

C. W. SHARTLE.
PULP REDUCING APPARATUS.
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989,879.

Patented Apr. 18, 1911.

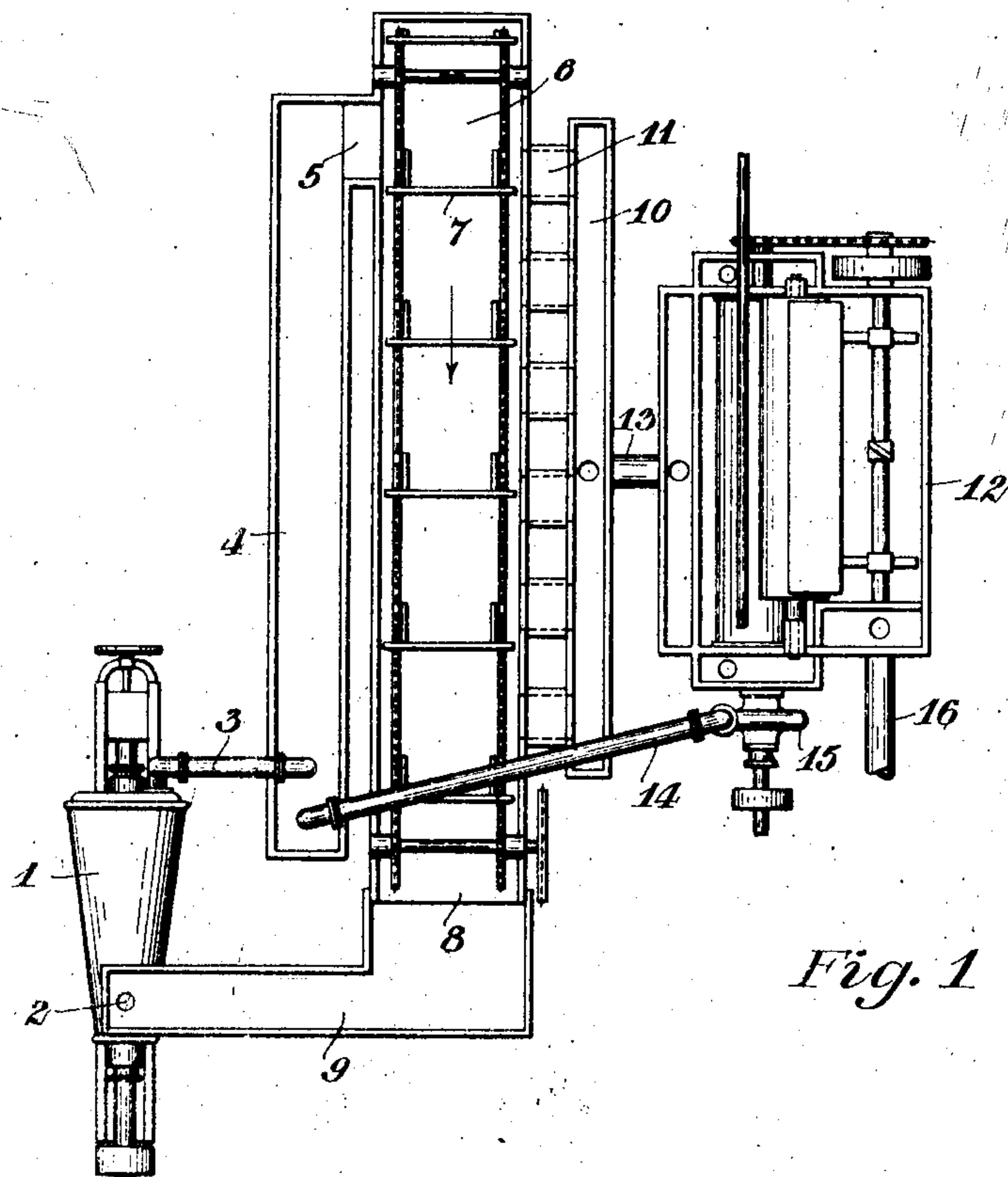


Fig. 1

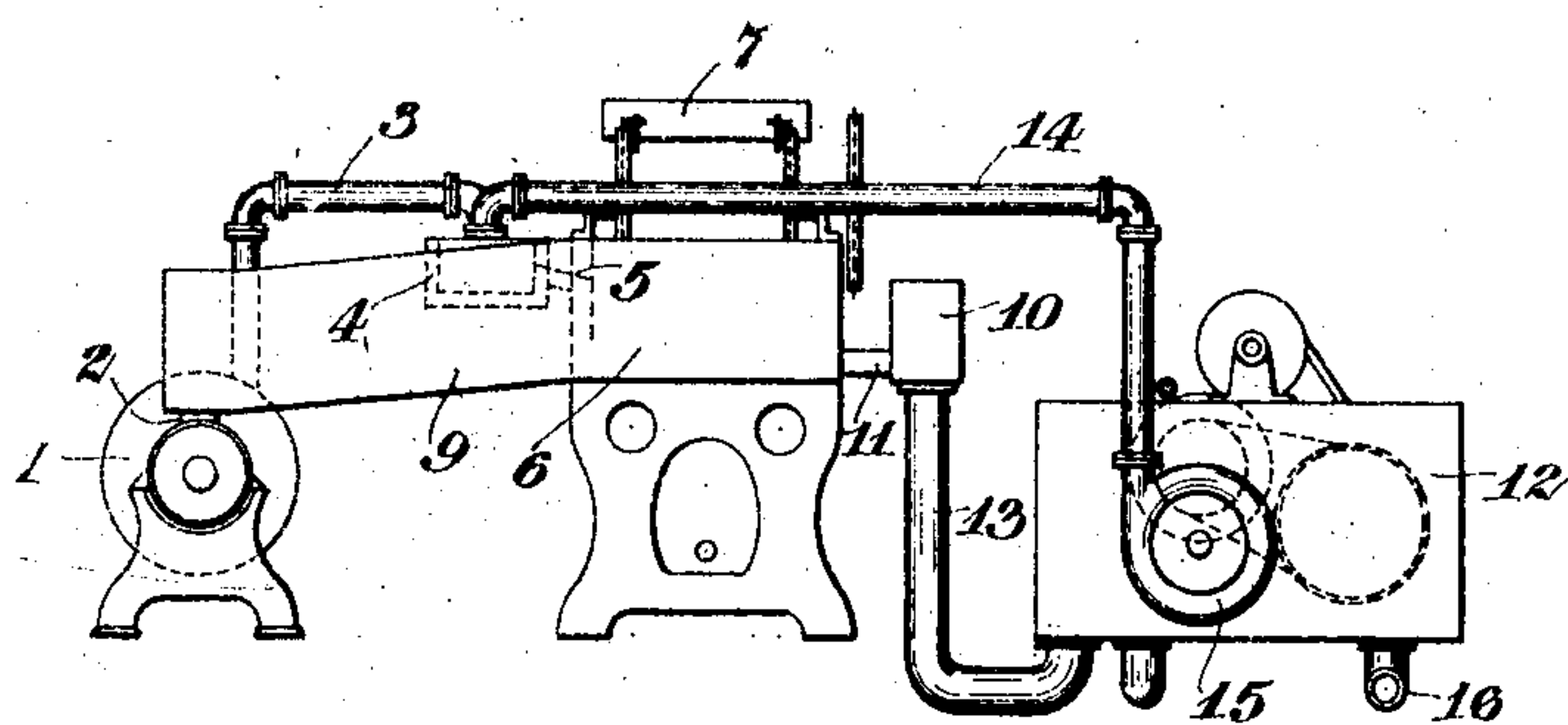


Fig. 2

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. SHARTLE, OF MIDDLETOWN, OHIO.

PULP-REDUCING APPARATUS.

989,879.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed November 9, 1910. Serial No. 591,420.

To all whom it may concern:

Be it known that I, CHARLES W. SHARTLE, a citizen of the United States, residing at Middletown, Butler county, Ohio, have invented certain new and useful Improvements in Pulp-Reducing Apparatus, of which the following is a specification.

