

(No Model.)

2 Sheets—Sheet 1.

C. KECK & W. GEIGER.
CLOTH SPONGING MACHINE.

No. 364,593.

Patented June 7, 1887.

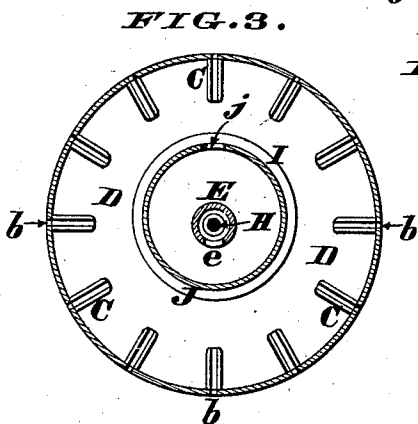
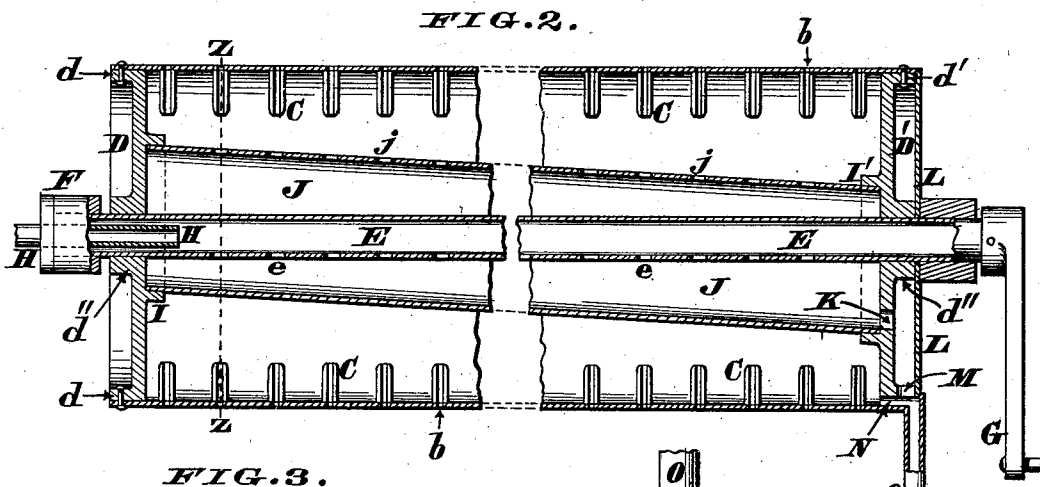
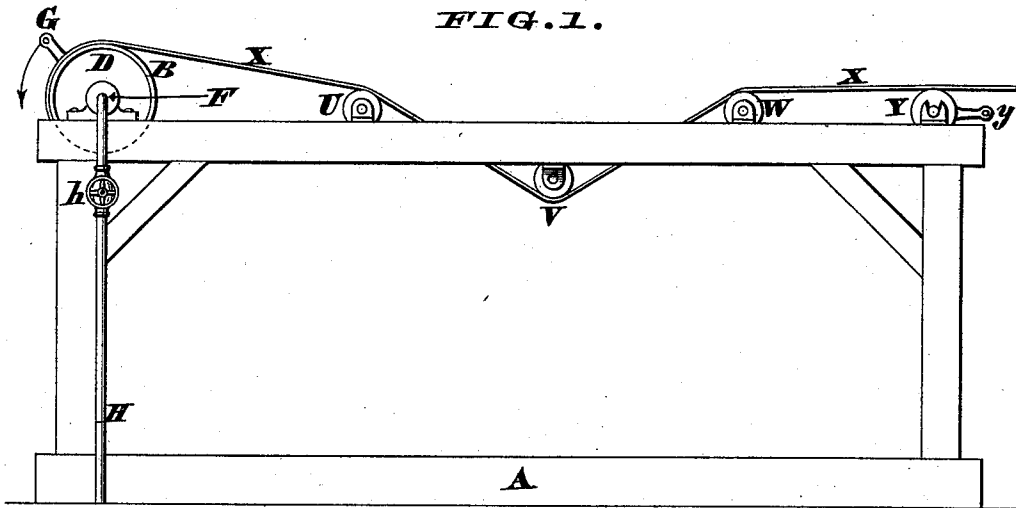
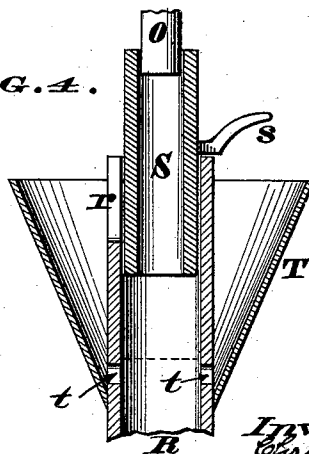


FIG. 4.



Attest.
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Christian Keck.
William Geiger.
By James H. Gayman,
Att'y.

(No Model.)

