

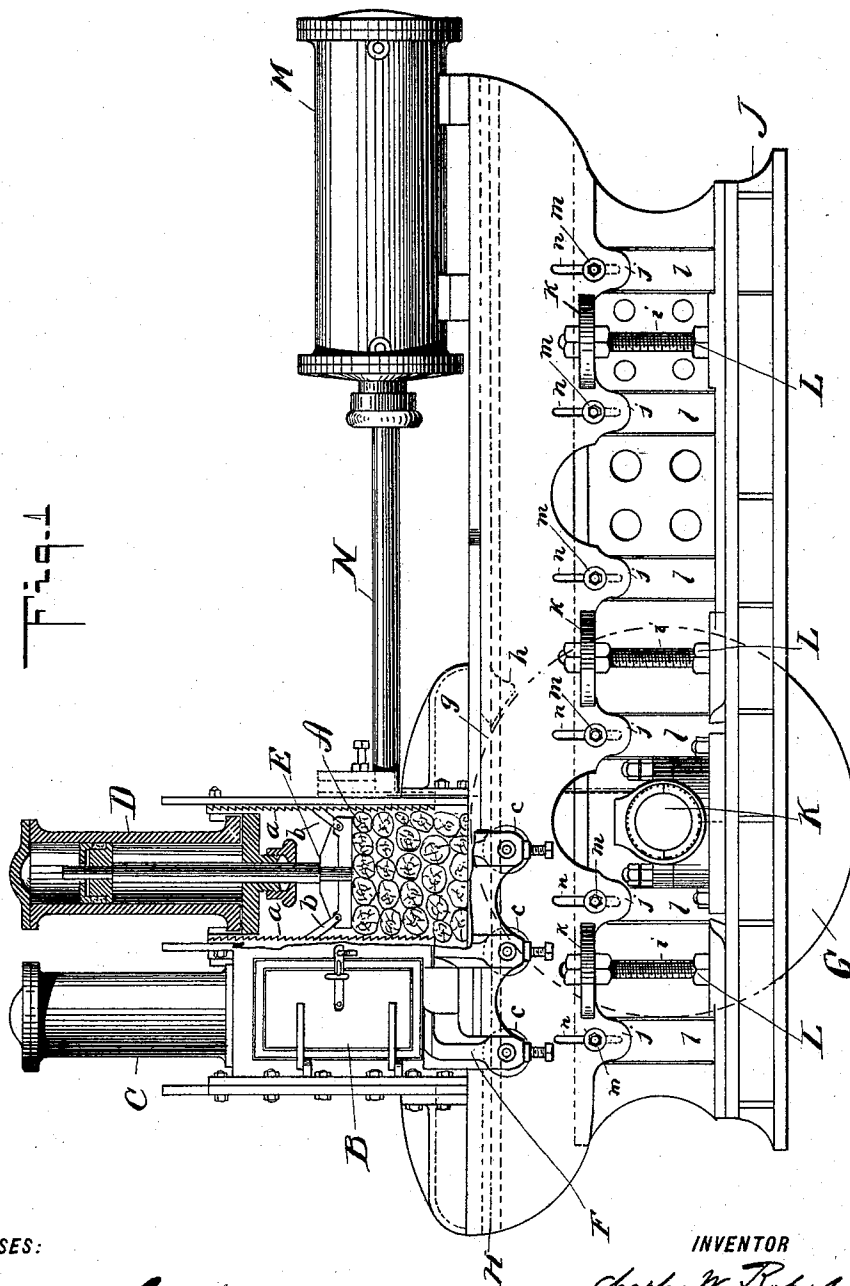
(No Model.)

4 Sheets—Sheet 1.

C. W. ROBERTS.
APPARATUS FOR PULPING.

No. 571,019.

Patented Nov. 10, 1896.



WITNESSES:

Edmund A. Stansfield
Geo. E. Moore

INVENTOR

Charles W. Roberts

BY

Brisson & Maunth

ATTORNEYS

(No Model.)

