

No. 765,551.

PATENTED JULY 19, 1904.

C. S. BUCKLIN.
PULP SCREENING MACHINE.

APPLICATION FILED OCT. 7, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

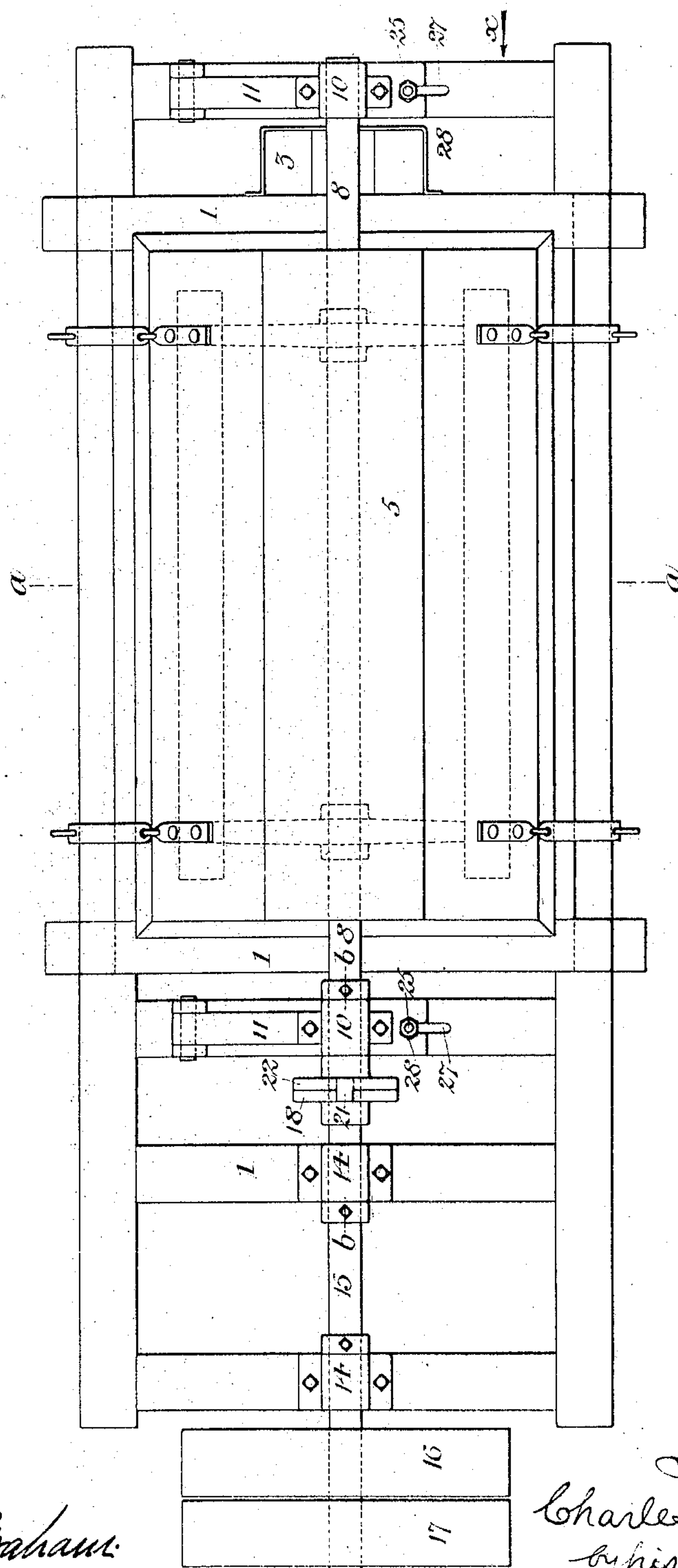
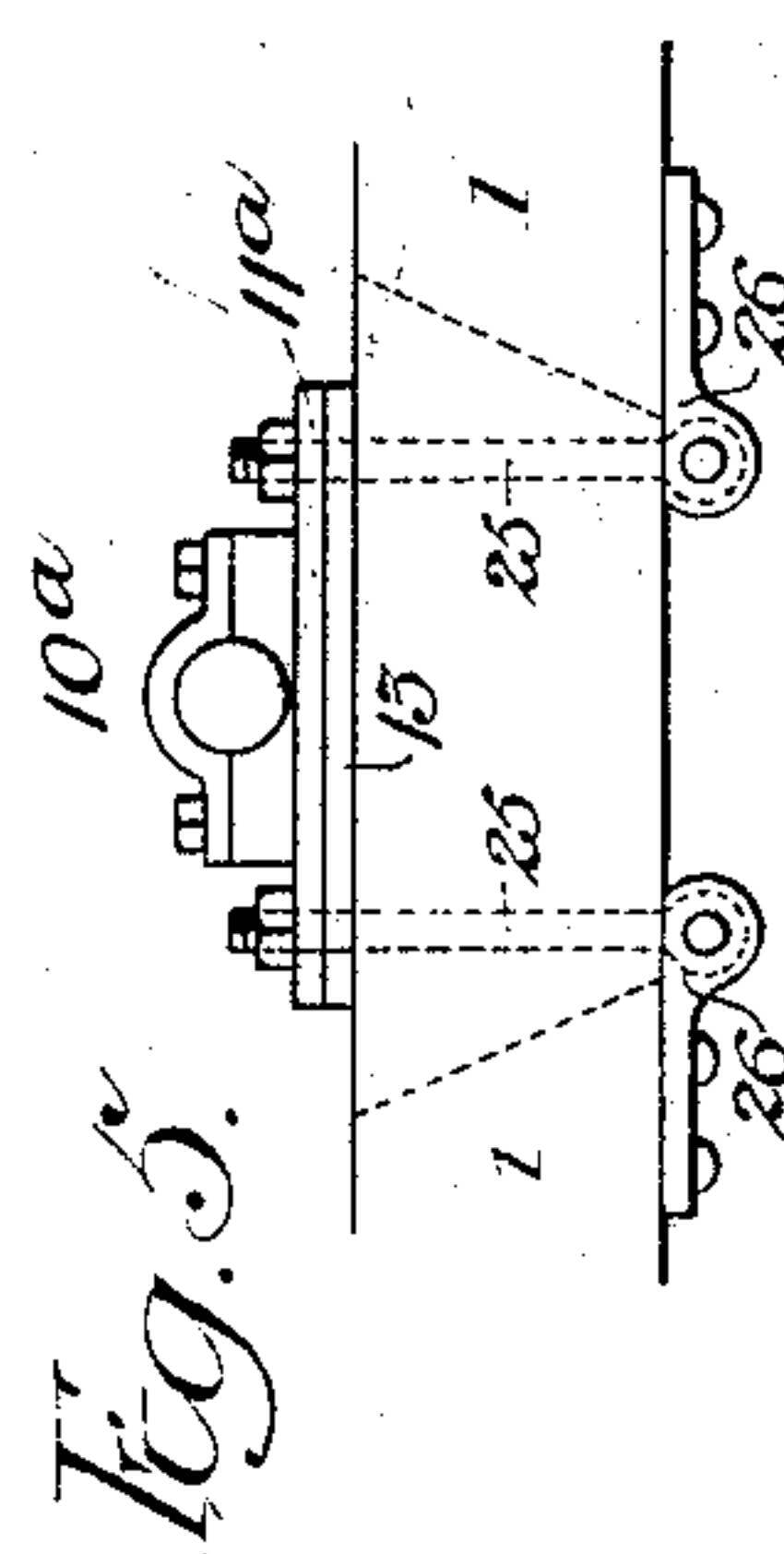
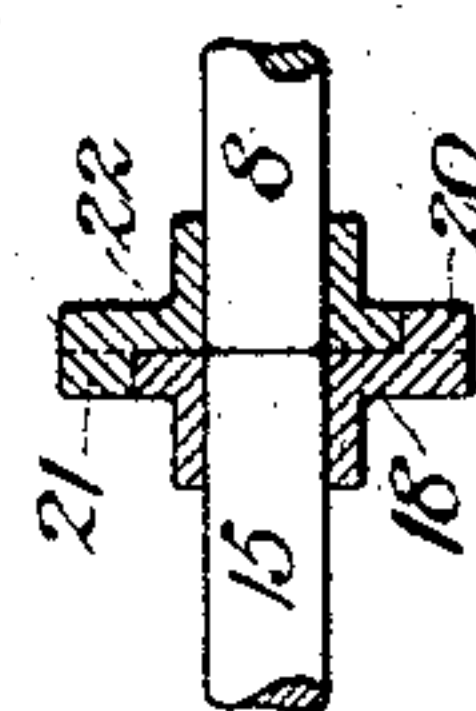


Fig. 4.