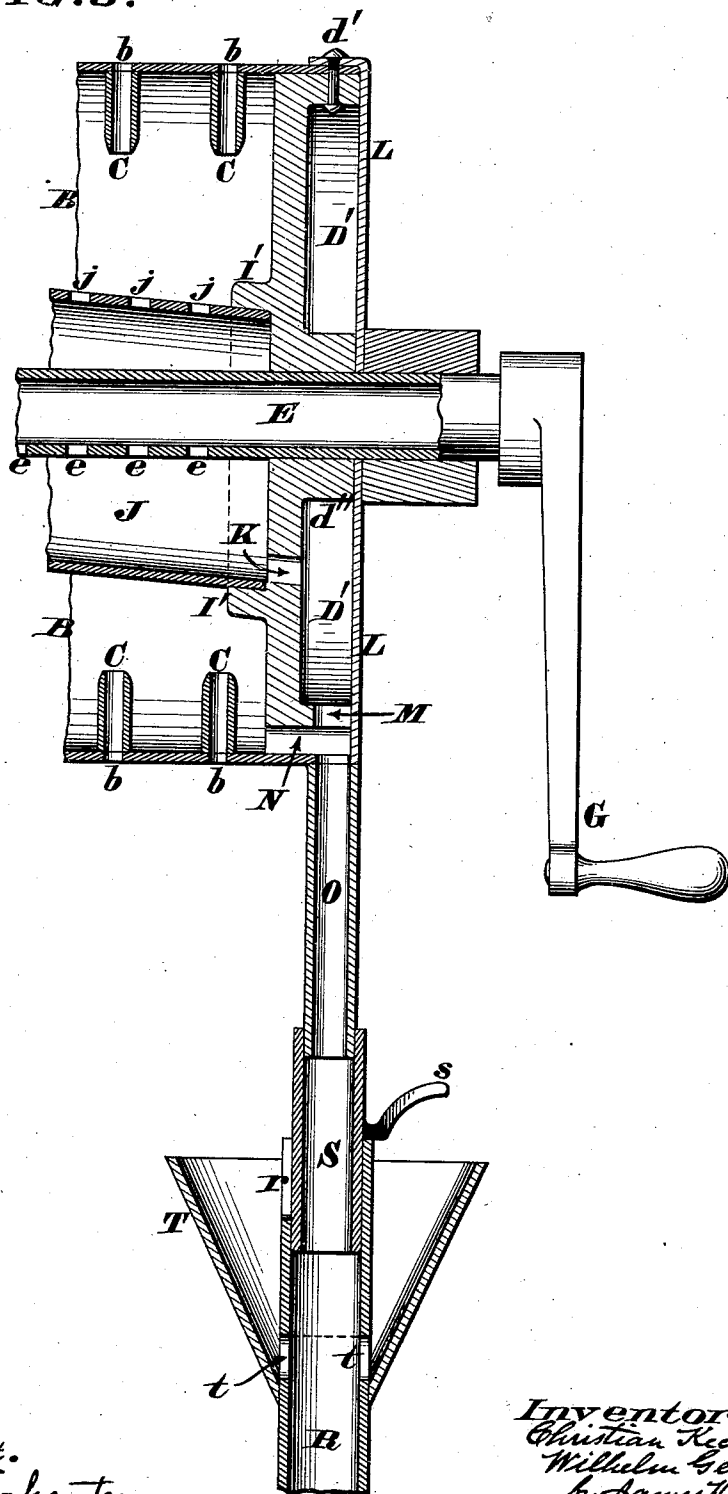
2 Sheets—Sheet 2.

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CLOTH SPONGING MACHINE.

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FIG. 5.



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UNITED STATES PATENT OFFICE.

CHRISTIAN KECK AND WILHELM GEIGER, OF CINCINNATI, OHIO; SAID
GEIGER ASSIGNOR TO JOHN REINBOLD, OF SAME PLACE.

CLOTH-SPONGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 364,593, dated June 7, 1887.

Application filed February 7, 1887. Serial No 226,753. (No model.)

To all whom it may concern:

Be it known that we, CHRISTIAN KECK and WILHELM GEIGER, both citizens of Germany, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Cloth-Sponging Machines, of the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to those machines which are employed for sponging or moistening cloths and other fabrics by winding them around a perforated cylinder, through whose sides minute jets of steam are allowed to escape, and the first part of our improvements comprises a novel combination of perforated external cylinder, inclined and perforated drum, horizontal perforated chamber, and induction and eduction pipes, as hereinafter more fully described.

25 The second part of our improvements comprises a novel construction of "slip-joint" that is temporarily coupled to the outer end of the eduction-pipe for the purpose of conducting the condensed water away from the machine, as hereinafter more fully described.