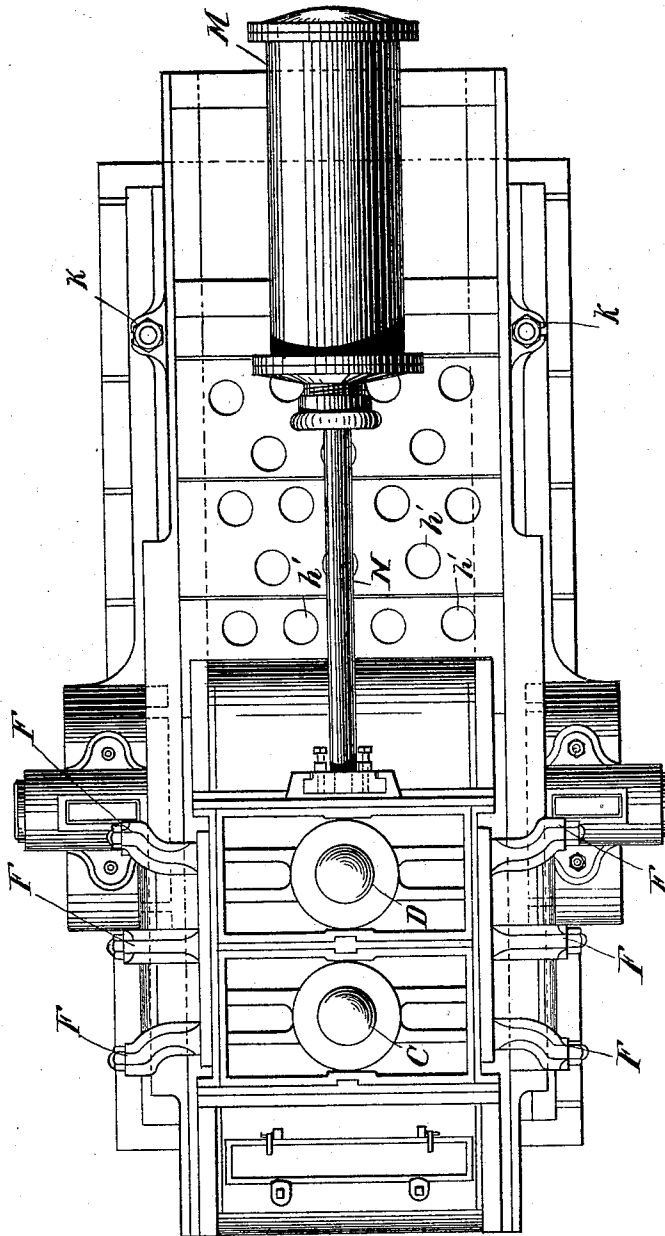
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Fig. 2



WITNESSES:

Edmund A. Shaw
Ed. E. Morse

INVENTOR

Charles W. Roberts

BY

Brissan & Thaw

ATTORNEYS

(No Model.)

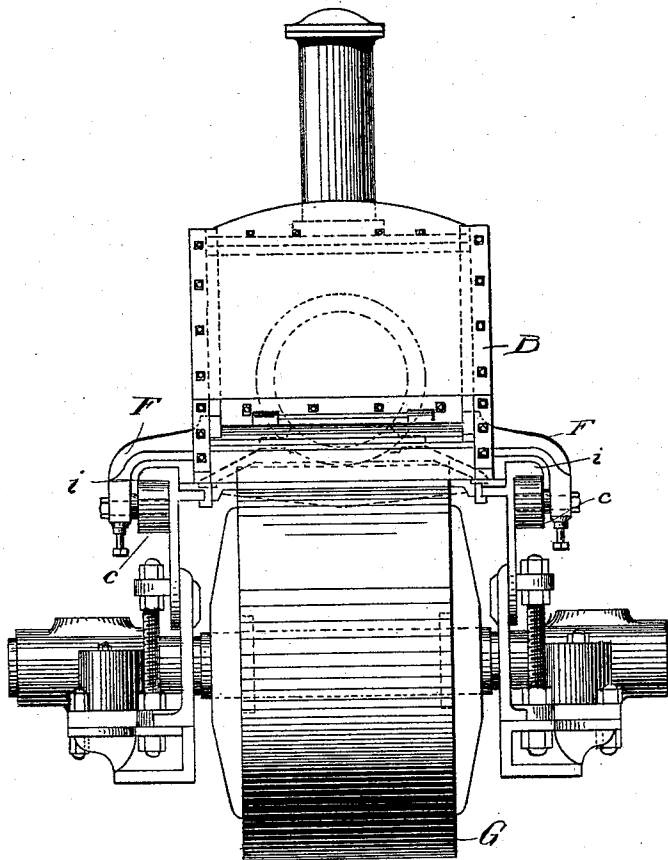
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Fig. 3



