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Patented Feb. 25, 1902.

H. PARKER.
PULP AND PAPER MAKING MACHINE.

(Application filed June 23, 1900.)

(No Model.)

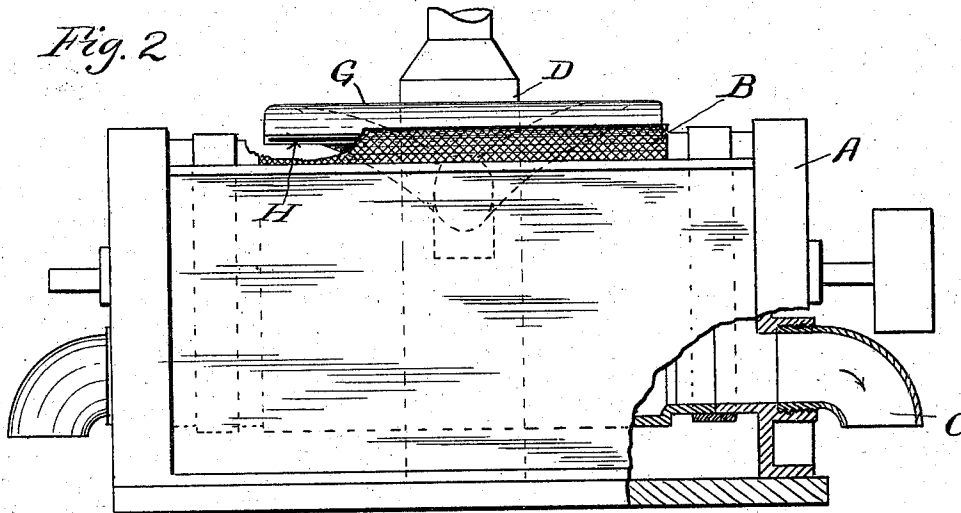
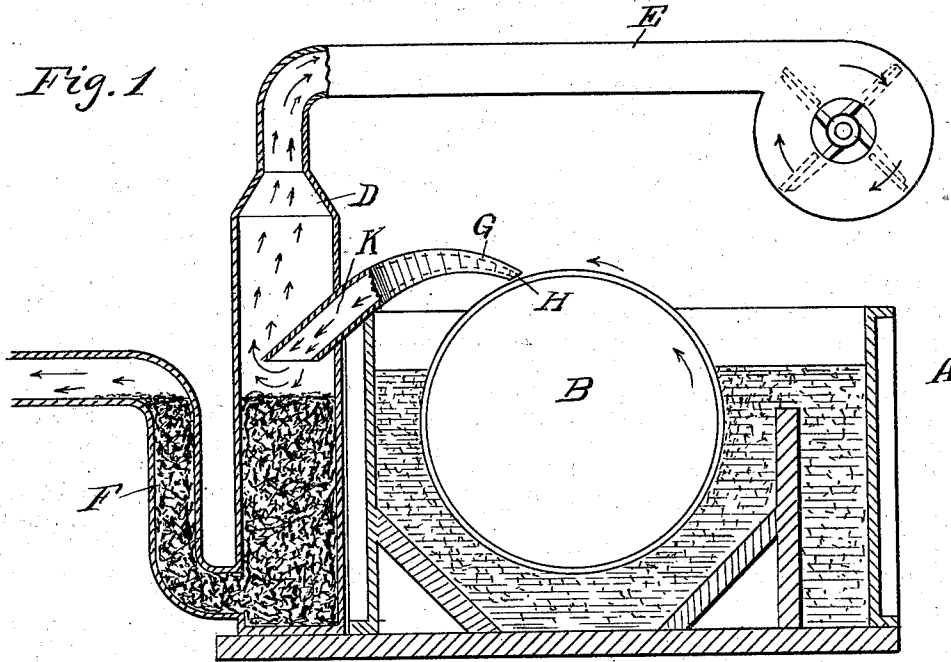


Fig. 3

Witnesses
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HOWARD PARKER, OF BELLOWS FALLS, VERMONT.

PULP AND PAPER MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 693,896, dated February 25, 1902.

Application filed June 23, 1900. Serial No. 21,286. (No model.)

