

No. 788,025.

PATENTED APR. 25, 1905.

W. H. CROSBY.
PULP SCREENING MACHINE.

APPLICATION FILED FEB. 10, 1905.

2 SHEETS—SHEET 1.

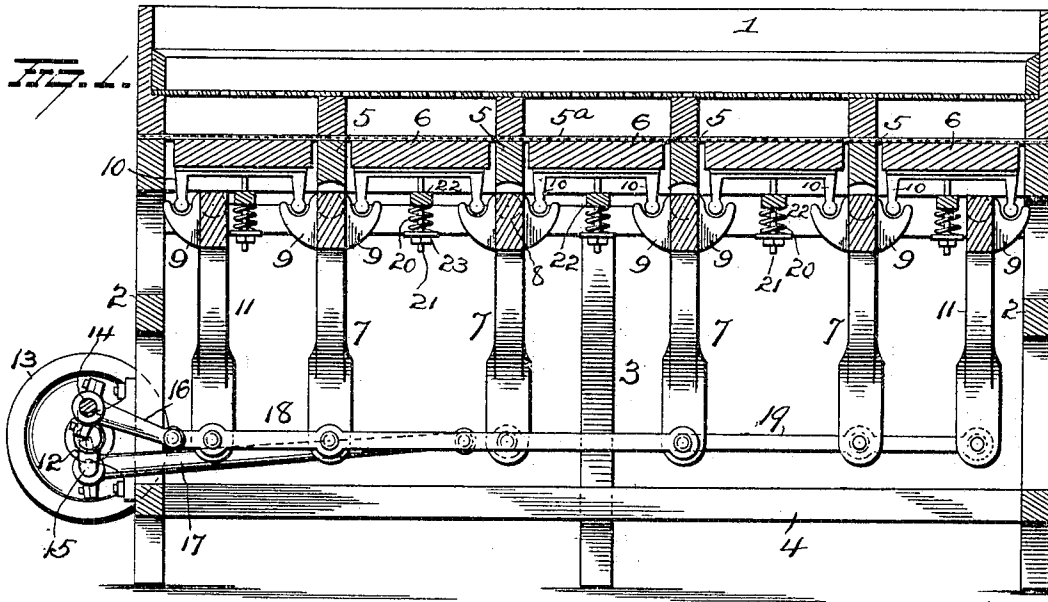
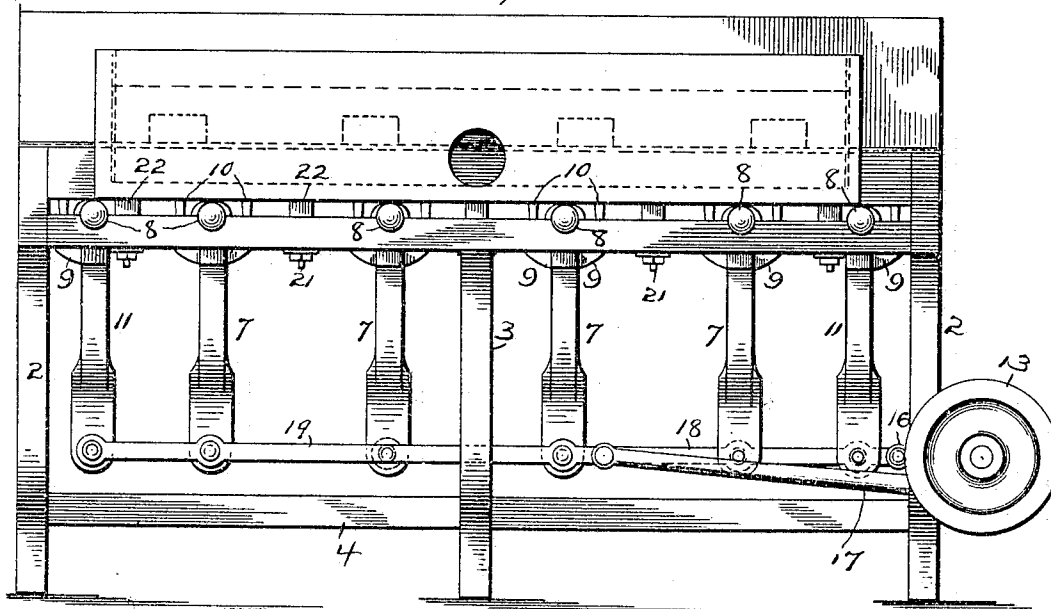


Fig. 1.



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2 SHEETS—SHEET 2.

FIG. 3.