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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 5.

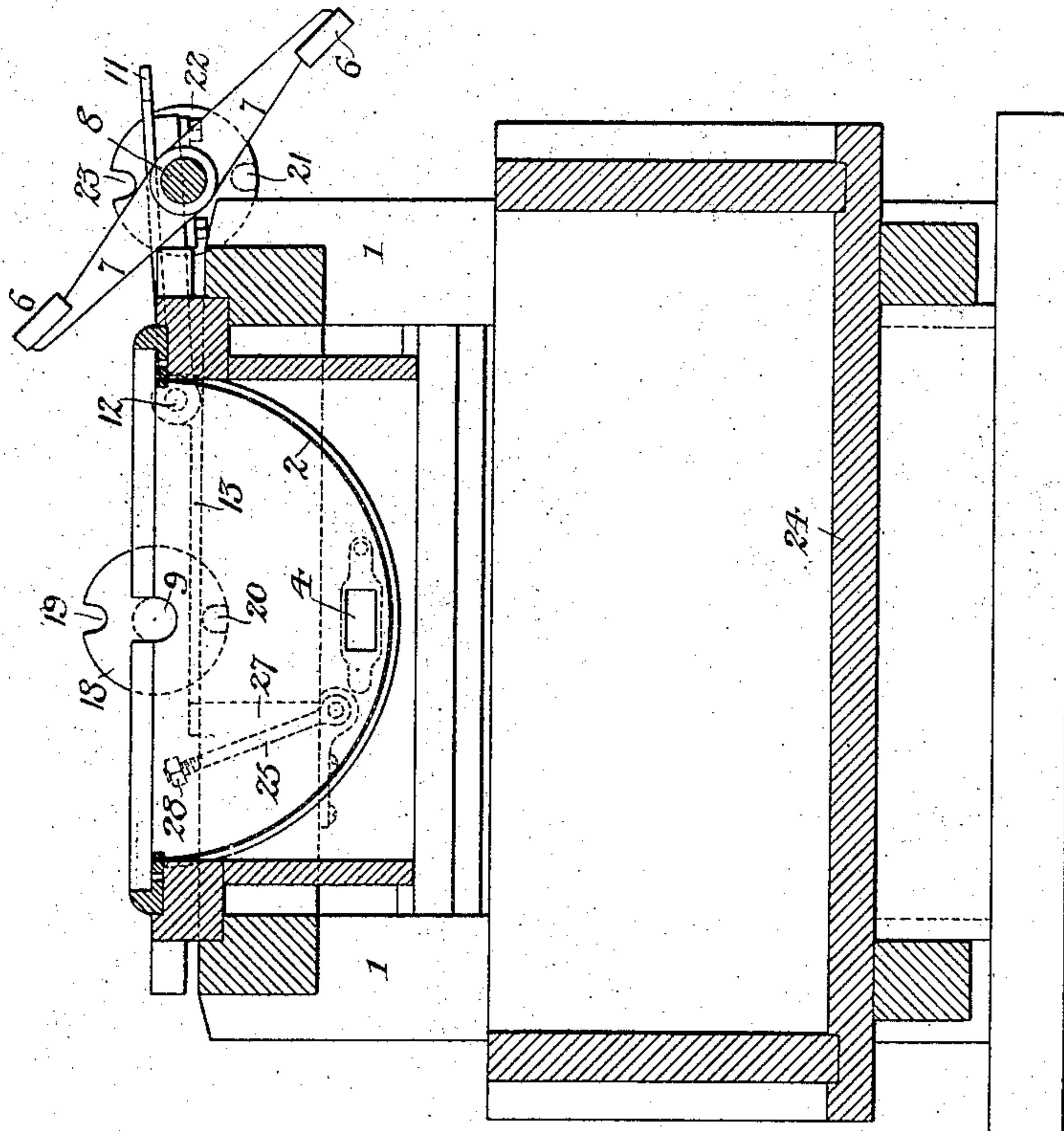