To all whom it may concern:

Be it known that I, HOWARD PARKER, of Bellows Falls, in the county of Windham and State of Vermont, (having a post-office address at Bellows Falls, Vermont,) have invented certain new and useful Improvements in Pulp and Paper Making Machines, of which the following, when taken in connection with the accompanying drawings, is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

While my invention relates to paper-making machines of the class which form a continuous web of semiplastic form from a "stuff" properly prepared, it relates more particularly to an improved form of doctor and will be more fully described in relation to the drawings, in which—

Figure 1 is a sectional side elevation of my invention. Fig. 2 is a front elevation looking from the right of Fig. 1. Fig. 3 is a detail, on enlarged scale, showing the relation of the snout of the doctor to the roll.

Referring to the drawings, the letter A denotes the tank, which is of the ordinary construction used in machines of this class, having mounted in it a roll B. The pulp held in suspension in this tank and in which the roll is partly submerged is very buoyant, and as the roll revolves the particles of pulp will collect of their own accord on the periphery of the roll and form a more or less compact sheet. Any water which leaches into the interior of the roll may be drawn off through the pipe C. If desired, any suitable form of suction apparatus may be employed to gather the pulp onto the periphery of the roll; but for the purpose of clearly describing the operation of my invention herein sought to be protected the roll which is shown and described is sufficient.

The novel form of doctor which forms the essential feature of this invention comprises the stack D, connected at its top with a suitable suction apparatus E. Connected with the bottom of the stack is the stand-pipe F, which may lead to another part of the machine, as where it is mixed with the bleaching materials, clay, &c., with which the pulp must be treated before it is in proper condition to be worked into the finished product. A snout G of substantially the same width as the roll

has an orifice H along the edge adjacent to the roll. At the rear the snout is preferably reduced in size to a round pipe K, which extends into the stack D.

When the machine is started, there should be sufficient water in the stand-pipe F and the bottom of the stack D to form a trap, so that the suction apparatus will not draw air in through the stand-pipe F. As the roll revolves the particles of pulp collect of their own accord on the periphery of the roll and form a more or less compact sheet. As this sheet of pulp comes under the snout of the doctor the suction deflects it from the roll and carries it into the snout, where it breaks up and passes through the pipe K, dropping into the bottom of the stack. The pulp in the stack is in a much more solid condition than when it is in suspension in the tank A, but it is sufficiently mobile to flow out of the pipe F in the direction of the arrows after the stack has been filled to the level of the stand-pipe, as shown in Fig. 1 of the drawings.

I claim as my invention—

1. The combination with the tank partly filled with solution, and the roll adapted to pick up the finely-divided particles of solid matter in the solution, of a stationary doctor operated by suction and adapted to remove from the roll the material collected thereon.

2. In combination, the tank partly filled with liquid holding finely-divided particles of pulp in suspension, and the roll immersed therein and adapted to pick up the pulp and form it into a sheet on its periphery, of a doctor operated by suction and adapted to remove the sheet of pulp from the roll, and means for delivering the pulp, when so removed, in condition for further manipulation.

3. In a machine of the class specified, the tank partly filled with liquid holding in suspension finely-divided particles of pulp, a roll revolvably mounted in the tank and adapted to collect the finely-divided particles of pulp on its periphery, and suction-operated means for removing the pulp from the roll, and depositing it in a suitable receptacle, substantially as described.

4. The combination with the tank partly filled with a pulp solution, the roll revolvably mounted in the tank and adapted to pick up the pulp on its periphery, of a stationary suc-

tion-operated doctor adapted to remove the pulp from the roll and deposit it in a receptacle and means adapted to deliver the pulp in proper condition to the next step in the series of operations to which it is to be subjected.

5 5. In a machine of the class specified the tank, solution in said tank, the roll revolubly mounted therein and adapted to form the finely-divided particles of solid matter in the
10 solution in a sheet on its periphery, and suction-operated means for removing the sheet of pulp from the roll, for breaking it up, and depositing it in a suitable receptacle.

15 6. In a machine of the class specified in combination the tank partly filled with liquid holding finely-divided particles of pulp in suspension, the roll revolubly mounted therein, and the doctor having an orifice located ad-

jacent to the surface of the roll and a reduced rear portion connected with a suction 20 apparatus.

7. In a machine of the class specified, in combination the tank partly filled with liquid holding finely-divided particles of pulp in suspension, the roll revolubly mounted therein, 25 the doctor comprising a snout having an orifice along one edge located adjacent to the surface of the roll and a reduced rear portion extending into a chamber, the chamber connected with a suction apparatus and having 30 near its lower end an outlet for the passage of the pulp, substantially as described.

HOWARD PARKER.

Witnesses:

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