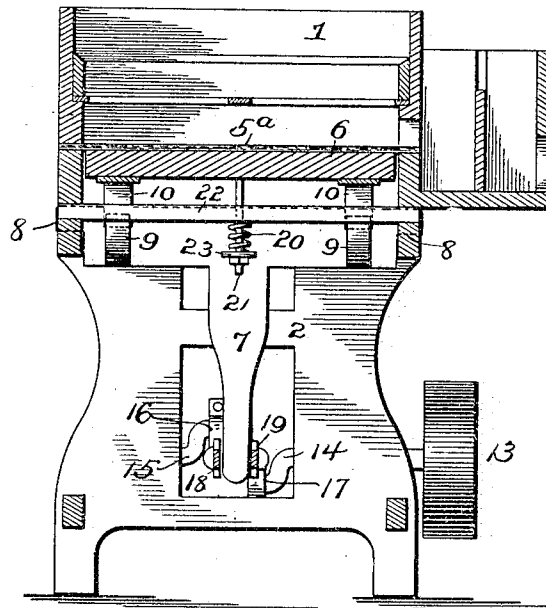


FIG. 4.

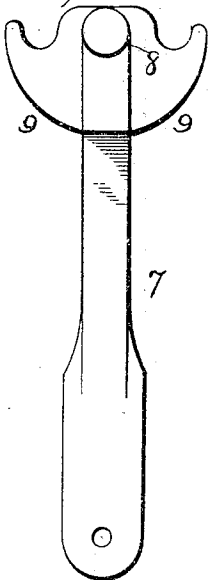
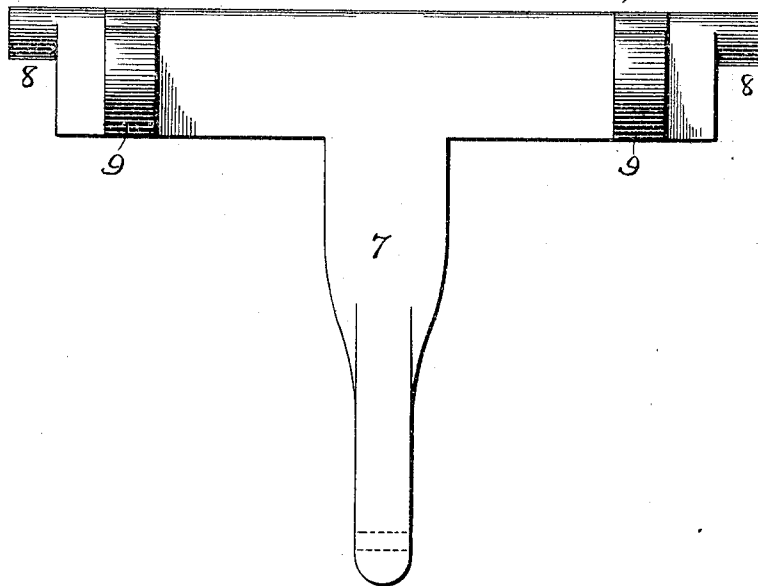


FIG. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY CROSBY, OF WATERVILLE, MAINE.

PULP-SCREENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 788,025, dated April 25, 1905.

Application filed February 10, 1905. Serial No. 245,108.

To all whom it may concern:

Be it known that I, WILLIAM HENRY CROSBY, a resident of Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Pulp-Screening Machines; and I do hereby 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.

My invention relates to improvements in pulp-screening machines, the object of the invention being to provide improved means for reciprocating the bellows-plates, and more particularly to improve upon the construction disclosed in Patent No. 718,098, granted to me January 13, 1903; and the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in longitudinal section illustrating my improvements. Fig. 2 is a view in side elevation. Fig. 3 is a view in cross-section, and Figs. 4 and 5 are views of details of construction.

1 represents a box or casing supported at its ends by standards 2 and between its ends by legs 3, said legs and standards being braced by longitudinal bars 4, connecting them.

Any approved form of screen plate or plates is or are located in the box, and below the same is a diaphragm 5^a, extending over and secured to cross-timbers 5, located at regular intervals in the box or casing, and bellows-plates 6 are secured to the diaphragms between each pair of timbers 5.

Below the intermediate timbers 5 T-shaped levers 7 are located and have trunnions 8 at the ends of their horizontal members mounted in the sides of the box or casing. The horizontal member of each of said levers has a pair of blocks secured thereto which constitute lugs projecting to both sides of the levers and made with recesses on their upper edges at both sides of the lever to receive lugs 10, depending from the bellows-plates. Near the ends of the box levers 11 are located and are exactly like levers 7, save that the

blocks or lugs 9 only extend to one side of the levers, as shown.

A crank-shaft 12 is supported in suitable bearings on the standard 2 at one end of the machine and has a pulley 13 thereon, to which motion is transmitted from any desired source of power. This shaft 12 has two crank-arms 14 and 15, respectively, projecting in opposite directions and to which pitmen 16 and 17 are connected.

