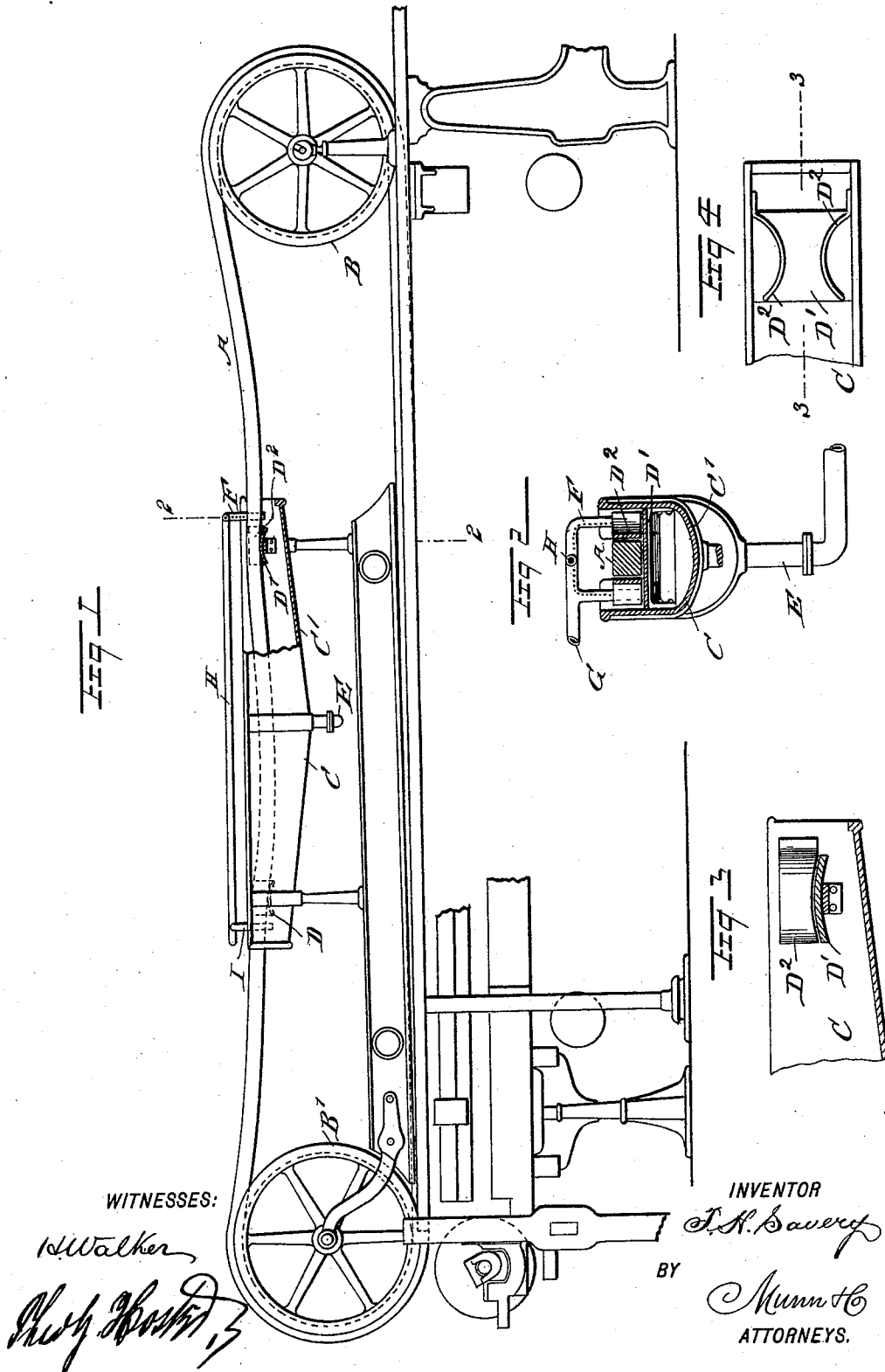


(No Model.)

T. H. SAVERY.
FOURDRINIER MACHINE.

No. 568,373.

Patented Sept. 29, 1896.



UNITED STATES PATENT OFFICE.

THOMAS H. SAVERY, OF WILMINGTON, DELAWARE.

FOURDRINIER MACHINE.

SPECIFICATION forming part of Letters Patent No. 568,373, dated September 29, 1896.

Application filed April 2, 1895. Serial No. 544,180. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. SAVERY, of Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Fourdrinier Machines, of which the following is a full, clear, and exact description.

The invention relates to paper-making machines; and its object is to provide certain new and useful improvements in Fourdrinier machines whereby any particles of pulp or other matter adhering to and carried by the return run of the deckle-strap is removed and carried off beyond the machine.

The invention consists of certain parts and details and combinations of same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with parts in section and as applied, and Fig. 2 is an enlarged transverse section of the same on the line 2 2 of Fig. 1. Fig. 3 is an enlarged sectional side elevation of the support in the box, the section being on the line 3 3 of Fig. 4; and Fig. 4 is a plan view of the same.