This invention pertains to improvements in pulp-reducing apparatus to be employed by paper makers, the object of the present invention being to improve upon the working of pulp-reducing apparatus operating on the continuous system. Reference is hereby made to my United States patent application for improvements in pulp-reducing apparatus, Serial No. 567,547, filed June 18th, 1910.

The present invention, after reference to the above mentioned application, will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1 is a plan of a pulp-reducing apparatus embodying my invention; and Fig. 2 an end view thereof.

In the drawing:—1, indicates a Jordan engine; 2, the usual inlet thereto by means of which the stock and water is fed into the engine; 3, the outlet pipe from the Jordan engine; 4, a long settling-box into which the outlet pipe from the Jordan engine delivers at one end; 5, an outlet from the settling-box at the end distant from the receiving end, this outlet being at a higher level than the floor of the box, as in my earlier application; 6, a screen upon the plates of which at one end of the screen, the outlet of the settling-box delivers; 7, an endless chain of drag-blades adapted to drag stock over the screen plates toward the tail of the screen; 8, the tail end of the screen, all of the screen parts being preferably as set forth in my earlier application; 9, a trough leading from the tail of the screen to the inlet of the Jordan engine; 10, a receiving trough disposed alongside the screen; 11, a series of connections leading from the screen, below the plates, to trough 10, as in my earlier application; 12, a wet machine adapted to extract much of the water from pulp, the machine being preferably as set forth in my earlier application; 13, a conduit by which trough 10 delivers to the wet machine the pulp which has passed through the screen; 14, a pipe to convey to the receiving end of settling-box 4 the water which has been ex-

tracted from the pulp by the wet machine; 15, a pump between the wet machine and pipe 14 and serving to move the water through the pipe; and 16, the discharge conduit, from the wet machine, for the pulp from which the wet machine has extracted the major portion of the water.

In starting the machine the stock to be dealt with is charged into the Jordan engine at inlet 2, along with the necessary water. The stock as reduced by the Jordan engine is delivered by the pipe 3 into one end of settling-box 4 and, flowing through the settling-box, passes through outlet 5 onto the head end of the screen plates. Owing to outlet 5 being higher than the floor of the settling-box heavy foreign material becomes intercepted in the box, thus preventing it from going onward to the injury of the apparatus. The stock received upon the head of the screen-plates is dragged toward the tail screen, much of the water and the sufficiently fine pulp passing through the screen-plates. This pulp which has thus passed through the screen-plates goes to the wet machine which extracts from the pulp the major portion of the water and discharges the pulp at outlet 16. The water extracted from the pulp by the wet machine is pumped back to the settling-box through pipe 14. Such of the pulp as is received by the screen and is incapable of passing through the screen-plates, along with much of the water carrying this pulp, is discharged at the tail of the screen and goes back to the Jordan engine through trough 9, this material being further reduced by the action of the Jordan engine, and pulp delivered from the Jordan engine may pass through it again and again until it is reduced to proper degree of fineness to pass through the screen-plates.

I claim:—

1. Pulp-reducing apparatus comprising, a Jordan engine, a screen, a settling-box arranged to deliver material at one end of the screen, a conduit connecting the outlet of the Jordan engine with the settling-box, and a conduit connecting the tail of the screen with the inlet of the Jordan engine, combined substantially as set forth.

2. Pulp-reducing apparatus comprising, a Jordan engine, a screen, a settling-box arranged to deliver material at one end of the screen, a conduit connecting the outlet of the Jordan engine with the settling-box, a conduit connecting the tail of the screen

with the inlet of the Jordan engine, water-extracting mechanism having an outlet for pulp from which water has been extracted, a conduit adapted to convey to the water-extracting mechanism the fine pulp which has been separated from the coarse pulp by the screen, and a conduit adapted to convey the water extracted by the water-extracting

mechanism back to the pulp which has not passed through the screen, combined substantially as set forth.

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Witnesses:

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