WITNESSES:

Edmund A. Hance
Ed. C. Morse

INVENTOR

Charles W. Roberts

BY

Brown & Smith

ATTORNEYS

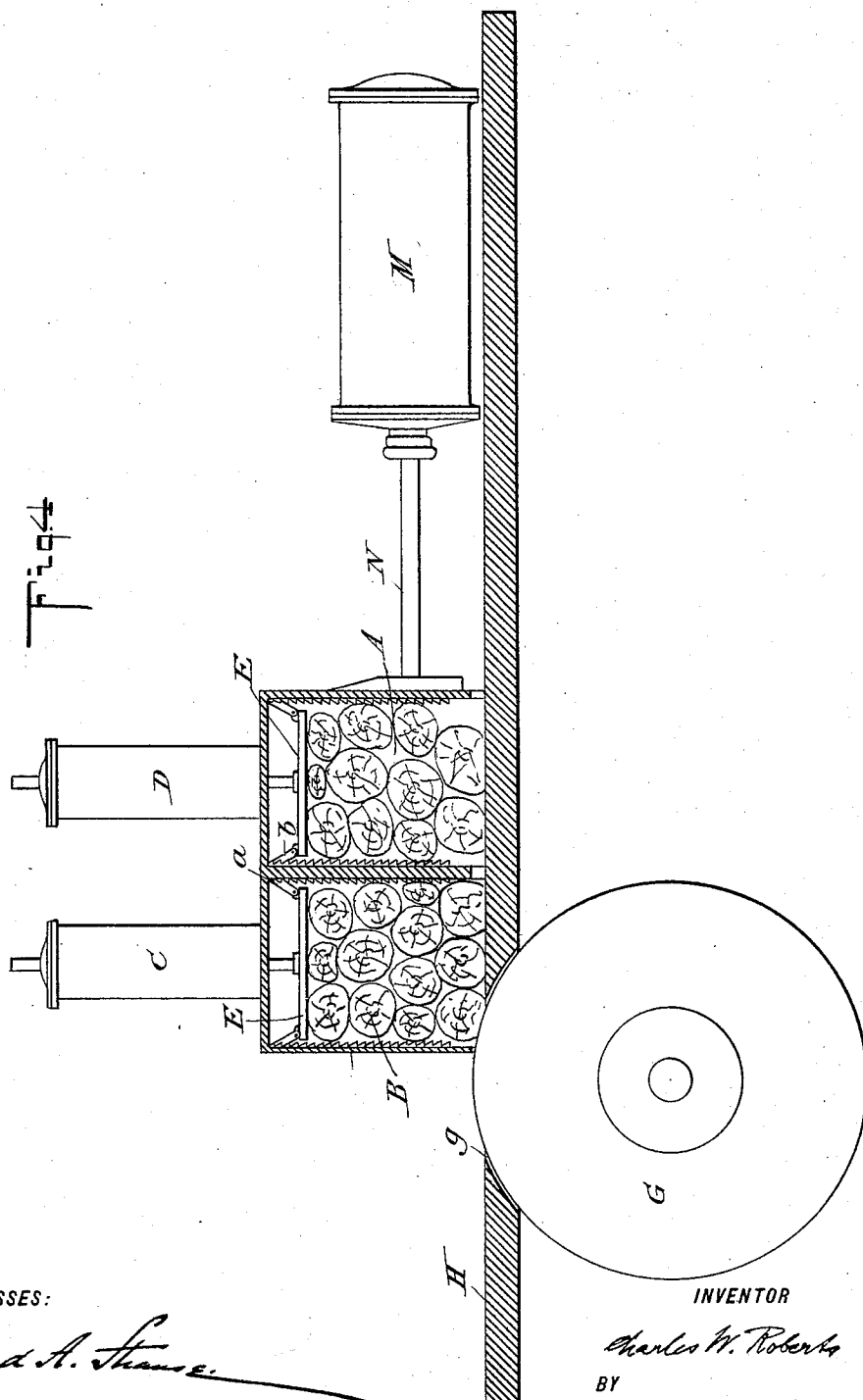
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WITNESSES:

Edmund A. Stange

Geo. E. Morse

INVENTOR

Charles W. Roberts

BY

Forisum & Amant

ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES W. ROBERTS, OF NORTH BENNINGTON, VERMONT, ASSIGNOR TO
THE ROBERTS GRINDER COMPANY, OF BENNINGTON, VERMONT.

APPARATUS FOR PULPING.

SPECIFICATION forming part of Letters Patent No. 571,019, dated November 10, 1896.

Application filed August 17, 1895. Serial No. 559,601. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ROBERTS, a resident of North Bennington, Bennington county, State of Vermont, have invented certain new and useful Improvements in Apparatus for Pulping, of which the following is a specification.

My invention relates more especially to an apparatus for pulping, and has for its object to produce an improved apparatus for pulping.

To this end my invention is embodied in the apparatus for pulping hereinafter set forth and claimed.

My invention will be understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of a pulping-machine embodying my invention. Fig. 2 is a plan view thereof, and Fig. 3 is an end elevation designed more especially to show the mounting of the reciprocating pockets. Fig. 4 represents a longitudinal vertical section of the principal operative parts of said pulping-machine, said figure being on an enlarged scale.

In order to make the principle and mode of operation of my machine entirely clear, I will first have brief reference to Fig. 4 of the drawings. In this view G represents the stone or other suitable abrading device, and H a traverse-table apertured at *g*, the stone projecting through said aperture. B and A are pockets in which wood is contained. This wood is pressed continuously toward the table H by the plungers or pistons E, which are impelled forward by the hydraulic-cylinder mechanism C D or in any other suitable manner. These pistons are provided with pawls *b*, which engage with the racks *a* to hold the pistons in their advanced positions when the pressure on the pistons is relieved. Mounted upon the table or at some place adjacent thereto is a hydraulic cylinder or other motor M, whose piston-rod N connects with the pockets B A. This cylinder M serves to move the pockets along the traverse-table H back and forth tangentially across the stone, preferably in a plane parallel to and coinciding with the plane of rotation of the stone.

It will be observed that the walls of the

pockets are recessed or cut away to allow for the passage of the stone.

From the foregoing description the operation will be readily apparent. It is as follows: The stone being in rotation and the pockets charged with wood, the grain running transversely across the stone, the pistons E press the wood downward on the table and the piston N causes the pockets to be moved back and forth across the stone. As the pocket B is brought up to the stone the stone will commence to grind the wood therein, and as the pocket is pressed forward as the stone grinds, successive portions of the wood in the pocket will be brought in contact with the stone, so that the stone will make a grind of a certain depth across the pocket, the same action occurring as the pocket A is brought across the stone. When the pockets are drawn back across the stone to their initial positions, the action is repeated, so that by continually moving the pockets back and forth and feeding the wood forward in the pockets the wood is fed to the stone from two directions simultaneously; that is to say, horizontally and vertically. It will be observed that the stone acts on only a small portion of the wood at a time in making this planer grind, the advantage of which will be apparent.