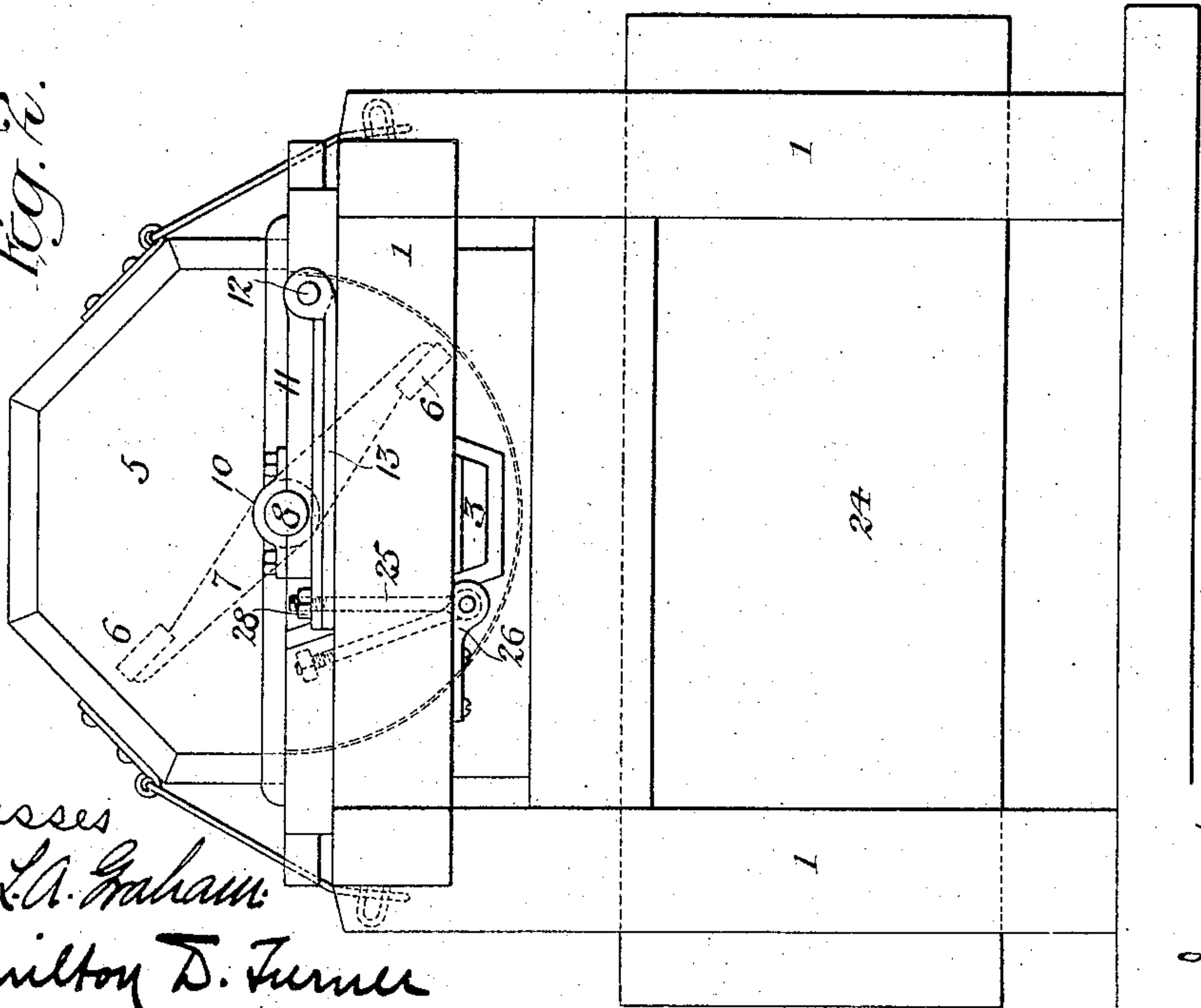


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES S. BUCKLIN, OF BALTIMORE, MARYLAND.

