

(No Model.)

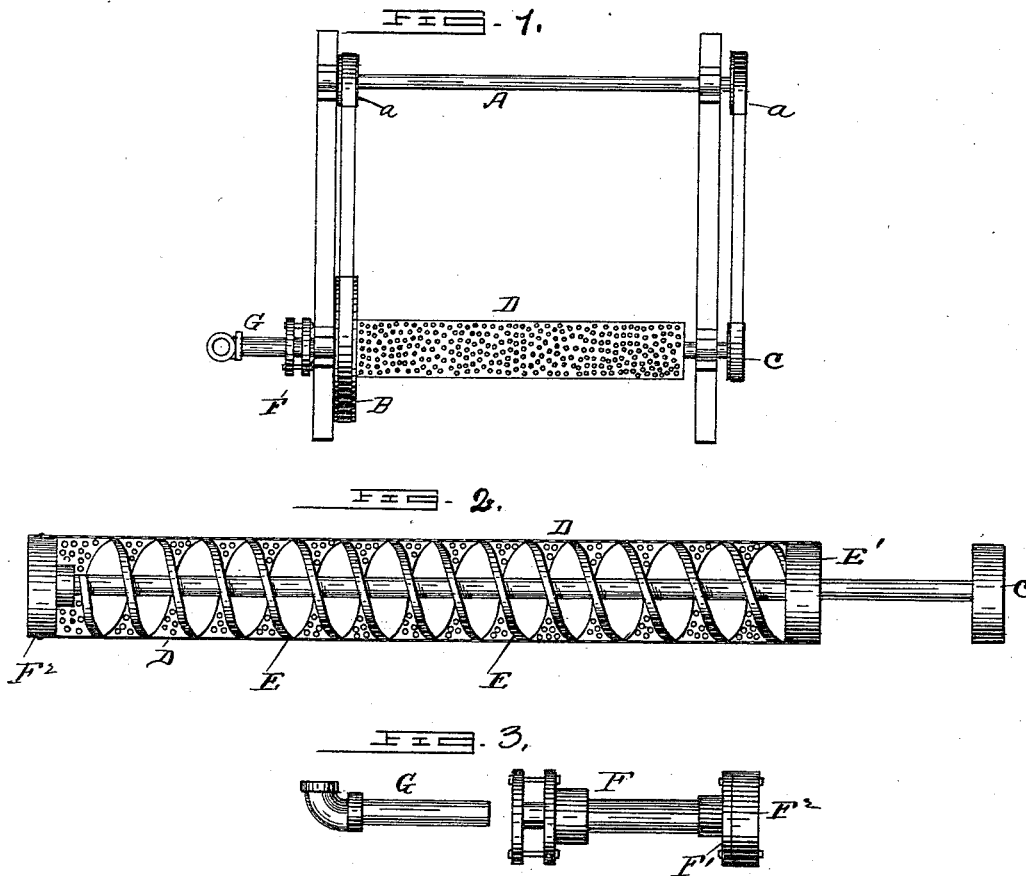
2 Sheets—Sheet 1.

J. J. DUNN & C. J. STRICKER.

MACHINE FOR COLLECTING PULP.

No. 420,148.

Patented Jan. 28, 1890.



Witnesses:
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Inventors:
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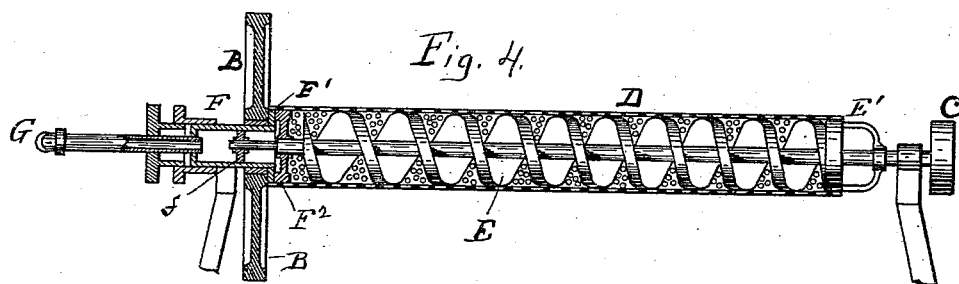


Fig. 5

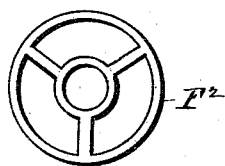
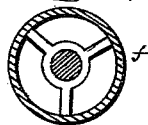


Fig. 6



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UNITED STATES PATENT OFFICE.

