coil of pipe, E, as in Fig. 3, may be substituted,) located in the cylinder A, being stationary therein, and not revolving with said cylinder. C C are, respectively, inlet and outlet pipes, furnished with stop-cocks *c c'*, and connected with the steam-chest D.

These pipes, which pass through the tubular journals *b b*, are of less diameter than the bore of said journals, so as not to come in contact therewith, thereby avoiding friction.

The operation is as follows: The cylinder A revolves, and otherwise operates, in the usual manner. The pipe C, passing through the tubular journal, conveys steam to the chest D, which steam may be retained therein by closing the cock *c'*.

The chest D, when heated, radiates caloric upon the interior surface of the cylinder A, through which it is conducted to the exterior surface, heating the teeth thereon, and softening the grease in the wool, thereby rendering the combing and carding of the latter more easy and perfect than it would be if worked cold.

The pipes C passing through the journals *b b* without coming in contact therewith, and discharging their contents into the chest D, friction is avoided and the necessity of stuffing said pipes in the journals is obviated. The vessel D being stationary, the jarring or shock which would otherwise be encountered in carrying the water of condensation around at a high rate of speed is avoided. Being stationary also, it may be made of lighter and cheaper materials than would be required for a revolving cylinder.

In order to facilitate "blowing off" of the water of condensation, the ends of said chest D should be made flaring or dish-shaped.

What I claim is—

In combination with a close cylinder, A, having a movable head or heads, B B, constructed with tubular journals *b b*, a stationary tight metallic steam-chest, D, having inlet and outlet pipes C C passing through said journals without being stuffed therein, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand.

JOSIAH K. PROCTOR.

Witnesses:

M. DANL. CONNOLLY,

SAMUEL HART.