C. S. BIRD.

PULP SAVER.

APPLICATION FILED MAY 15, 1911.

1,012,974.

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Fig. 1.

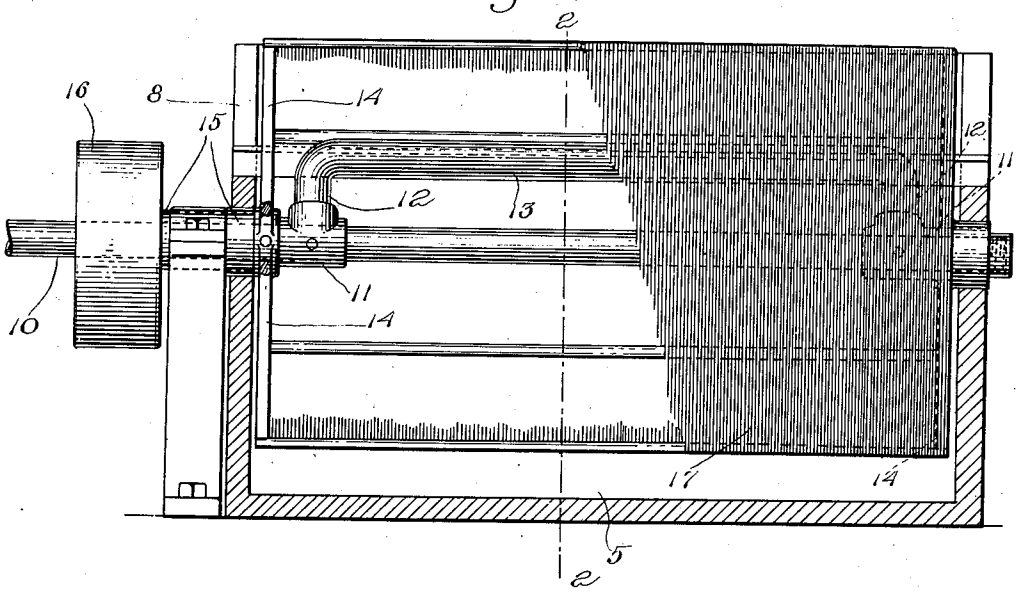
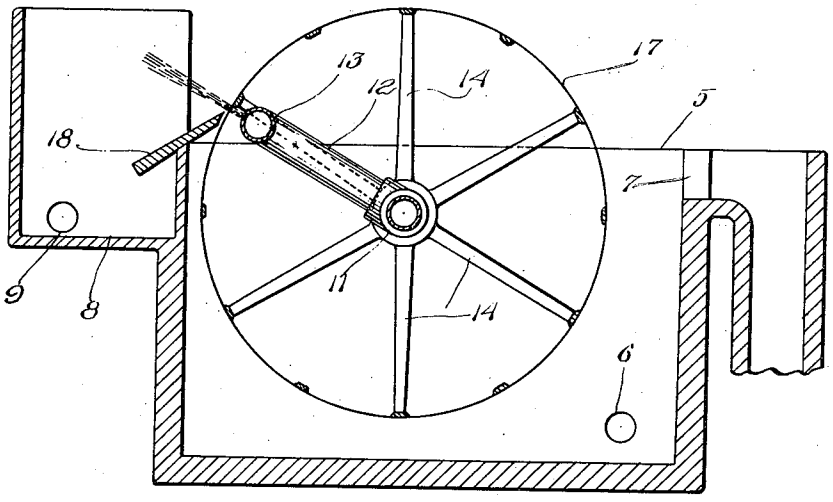


Fig. 2.



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PULP-SAVER.

1,012,974. Specification of Letters Patent. Patented Dec. 26, 1911.

Application filed May 15, 1911. Serial No. 627,115.

To all whom it may concern:

Be it known that I, CHARLES S. BIRD, of East Walpole, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Pulp-Savers, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

This invention has reference to improvements in machines whereby a large proportion of the pulp passing in the waste water from a paper-making machine may be saved.