30 In the annexed drawings, Figure 1 is a side elevation of our improved sponging-machine. Fig. 2 is an enlarged axial section through the cylinder of the same, said cylinder being shown in the proper position to receive steam, parts connected with the cylinder being shown in elevation. Fig. 3 is a transverse section of the cylinder, taken at the line $z z$ of Fig. 2. 35 Fig. 4 is an enlarged axial section of the slip-joint. Fig. 5 is a greatly-enlarged axial section through one end of the machine, the aforesaid slip-joint being engaged with the common eduction-pipe of the apparatus.

40 A represents the main frame of our machine, and B is an external cylinder or shell applied transversely and horizontally of the same and near one end thereof. This external cylinder is made of sheet metal, and is usually about 45 five feet long by ten inches in diameter, and is pierced with numerous small holes, b , that communicate with inwardly-projecting tubes or nipples C. The opposite ends of this perforated cylinder B b are secured to annular flanges $d d'$, projecting outwardly from cast heads D D', whose hubs d'' have a chamber, E,

rigidly attached thereto. This chamber E is suitably journaled in the main frame A, and its rigid connection with the hubs $d'' d''$ causes the external shell or cylinder, B, to turn in unison with said chamber. This chamber is a tube having a series of apertures, e , in its under side, one end of said tube being attached to a stuffing-box, F, while its other end is closed and carries the operating-crank G. Stuffing-box F has the induction-pipe H fitted therein, said pipe being furnished with a cock, h . (Seen in Fig. 1.) The heads D D' have, respectively, inwardly-projecting annular flanges I I', that receive the opposite ends of an inclined drum, J, the latter being perforated on its upper side, as at j . The condensed water from this drum is discharged through a port, K, in the head D', which head is inclosed by a cap, L.

M is an outlet from this inclosed head, and N is a discharge-channel for the external cylinder, B b , said channel being in communication with the common eduction-pipe O, whose outer end has a ready-removable cap, P.

75 R is a waste-pipe, within the upper end of which a slip-joint, S, is fitted, said joint being adapted to slide readily over the lower end of pipe O after the cap P has been detached therefrom.

80 s is the handle of said slip-joint, which handle normally occupies the vertical slot r in the upper end of pipe R. Furthermore, said pipe carries a funnel, T, and is pierced at t to allow a free escape of water from said funnel.

85 U, V, and W are rollers for the cloth X to travel over, and Y is the unwinding-roller, having a crank, y .

The operation of our machine is as follows: Cock h is first closed to prevent steam entering the apparatus, and the cylinder B is wrapped with three or four thicknesses of ordinary cloth to prevent the unsponged fabric from coming in direct contact with said cylinder. Said fabric X is then passed over the rollers Y W V U and wound around this 95 wrapped cylinder as often as may be necessary, and the latter is then arrested, so as to bring its eduction-pipe O to the vertical position seen in Fig. 2. Cap P is now removed from the pipe, and handle s of slip-joint S is lifted out of the vertical slot r of waste-pipe R, and said handle is swung around in order 100

that it may rest upon said pipe R, as seen in Fig. 4. This act couples the two pipes O R, and then cock *h* is opened to admit steam to flow through the induction-pipe H and enter the apparatus. The steam first fills the chamber E and escapes through the apertures *e* into the drum J, which latter is speedily filled. The steam then escapes through the openings *j* of the drum into the cylinder B, and is discharged from the latter through the nipples C and orifices *b*. These orifices discharge the vapor through the cloth in numerous small jets, thereby sponging the goods in a few minutes, the condensed water escaping through the channels K M N and communicating-pipes O S R. It is evident the condensed water cannot run out at the holes *b* and injure the goods, because the tubes or nipples C project above the delivery-channel N. After the cloth has been sufficiently sponged, cock *h* is closed, and handle *s* is swung around to be in line with slot *r*, thereby permitting the slip-joint S to be lowered to the position indicated by the dotted line in Figs. 4 and 5, which act uncouples the pipes O and R. Cap P is then applied to pipe O to prevent any dripping from the latter, and crank *y* is turned for the purpose of uncoiling the sponged cloth from cylinder B and winding the goods around the roller Y. This roller is then lifted out of the frame, another

roller is inserted in its place, and the above-described operations are repeated.

We claim as our invention—

1. The combination of external cylinder, B, perforated at *b*, heads D D', the latter head, D', having discharge-channels K N and outlet M, the inclined drum J, perforated at *j*, axial chamber E, perforated at *e*, and the induction-pipe H, fitted in one end of said chamber E, as herein described.
 2. The combination, in a cloth-sponging machine, of eduction-pipe O, waste-pipe R, slotted at *r*, and slip-joint S, the latter being provided with a handle, *s*, for the purpose described.
 3. The combination of external cylinder, B, projecting tubes C, the heads D D', the latter head, D', having discharge-channels K N and outlet M, the inclined drum J, having perforations *j*, axial chamber E, perforated at *e*, the induction-pipe H, the stuffing-box F, and the common eduction-pipe O, as herein described.
- In testimony whereof we affix our signatures in presence of two witnesses.

CHRISTIAN KECK.
WILHELM GEIGER.

Witnesses:

JAMES H. LAYMAN,
SAM'L. S. CARPENTER.