Having described the principle and elements of my machine, I will now proceed to describe the machine in detail, having reference to Figs. 1, 2, and 3. In these figures A and B are the pockets for the wood, which is placed with the grain running across the stone at an angle to the direction of rotation, provided with the usual power-cylinders and with pistons for each pocket. The pockets are carried upon brackets F F, which are provided with rollers *c c*, which take under flanges *i i*, which constitute the edges of the traverse-table and serve as antifriction-rollers to enable the pockets to be traversed across the face of the stone with as little friction as possible. G is the stone which projects through an opening *g* in the traverse-table H. This traverse-table is provided with a nose *h* and with depending slotted lugs *j* and perforated lugs *k*. J is the base of the machine, which is provided with a bearing K

for the shaft of the stone G and with upwardly-projecting standards *l*, through which pass bolts *m*. The bolts *m* also pass through the slots *n* in the lugs *j* of the table and assist in holding the table in its adjusted positions.

Mounted in the base J and passing through the lugs *k* of the table are adjusting-screws L. These adjusting-screws serve to adjust the table up and down to regulate the grind of the stone, for it will be obvious that by projecting the stone to a greater or less distance through the table the depth and direction of the grinds may be regulated.

Mounted upon the table H is the power-cylinder M, whose piston N is connected to the pocket A, which is connected to the pocket B, so that both pockets are moved back and forth over the table H and the face of the stone by the movement of the piston N in its cylinder M. By referring to the plan view, Fig. 2, it will be noted that the table H is perforated, as at *h' h'*, for the passage of pulp.

Now while I have specifically described an apparatus for pulping embodying my invention, I would have it understood that I do not mean to thereby limit myself to what is described, as the same may be varied within reasonable limits without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a pulping organism, the combination of the following cooperating elemental devices in cooperative relation, to wit: a moving pulping agent, a stationary table, through which the pulping agent extends, a pocket, means for continuously pressing pulpable material through the pocket and against the table and against the pulping agent, and means for simultaneously moving the pocket across the pulping agent substantially in the plane of movement of the said pulping agent until the material in the said pocket is clear of the pulping agent and in contact with the table, as specified.

2. In a pulping apparatus, the combination of a pulping-stone, a traverse-table apertured for the passage of the stone therethrough, a pocket sliding upon the traverse-table and provided with a piston for pressing the wood forward in the pocket, the said pocket being also provided with brackets and rollers carried in the brackets, the said rollers bearing beneath the edge of the traverse-table so as to hold the pulpable material against the traverse-table, together with means for traversing the pockets over the table.

3. The combination of a pulping-stone, a

traverse-table apertured for the passage of the stone, pockets carried upon the traverse-table and provided with brackets and rollers engaging beneath the edge of the table, the said pockets being also recessed for the passage of the stone, and means for traversing the pockets over the table and for continuously pressing the contents of the pocket against the table and against the pulping agent as specified.

4. The combination with a pulping-stone, of a traverse-table apertured for the passage of the stone, a base J supporting the table, slotted lugs *j l* on the table and base, said lugs cooperating with bolts *m* passing therethrough, a lug or lugs *k* and an adjusting-screw *i* intervening between the base and table, whereby the table may be adjusted with respect to the stone, a pocket carried upon the traverse-table and means for traversing the pocket over the table and also over the pulping agent and means for continuously feeding the contents of the pocket, as specified.

5. The combination with a pulping-stone, of a traverse-table apertured for the passage of the stone, a base J supporting the table, slotted lugs *j l* on the table and base, said lugs cooperating with bolts *m* passing therethrough, a lug or lugs *k* and an adjusting-screw *i* intervening between the base and table, whereby the table may be adjusted with respect to the stone, a pocket carried upon the traverse-table and provided with means for holding the same down to the said table and with a piston for pressing the pulpable material through the pocket, together with a power-cylinder M and piston N entering the power-cylinder and connected to the pocket whereby the pocket may be traversed over the traverse-table, substantially as described.

6. The following elements combined together substantially as shown and described, to wit: a stone, an apertured traverse-table, together with means for adjusting the traverse-table to and from the stone, a pocket carried upon the traverse-table and provided with rollers engaging with the side of the table opposite to the side upon which the pocket is carried, together with means in the pocket for continuously pressing the wood forward in the pocket and with means for reciprocating the pocket entire across the stone so as to free the wood from contact with the stone in order that a fresh planer-grind may be taken at each vibration.

CHARLES W. ROBERTS.

Witnesses:

WILLIAM J. FURCK, Jr.,
JEROME GULLORD.