

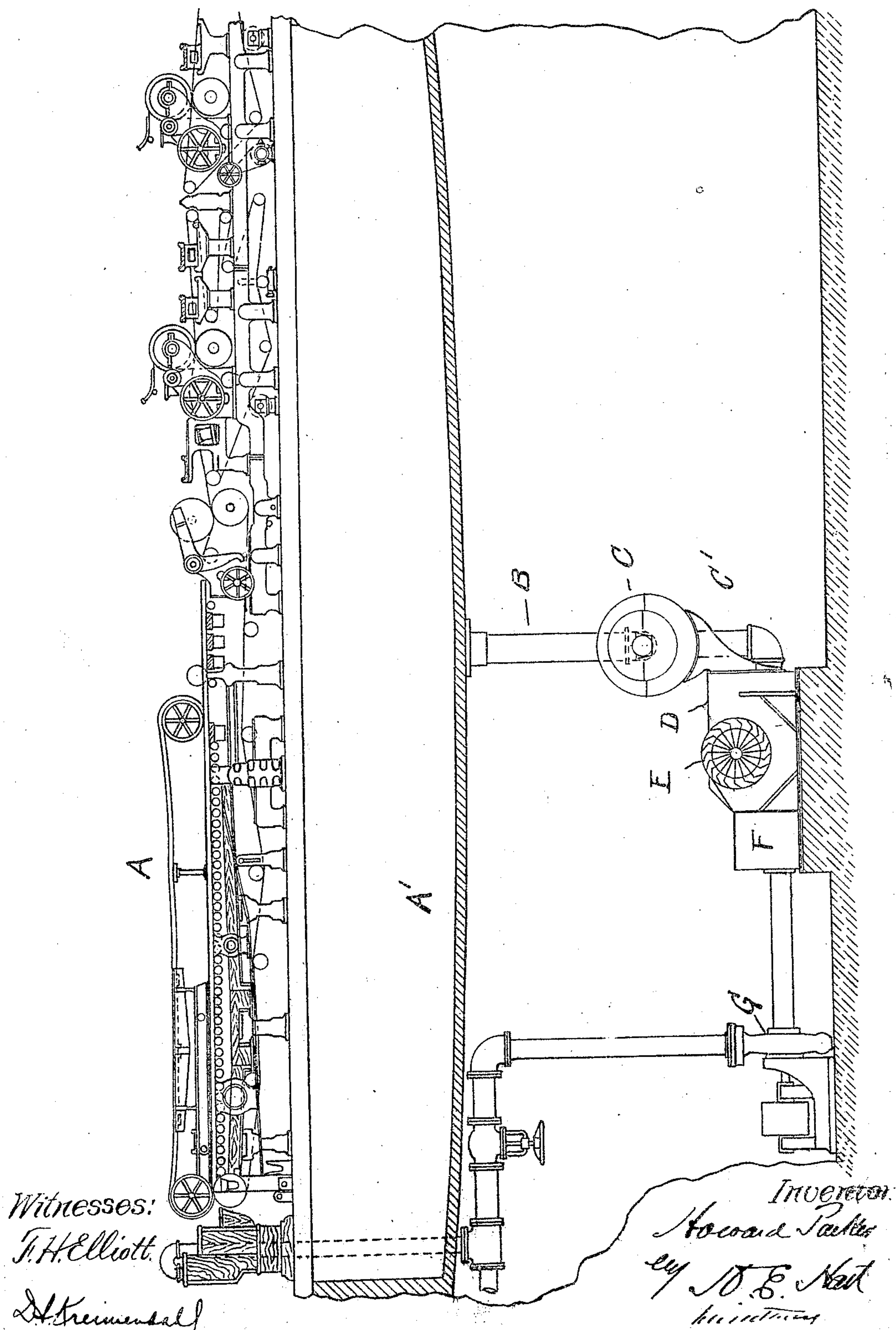
No. 828,500.

PATENTED AUG. 14, 1906.

H. PARKER.

PROCESS OF RECLAIMING PULP FROM WASTE WATER.

APPLICATION FILED APR. 17, 1905.



UNITED STATES PATENT OFFICE.

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IMPROVED PAPER MACHINERY COMPANY, OF CASTINE, MAINE,
AND NASHUA, NEW HAMPSHIRE, A CORPORATION OF MAINE.

PROCESS OF RECLAIMING PULP FROM WASTE WATER.

No. 828,500.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed April 17, 1905. Serial No. 255,904.

To all whom it may concern:

Be it known that I, HOWARD PARKER, a citizen of the United States of America, residing at Nashua, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Processes of Reclaiming Pulp from Waste Water, of which the following is a specification.

