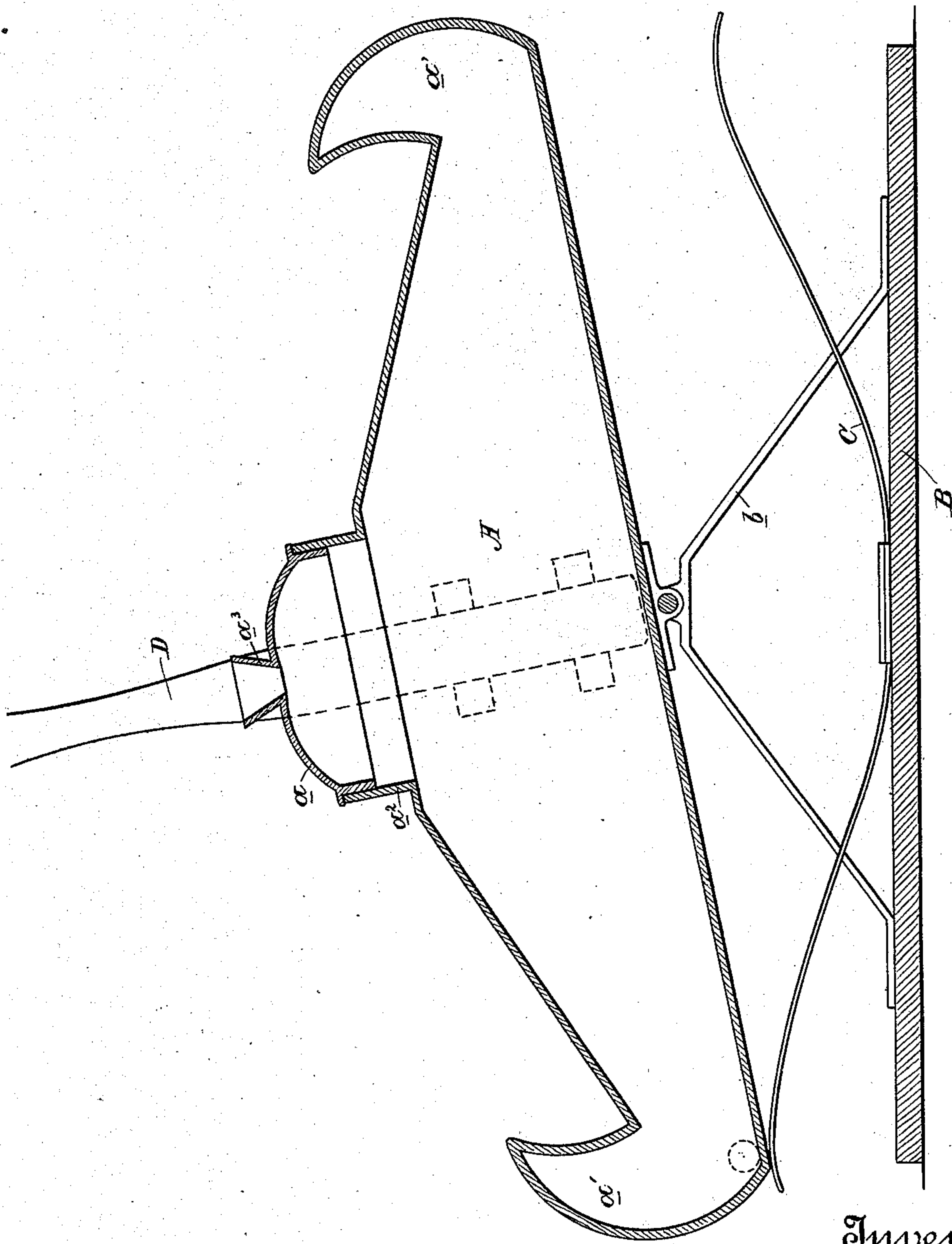


(No Model.)

