

F. Curtis.
Paper Making Mach.
N^o 70,534. Patented Nov. 5, 1867.

Fig. 2.

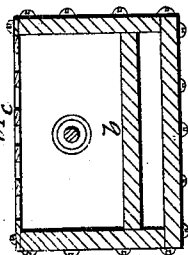
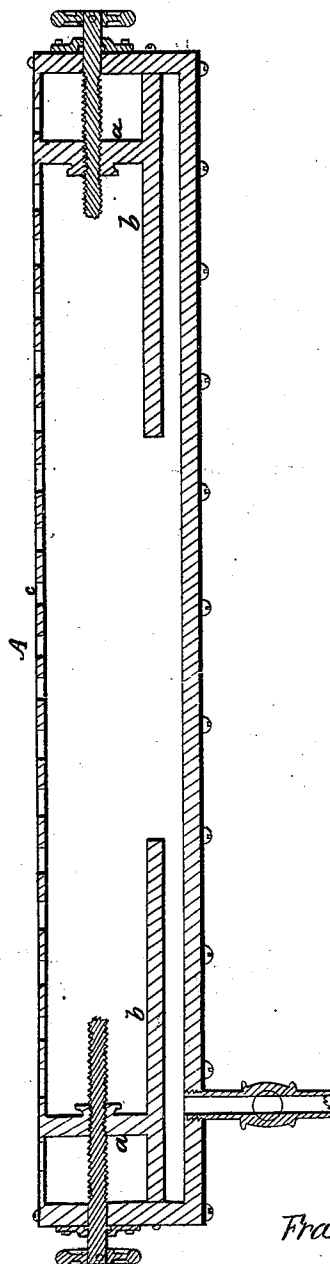


Fig. 1.



Witnesses

Chas. H. Griffin.
C. W. Baldwin

Inventor

Francis Curtis
by his Attorney,
Frederick Curtis.

United States Patent Office.

FRANCIS CURTIS, OF NEWTON, MASSACHUSETTS.

Letters Patent No. 70,534, dated November 5, 1867.

IMPROVEMENT IN THE MANUFACTURE OF SUCTION-BOXES FOR PAPER-MAKING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, FRANCIS CURTIS, of Newton, in the county of Middlesex, and State of Massachusetts, have made an invention of a new and improved Manufacture of Suction-Boxes for Paper Machinery; and do hereby declare the following to be a full, clear, and exact description of the same, due reference being had to the drawings accompanying and making part of this specification, and in which—

Figure 1 is a longitudinal section, and

Figure 2 a transverse section of the suction-box constructed in accordance with my invention.

My present invention relates to the suction-box of a paper machine, the construction and operation of which is well known and understood by those at all conversant with the manufacture of paper by the Fourdrinier machine, it being an oblong rectangular box, provided with a foraminous or perforated top, upon which the endless wire-cloth apron, carrying the pulp, travels, a vacuum being created within the box for the purpose of causing a suction or draught upon and through the pulp, and extracting the water therefrom; the object of the invention being to produce a vacuum-box which shall withstand the action of water or chemicals, be durable and light, and capable of being manufactured at reasonable cost. As the construction of these vacuum-boxes forms no part of my invention, which consists in the material of which they are composed, an elaborate description of them is not considered necessary.

The material now generally employed in their manufacture, and to which there have been few exceptions, is wood, with a metallic top, on account of its cheapness partly, but principally on account of its lightness, as the box must frequently be removed from the endless apron and from the machine. Being constantly covered and partially filled with water, the wood swells and expands in different directions, frequently causing them to leak, and always rotting them rapidly. In addition to this the friction or abrasion between the metallic top of the box and the wire-cloth apron tends to wear out both rapidly.

In my invention, which, as before stated, consists in constructing the box and its cover of hard rubber, all these objections are obviated. The box so made is water-tight, and unchangeable at all times and under all circumstances, is comparatively indestructible, and is sufficiently light. It has also been found in practice that the wear between its top plate and the endless wire cloth is very much less than in the old mode of construction, thus greatly economizing the cost of the wire cloth, which is one of the heaviest items of expense in the manufacture of paper.

In the drawings above referred to, the box is shown at A as composed of hard-rubber plates, properly joined and screwed together; the shelves for supporting the sliding vacuum-heads *a a* being shown at *b b*, and the foraminous top of the box at *c*, the general construction and operation of the box being similar to those in common use.

I claim the improved manufacture of suction-box as composed wholly or in part of hard rubber, substantially in manner and for the purpose as before described.

FRANCIS CURTIS.

Witnesses:

FREDERICK CURTIS,
CHAS. H. GRIFFIN.