The main object of this invention is to so construct a machine for taking up or gathering pulp from water as to avoid the clogging of the pulp gathering member or mechanism of such machine.

Another object of the invention is to avoid undue wear on the pulp gathering member.

Other objects of the invention will appear from the following description.

The invention consists in such novel features of construction and combination of parts, as shall hereafter be more fully described and pointed out in the claims.

Figure 1 represents a side elevation, partly broken away of the pulp gathering member and its spray pipe. Fig. 2, represents a cross sectional view of the same, shown in relation to the tank, in which the pulp gathering member operates.

Similar numbers of reference designate corresponding parts in both figures.

A pulp saving machine of this nature, has heretofore been provided with a foraminous cylinder, rotatably mounted in a tank in which the water, carrying pulp, was delivered. Bearing against the periphery of said pulp carrying cylinder was a felt roll, which was intended to take the pulp from the periphery of the cylinder and deliver the same to an iron roll from which the pulp was scraped by a doctor blade. After passing the felt roll, the periphery of the pulp gathering cylinder was subjected to the action of a water spray directed against the exterior of said cylinder and intended to wash any loose pulp therefrom. Among the objections of said machine just briefly described, was the fact that, in passing the felt roll, pressure was exerted on the fibrous pulp carried by the cylinder and some of the short fiber was forced into the interstices or foraminations of the cylinder wall, while the water from the spray tended to drive said pulp into said interstices or foraminations, whereby they soon became clogged and the utility of the cylinder to gather pulp was destroyed. The removing of said clogging fibers from the cylinder has been quite expensive and has delayed the operation of the machine.

In carrying my invention into practice, I provide the tank 5, having the inlet 6 and overflow 7. Adjacent said tank 5 is the comparatively small tank 8, having the pipe 9, through which the saved pulp may be conveyed to any desired point. Mounted at a suitable point relative to the tank 5, is the water supply pipe 10, having the elbows 11, 11, forming bearings for the pulp gathering cylinder, and the radially extending arms 12, 12 the ends of which are connected by the spray pipe 13 perforated at its outer side in order that, preferably, the spray issuing therefrom, may be directed in the general direction of the tank 8 and into the same. On the bearings 11, 11 are journaled spiders 14, one of which has the sleeve 15, on which is the drive pulley, 16, and on said spiders is mounted the cylinder wall 17 of foraminous construction, preferably formed of wire of suitable size, wound in spiral and secured. Mounted on the tank 8 is the inclined plate 18, having its upper edge located adjacent the periphery of the cylinder wall 17.

When now water, carrying pulp, is supplied to the tank 5 and the cylinder is rotated, a layer of pulp is taken up by the periphery of the cylinder, and as such pulp is carried through the spray from pipe 13 it, the pulp, is washed outward from the cylinder and falls into the tank 8 or on to the plate 18 from whence it flows into the tank 8.

It will be seen that the pulp is gathered by the cylindrical wall 17 as a very loose layer, easily detached from the interstice of said wall by the spray passing outward, so that said interstices never become clogged.

Having thus described my invention, I claim as new and desire to secure by Letters Patent.

1. In a pulp saver, a main receiving tank, an auxiliary tank located at one side of the main receiving tank, a cylindrical pulp gathering device located in the main receiving tank, a pipe arranged axially of

said pulp gathering device, a second pipe extending longitudinally of the pulp gathering device near the periphery of the latter and provided at its outer side with openings directed toward said auxiliary tank, said perforated pipe connected at its ends to the first-mentioned pipe, and a drain plate bridging the wall between the two tanks.

2. In a pulp saver, a main receiving tank and an auxiliary tank, a cylindrical pulp gathering device located in the main tank, a water supply pipe on which said pulp gathering device is rotatably-mounted, a perforated pipe arranged interiorly of the pulp gathering device near the periphery thereof and connected at its ends to said water supply pipe, the perforations in said pipe being disposed so as to project the water from the pipe into said auxiliary tank.

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