E. CHURCHILL.
WASHING MACHINE.

No. 413,821.

Patented Oct. 29, 1889.



Witnesses,
Geo. H. Strong
J. H. House

Inventor,
Eros Churchill
By Duvy & Co.
attys

UNITED STATES PATENT OFFICE.

ENOS CHURCHILL, OF TULARE, ASSIGNOR OF ONE-HALF TO WILLIAM L. MORROW, OF SAN LUIS OBISPO, CALIFORNIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,821, dated October 29, 1889.

Application filed March 25, 1889. Serial No. 304,721. (No model.)

To all whom it may concern:

Be it known that I, ENOS CHURCHILL, of Tulare city, county of Tulare, State of California, have invented an Improvement in Washing or Churning Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of machines for washing or for churning; and my invention consists in a rocking or oscillating vessel having peculiarly-constructed ends, whereby a chamber is formed at each end in which the air is compressed by the rocking action of the vessel and the movement of its contents, the compressed air reacting on and through said contents and driving it back, thus more effectually agitating it.

The object of my invention is to provide a machine adapted for washing clothes or churning cream, in which the agitation of the material acted upon is effective, in the case of washing the water and suds being forcibly driven back through the clothes by the compressed air, and in the case of churning the fatty globules being thoroughly broken up.

Referring to the accompanying drawing for a more complete explanation of my invention, the figure is a vertical longitudinal section of my machine.

A is a vessel, which is so mounted that it may be rocked or oscillated endwise. It may for the purpose be provided with rockers, or, as here shown, it may be pivoted upon brackets *b*, rising from a bed-plate B. A spring C may be located on this bed-plate and have its ends projecting upwardly, so that as the vessel rocks it comes in contact with said ends, which assist it on its return movement. A rocking motion is imparted to the vessel by any suitable means, as by the handle D, secured to one side. The vessel A is made with a central top opening adapted to be closed by a cap *a*. The top walls of the vessel incline downwardly from its central portion, thus contracting its interior space toward each end. The ends of

the vessel are formed with upwardly-turned chambers *a'*, which join its contracted end spaces, as shown. These chambers may be slightly curved inwardly at the tops. The bottom of the vessel may be straight or slightly curved. About the entrance-opening of the vessel a flange *a²* is formed, to which to secure the wringer, and in the cap *a* is a vent *a³*, to permit the escape of the gases.

The operation of the machine is as follows: The material or materials to be acted upon are put into the vessel through its central top opening and the cap *a* is fitted to place to confine them. A rocking movement is then imparted to the vessel, whereby its contents are thrown from end to end. The air in the vessel is thereby compressed in the end chambers *a'*, and serves to drive back the contents and thoroughly agitate them. In the case of clothes-washing, it forces the water and suds back through the clothes and causes them to permeate the mass, thus effectively cleansing the clothes. In the case of cream, the compressed air drives it back forcibly and penetrates it at each movement of the vessel and produces a thorough churning action. The interior of the vessel being smooth there is no rubbing, and consequently no wear on the clothes.

A suitable heating device—such as a lamp—may be placed under the vessel, if desired, to keep the water hot.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The rocking or oscillating containing-vessel A, having its interior space contracting to each end, and an air-chamber *a'*, opening out of and rising above said ends, and in which the air is compressed by the movement of the vessel's contents, substantially as described.

2. The combination of the rocking or oscillating containing-vessel A, having its top walls inclined downwardly from its center portions, and provided with a cap-controlled entrance-opening in its top center, upwardly and inwardly turned contracted ends, and

air-chambers *a'* opening out of and rising
above said ends, whereby air is compressed
in said chambers by the action of the ves-
sel's contents, the handle for rocking said
5 vessel, and the assisting-spring beneath the
bottom of the vessel, substantially as de-
scribed.

In witness whereof I have hereunto set my
hand.

ENOS CHURCHILL.

Witnesses:

G. Q. GILL,
C. G. HOUGH.