JAMES J. DUNN AND CHARLES J. STRICKER, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR COLLECTING PULP.

SPECIFICATION forming part of Letters Patent No. 420,148, dated January 28, 1890.

Application filed January 31, 1889. Serial No. 298,231. (No model.)

To all whom it may concern:

Be it known that we, JAMES J. DUNN and CHARLES J. STRICKER, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Collecting Pulp; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to machines for collecting the paper fiber from the liquid waste in paper-mills, and has for its object the production of a machine for this purpose which can be used in the line of escape of the liquid waste and separate the fiber from the water without necessitating a rehandling of the material.

It consists, essentially, of a foraminous cylinder or screen in which a conveyer-flight fitting the inside of the cylinder is operated. The material—liquid waste—is fed into the cylinder on its discharge from the mill by means of a pipe, and the cylinder and conveyer are rotated at different velocities. The water in the waste drops through the perforations in the cylinder, and the collected pulp or fiber is discharged from the tail end of the cylinder by the revolutions of the conveyer-flight.

The invention will be more fully understood from the following detailed description.

The accompanying drawings illustrate what we consider the best means for carrying our invention into practice.

Figure 1 is a plan view of the machine detached from the escape-slucce of the mill. Fig. 2 is a sectional view of the screen, showing, in elevation, the conveyer-flight. Fig. 3 is a detached view of the pipe through which the waste is fed into the machine and of the head or coupling through which it passes and to which it is attached. Fig. 4 is a sectional view of the screen and head couplings or devices, showing the conveyer-flight in eleva-

tion. Fig. 5 is an elevation of the band or ring to which the screen is secured. Fig. 6 is a section of the coupling, showing a spider in which the shaft of the conveyer-flight rotates.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is a driving-shaft having bearings in a suitable support, which also may support the separator or collector. Upon the shaft A, which receives power in any suitable or convenient manner, are fixed two belt-pulleys *aa*, from which belts extend to turn the foraminous cylinder and the screw or conveyer flight, respectively.

B is a pulley which turns the foraminous cylinder, and C is a pulley which turns the conveyer-flight.

D is the foraminous cylinder. E is the screw or conveyer or flight which is mounted in it.

F is a coupling at the feed end, to which the cylinder is secured, and which also bears the pulley B, supports the feed end of the screw, and turns with the cylinder.

G is a feed-pipe which is inserted through the bore of the coupling F into the end of the cylinder, but which is independent of both the coupling and the cylinder, so that they may be revolved while it remains stationary.

To the head F' of the coupling is secured a band or ring F², to which the cylinder is attached, and which has a bearing or eye in its center to receive the feed end of the screw-shaft with liberty to revolve in an opposite direction to or at a less speed than the coupling. A spider *f* is provided in coupling F, in which the end of the shaft of the conveyer extends to steady it. At the opposite end of the screw a second band or ring E' is provided, on which the cylinder turns.

As the liquid waste escapes from the mill it is led into pipe G and conducted into the cylinder and received upon the flights of the screw, which, being revolved, as well as the cylinder, will turn and work the material, freeing the water, which will drop out through the perforations in the cylinder from the pulp,

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which is carried forward by the screw and discharged from the tail end of the cylinder through the band or ring E', which corresponds in formation to ring F², but is secured 5 to the conveyer-shaft.

As will be seen by the relative diameters of the pulleys B and C, the cylinder is turned at a less velocity than the screw, but in the same direction. Provision may be made for 10 turning them in opposite directions.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with a foraminous cylinder, a coupling to which it is attached and by which it is turned, and a pipe independent of the cylinder and coupling, passing through said coupling into the end of the cylinder,

of a screw conveyer located in and revolved independently of the cylinder, as set forth. 20

2. The combination, with a foraminous cylinder, a coupling to which it is attached and by which it is turned, and a screw conveyer located in the cylinder and having a bearing in the coupling to turn independent thereof, 25 of two pulleys of different sizes, one attached to the coupling and the other to the screw-shaft, as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES J. DUNN.

CHARLES J. STRICKER.

Witnesses:

THOS. D. MOWLDS,

GEO. H. RAPSON.