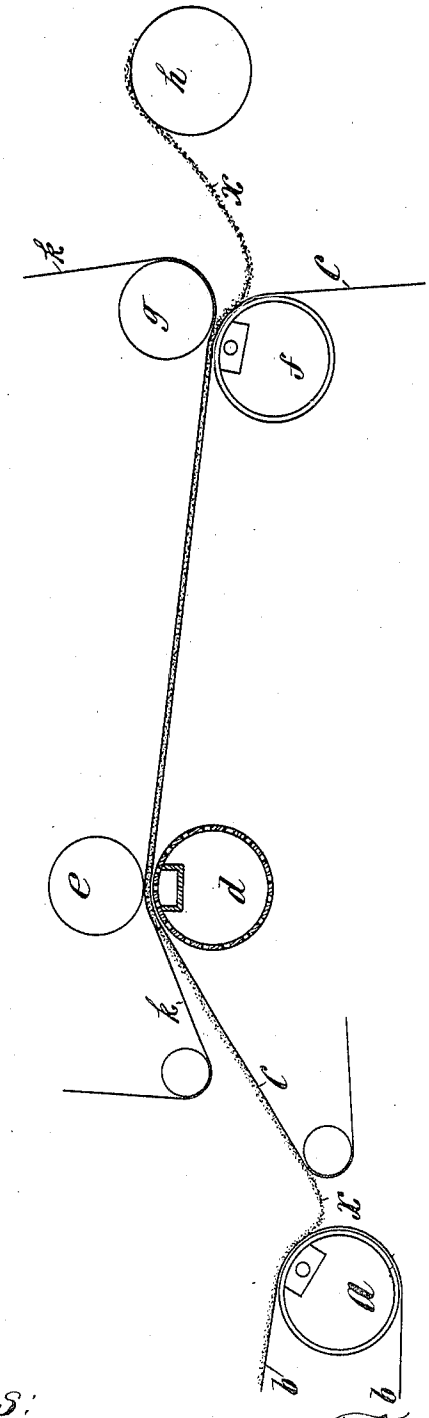
T. H. SAVERY, Jr.

PAPER MAKING MACHINE.

APPLICATION FILED JUNE 30, 1914.

1,178,183.

Patented Apr. 4, 1916.



Witnesses:
J. A. Donovan
J. A. Graves.

Inventor:
Thomas H. Savery Jr.
by his Attys:
Philips Sawyer Rice & Kennedy

UNITED STATES PATENT OFFICE.

THOMAS H. SAVERY, JR., OF SANDUSKY, OHIO.

PAPER-MAKING MACHINE.

1,178,183. Specification of Letters Patent. Patented Apr. 4, 1916.

Application filed June 30, 1914. Serial No. 848,124.

To all whom it may concern:

Be it known that I, THOMAS H. SAVERY, Jr., a citizen of the United States, residing at Sandusky, county of Erie, and State of Ohio, have invented certain new and useful Improvements in Paper-Making Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to avoid the marking of paper by the suction openings in paper making machinery employing suction rolls in combination with press rolls for extracting water and moisture from the paper pulp.

It is found in practice that the paper is marked to correspond with the suction openings, the parts of the paper opposite the openings differing in color or shade from the parts opposite the solid portions or walls surrounding these openings. I have discovered that, if a top wire or felt be used above the pulp between the suction roll and press roll, in addition to the bottom wire or felt heretofore employed, this marking of the paper by the suction is entirely avoided, the pressure and suction effect apparently being distributed over the paper by the top wire or felt so as to produce a more uniform action and avoid the usual marking.

In the accompanying drawing forming a part of this specification, I have shown for purpose of illustration my invention as applied in a preferred form in connection with a paper making machine of the Fourdrinier type, and from this illustration the application of the invention to other types of paper making machines will be readily understood.

The drawing is a diagrammatic view of a portion of the Fourdrinier paper making machine with my invention, one of the suction rolls being in section to show the suction openings.

Referring to the drawing, *a* is the suction couch roll from which the pulp web *x* received from the Fourdrinier wire *b* passes to the bottom felt *c* on which the pulp web passes to first and second presses, consisting respectively of suction and press rolls *d*, *e*, and *f*, *g*, the web *x* passing from the second suction press to the receiving drier *h*, all as common in this type of paper making machines. The suction rolls *d*, *f*, may be of any suitable construction and operated in any suitable manner, for instance, as fully shown and described in Letters Patent to Millspaugh No. 895,283, No. 994,862, and No. 1,025,822, and the press rolls may be of metal, rubber or other suitable material, as desired.

In accordance with my invention, I employ, for avoiding the marking of the paper by the suction, a top wire or felt *k*, which passes with the pulp web *x* and bottom wire or felt *c* between the suction and press rolls, preferably between both pairs of rolls and leaving the web at the second press roll as usual with the bottom felt. This top wire or felt may be of any suitable construction and arranged and driven in any suitable manner. It will be understood that wire or felt will be used as desired, in accordance with the product desired, as is usual in paper making machines.

What I claim is:

1. In a paper making machine, the combination with the press roll and coöperating suction roll of the press portion of the machine, and a paper carrying wire or felt between the paper and suction roll, of a wire or felt between the paper and press roll passing with the paper and carrving wire or felt between the suction roll and press roll.

2. The combination with a plurality of suction rolls and their corresponding press rolls, the press rolls being arranged above the suction rolls and bottom wire or felt of a paper making machine, of a wire or felt above the paper passing with the paper and bottom wire or felt between each of the plurality of press rolls and suction rolls.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

THOMAS H. SAVERY, JR.

Witnesses:

THOS. M. TULLEY,

JAMES WEBB.