Beginning at the left of Fig. 1 the first, second, and fourth levers are connected by a link or bar 18 and the latter connected to pitman 16, while the third, fifth, and sixth levers are connected by a link or bar 19 and the latter connected to pitman 17, so that it will be seen that when crank-shaft 12 turns the pitmen 16 and 17 will be reciprocated in opposite directions and the levers will be oscillated in such manner that as each alternate bellows-plate is elevated the others will be permitted to be drawn down by the springs 20. Each bellows-plate has depending pins 21 projected through openings in guide-bars 22, and the springs 20 are located on these pins below the guide-bars and bear down upon nuts 23 on the pins to pull the bellows-plates down when permitted by the movement of the blocks or lugs 9 on the levers. By thus constructing the machine an easily-running rapid-operating apparatus is secured and one that is of extremely simple construction not liable to get out of repair; but should portions become damaged in use they can be easily and quickly replaced at small cost.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I would have it understood that I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a pulp-screening machine, the combination with a box or casing, of a screen-plate therein, a diaphragm below the screen-plate,

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bellows-plates secured to the diaphragm, an oscillating lever, and a block secured to the lever and constructed to alternately move two of said bellows-plates.

5 2. In a pulp-screening machine, the combination with a box or casing, of a screen-plate therein, a diaphragm below the screen-plate, bellows-plates secured to the diaphragm and movable between fixed cross-bars to which the
10 diaphragm is secured, T-shaped levers pivotally supported at the ends of their horizontal members, means for oscillating the lower ends of said levers, and blocks on the horizontal members of the levers, constructed to engage
15 alternately the bellows-plates at opposite sides thereof.

3. In a pulp-screening machine, the combination with a box or casing, of a screen-plate therein, cross-bars below and spaced from the
20 screen-plate, a diaphragm secured upon said cross-bars, bellows-plates secured to the lower face of the diaphragm between the cross-bars, T-shaped levers having rotary mounting at the ends of their horizontal members, means
25 for oscillating the lower ends of said levers, and blocks secured to the horizontal members and adapted to engage the bellows-plates at both sides thereof.

4. In a pulp-screening machine, the combination with a box or casing, of a screen-plate therein, cross-bars spaced below the screen-plate, a diaphragm secured on the cross-bars, bellows-plates secured to the diaphragm between the cross-bars, T-shaped levers pivotally supported at the ends of their horizontal
35 members constructed to alternately engage the bellows-plates at opposite sides thereof, links connecting alternate levers, and a double-crank shaft connected with and constructed to
40 reciprocate said links.

5. In a pulp-screening machine, the combination with a box or casing and cross-timbers connecting the sides thereof, of a screen-plate in the box above the cross-timbers, a diaphragm
45 secured on the cross-timbers, bellows-plates secured to the diaphragm between the cross-timbers, cross-bars parallel with and between the cross-timbers, guide-pins on the bellows-

plates movable in openings in the cross-bars, springs on the pins below the bars normally
50 drawing down the diaphragm and bellows-plates, T-shaped levers fulcrumed at the ends of their horizontal members in the box or casing, means for oscillating the lower ends of
55 said levers, and blocks on the horizontal members constructed to alternately engage the bellows-plates at opposite sides thereof.

6. In a pulp-screening machine, the combination with a box or casing, cross-bars connecting the sides of the box, a screen-plate in
60 the box above the cross-bars, and a diaphragm secured on the cross-bars, of bellows-plates secured to the diaphragm between the cross-bars, T-shaped levers fulcrumed at the ends of their horizontal members, means for oscillating the lower ends of the levers, blocks secured
65 to the horizontal members and constructed to engage alternately the bellows-plates at opposite sides of the levers, and means for so oscillating the levers to compel two levers to exert power against each bellows-plate
70 either to raise them or permit them to lower by moving away from them.

7. In a pulp-screening apparatus, the combination with a box or casing, cross-timbers
75 connecting the sides thereof, a screen-plate above the cross-bars, a diaphragm secured on the cross-bars, bellows-plates secured to the diaphragm between the cross-timbers, T-shaped levers fulcrumed at the ends of their
80 horizontal members, blocks secured to the horizontal members of the levers and constructed to alternately engage the bellows-plates at opposite sides thereof, guide-pins secured to and depending from the bellows-plates, cross-bars
85 having openings to receive and guide the pins, springs on the pins below the bars normally pulling downward on the bellows-plates and means for oscillating the levers.

In testimony whereof I have signed this
90 specification in the presence of two subscribing witnesses.

WILLIAM HENRY CROSBY.

Witnesses:

HENRY A. FARWELL,
JOSIAH G. BUTLER.