My invention relates to a novel process by means of which the particles of stock which escape during the operation of a paper-making machine in what is known as the "white water" and also such stock as is washed from the felts may be reclaimed, reduced automatically to any desired density, and returned to the head of the machine to be again flooded onto the wire.

The drawing shows an arrangement of apparatus suitable for the carrying out of my process.

The process is illustrated and will be described as applied to a Fourdrinier machine; but it is of the same value when used in connection with a cylinder-machine.

At the present time in paper-making machinery the loss of stock which is carried off by what is termed "white water" amounts to about fifteen per cent. As is well known, the character of the paper produced on a machine is dependent to a very large extent on the condition, and particularly the density, of the stock as it is furnished to the machine. Any variation in the density of the stock furnished will show an equal variation in the material produced, so that in running a machine in the manufacture of a certain grade of paper it is essential that the density of the pulp as it is flooded onto the machine shall be maintained constant.

During the process of making paper a certain amount of stock is washed from the machine onto the floor and carried off with what is called the "white water." This white water cannot be run back into the flow-tank of the machine, as it would alter the density of the stock in the flow-tank and have a consequent effect on the paper being made. It has been customary heretofore to pass this white water off through conduits into the waste, and in this way about fifteen per cent. of the stock was lost.

By following out my process I am able to save a very considerable part, if not all, of the fifteen per cent. of waste and return the reclaimed stock to the flow-box or other apparatus at the head of the machine at its original density, or it may be delivered to a supply-tank at any required density at which the stock may be pumped automatically, and the machine may be so regulated as to produce the stock always of a uniform test regardless of the variation in density or particles of fiber in the white water.

Referring to the drawing, a Fourdrinier machine is indicated in a general way at A, located over a pit A', into which runs the white water carrying the particles of stock which pass through the wire and are whipped off the felts. An outlet from the pit is provided through the spout B, through which the white water passes to a straining-cylinder C, which removes foreign substances, such as sticks, rags, &c. Any suitable straining apparatus will do. From the straining-cylinder the white water passes through the pipe C' to the tank D, in which is mounted a cylinder-mold E, which collects and dries the stock in the white water, reducing it to its original density at which it was flooded onto the Fourdrinier wire. The reclaimed pulp is now delivered from the mold to the receiving-vat F, and from there it is forced back by suitable devices, as the pump G, to the proper apparatus at the head of the machine preparatory to being flooded onto the wire again. This apparatus at the head of the machine may be a beating-engine or refining-engine, or the reclaimed stock may be passed directly to the flow-box, from which it flows onto the paper-making screen, or it may be kept in storage ready to be used when desired. I prefer to use a cylinder-mold substantially like that shown in my Patent No. 693,354, of February 11, 1902, in connection with the doctor shown therein.

When it is necessary for any reason to stop the felt of a paper-making machine, (in connection with a Fourdrinier machine,) it is customary to allow the stock to run onto the Fourdrinier wire and from there onto the floor underneath the machine and back to the flow-box or storage-tank. In machines equipped with the apparatus for carrying out

the herein-described process I prefer to have the stock passed through the apparatus with the white water, so that all of it may be returned to the head of the machine or storage-tank, as the case may be, at the proper density, it being important that the density of the stock which is being run through a machine be not altered in order to insure an even product.

10 It will be seen that by following out the process as herein described and set forth the steps of the process take place in regular succession in a circle from and back to the head of the machine and that a considerable percentage of the stock which had hitherto been
15 entirely lost is now practically all reclaimed and returned to the head of the machine in the same condition in which it originally was supplied.

20 I claim as my invention—

1. The herein-described process for reclaiming stock from white water which consists in continuously collecting the stock from the white water, constantly reducing the
25 stock so collected to a degree of density definitely related to the condition of the stock fed at the head of the machine, and returning

the pulp so collected and condensed to the head of the machine.

2. The herein-described process for reclaiming stock from white water which consists in collecting the stock from the white water, extracting water from the collected stock to reduce it to any degree of density desired with relation to the condition of the stock fed at the head of the machine, and returning the pulp so collected and condensed
35 to the head of the machine.

3. The herein-described process for reclaiming stock from white water which consists in straining the white water, continuously collecting the stock from this white water, and constantly reducing the stock so collected to a degree of density definitely related to the condition of the stock fed at the head of the machine, and returning the pulp
45 so collected and condensed to the head of the machine, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HOWARD PARKER.

Witnesses:

C. W. CHANDLIN,

CHAS. A. MORRISON.