The deckle-strap A passes in the usual manner around the flanged wheels B and B', the latter wheel B' being located near the breast-roll, and the former wheel B being located near the suction-boxes of a Fourdrinier paper-machine. Returning from the wheel B to the wheel B' the deckle-strap A passes through what has been termed a "wash-trough" or "washbox" C, supported in a suitable manner from the framework belonging to the machine and preferably located approximately midway between the said wheels B and B'. The deckle-strap A, as it passes from the wheel B to the wheel B', is supported within this washtrough C by segmental supports D D', secured to the inside of the trough C, as is plainly indicated in Fig. 2. By this arrangement the upper run of the deckle-strap can readily pass through the open ends of the box or trough C without touching the latter, and at the same time the deckle-strap is properly supported between the wheels B and B'.

The washtrough C may be formed with inclined bottoms C', connected at their apex or lower portion with a discharge-pipe E, leading to one side of the machine and carrying off water, loose fiber, and other material, as hereinafter more fully described.

In the end of the washtrough C, near the point where the upper run of the deckle-strap enters the washtrough, is arranged a pipe F, made U-shaped and formed with perforations for the passage of water in jets to wash the sides and top of the deckle-strap as the latter passes between the branches of the said pipe F, as indicated in Fig. 2. The pipe is connected by a pipe G with a suitable water supply, and from the middle portion of the pipe F extends longitudinally a pipe H, connected with a pipe I, similar to the pipe F, and extending into the end of the trough C at or near the place where the deckle-strap leaves the trough.

The deckle-strap A, as it passes through the washtrough C, is not only washed and cleansed of all foreign material, but is also guided, wiped, and dried by guides or springs D² of metal or other material pressing against the sides of the deckle-strap and by the segmental supports upon which the deckle-strap slides, and by gravity is brought in close and proper contact with the said supports, which are so formed and arranged as to remove the water and other foreign material from the lower surface of the deckle-strap.

It will be seen that the curved or segmental supports D D' and the lateral springs D² are so arranged that their convex surfaces will engage the deckle-strap.

The springs and wiping arrangements operating upon the two sides of the deckle-strap A guide it, keep it in proper position, and at the same time, being formed and adapted to the purpose, they remove from the side surfaces of the deckle-strap water and other foreign materials, so that said strap is thus washed, wiped, cleansed, and dried as it passes through the washtrough.

Now it will be seen that by the arrangement described water in fine jets is passed upon the deckle-strap, so as to completely wash off any particles of loose pulp or other matter adhering to and carried by the return run of the deckle-strap, and the wash is passed through the pipe E to one side of the machine.

Thus it will be seen that the loose pulp or other material usually passed back onto the web of the paper and the wire is removed and carried off, so that the edges of the paper cannot be damaged or impaired by it as it is when no washbox or washtrough is used.

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

10 1. In a paper-making machine, the combination, with the deckle-strap, of a washbox through which passes the deckle-strap, and a supporting and wiping device secured to the said box and engaging the lower surface of
15 the deckle-strap, substantially as described.

2. In a paper-making machine, the combination, with the deckle-strap, of a washbox through which passes the deckle-strap and a curved supporting and wiping device secured
20 to the said box and having its upper convex surface in engagement with the lower surface of the deckle-strap, substantially as described.

3. In a paper-making machine, the combination with the deckle-strap, of a washbox
25 through which passes the deckle-strap and lateral spring-guides secured to the box and engaging the sides of the deckle-strap, substantially as described.

4. In a paper-making machine, the combination with the deckle-strap, of a washbox
30 through which passes the deckle-strap, and curved lateral guides or springs having their convex faces disposed toward each other and engaging the sides of the deckle-strap, substantially as described.

5. In a paper-making machine, the combination, with the deckle-strap, of a washbox
35 through which passes the said deckle-strap, a supporting and wiping device secured to the box and engaging the lower surface of the deckle-strap, and lateral spring-guides arranged adjacent to the said support and engaging the sides of the deckle-straps, substantially as described.

45 6. In a paper-making machine, the combination, with the deckle-strap, of a washbox

through which passes the said deckle-strap, a curved support secured to the said box and having its upper convex face in engagement with the lower surface of the deckle-strap, and
50 curved lateral guides or springs arranged adjacent to the said support with their convex faces disposed toward each other and in engagement with the sides of the deckle-strap, substantially as described.

7. In a paper-making machine, the combination, with the deckle-strap, of a box arranged longitudinally thereof and through
55 which passes the deckle-strap, supporting and wiping devices arranged near the ends of the box and engaging the lower surface of the deckle-strap, and a sprinkling device adjacent to each of the supports, substantially as described.

8. In a paper-making machine, the combination, with the deckle-strap, of a box arranged longitudinally thereof and through
65 which passes the deckle-strap, the bottom of the box being inclined downwardly toward its central portion and provided with an outlet, a supporting and wiping device arranged
70 within the box and engaging the lower surface of the deckle-strap and a sprinkling device arranged within the box to discharge water upon the deckle-strap, substantially as described.

9. In a paper-making machine, the combination, with the deckle-strap and the wheels supporting the same at the ends of its upper
80 run, of a washbox arranged approximately midway between the said wheels and through which passes the deckle-strap, and a supporting and wiping device secured to the said box and engaging the lower surface of the deckle-strap, substantially as described.

THOMAS H. SAVERY.

Witnesses:

J. NEWMAN DAVIS,
THOS. H. SAVERY, Jr.