PULP-SCREENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 765,551, dated July 19, 1904.

Application filed October 7, 1903. Serial No. 176,099. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. BUCKLIN, a citizen of the United States, and a resident of Baltimore, Maryland, have invented certain
 5 Improvements in Pulp-Screening Machines, of which the following is a specification.

My invention relates to that class of machines which are employed for removing specks, lumps, or other impurities from the
 10 finer matters and liquids comprising vegetable and fruit pulps, the object of my invention being to so construct such a machine as to provide for ready access to all parts of the sieve or screen for cleansing or other purposes. This
 15 object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a pulp-screening machine constructed in accordance with my
 20 invention. Fig. 2 is an end view of the same looking in the direction of the arrow *x*, Fig. 1. Fig. 3 is a transverse section of the machine on the line *a a*, Fig. 1, but showing the hood or cover removed and the beater-shaft
 25 and beater withdrawn from the sieve. Fig. 4 is a view, partly in elevation and partly in section, on the line *b b*, Fig. 1; and Fig. 5 is a side elevation illustrating another embodiment of one feature of my invention.

30 1 represents a framework upon which is suitably supported a semicircular sieve or screen 2, which may be either removable from the frame or rigidly confined thereto, as desired, this screen communicating at one end
 35 with a feed-hopper 3 and having at the other end a delivery-opening 4, provided with a suitable gate, so as to permit of the discharge from the screen of those portions of its contents which do not escape through the meshes.

40 Above the screen is a hood or cover 5, so shaped as to permit of the free rotation within the same and within the sieve of a beater consisting of longitudinal blades 6, mounted by means of arms 7 upon a longitudinal shaft
 45 8, the latter passing through recesses 9 in the end portions of the frame 1 and being adapted to bearings 10, which are carried by arms 11, pivoted at their rear ends to pins 12, mounted in suitable plates 13, which are rigidly
 50 idly secured to the top members of the end

frames of the machine. To other bearings 14 on other transverse bars of the fixed frame is adapted a driving-shaft 15, having fast and loose pulleys 16 and 17 for receiving the driving-belt, the inner end of this shaft 15 having
 55 a disk 18, with notch 19 and inwardly-projecting stud 20.

The driving-shaft 15 is axially in line with the shaft 8 when the latter is in operative position—that is to say, when the beater occupies its normal position within the sieve 2 and
 60 hood 5—and at such time the notch 19 of the disk 18 is engaged by a lug 21 on a disk 22, carried by that end of the shaft 8 which adjoins the shaft 15, the lug 20 of the disk 18 at
 65 the same time engaging a notch 23 of the disk 22, as shown in Fig. 4. Power is thus transmitted from the shaft 15 to the shaft 8 in order to rotate the beater and cause agitation
 70 of the material within the sieve 2, with the result that all of the liquid and the finer solid portions of the same are caused to pass through the meshes of the sieve and are received in the tub 24 beneath the same, the
 75 coarser particles remaining in the sieve to be subsequently discharged therefrom through the end delivery-opening 4.

When the operation has been completed, or when at any other time it is desired to gain
 80 access to the sieve for cleansing or other purposes, the shaft 15 is turned so that its notch 19 is uppermost, whereupon after the removal of the hood 5 the beater and its shaft 8 can be swung clear of the sieve, as shown in
 85 Fig. 2, so as to permit unobstructed access to all parts of the interior of the latter or so as to permit removal of the sieve, if such removal is desired, the beater-shaft and its beater being swung back into position in the
 90 sieve with equal readiness when the cleansing, inspection, or repair of said sieve has been completed.

In order to retain the beater-shaft and beater firmly in position during the operation of the machine, the outer end of each arm 11 is
 95 notched for the reception of a swinging bolt 25, hung to a bracket 26 on one of the end frames and free to swing in a beveled slot 27 in said frame, said bolt having a nut 28 for bearing upon the top of the arm 11 and re-
 100

taining the same in proper position. When the nut is loosened, however, the bolt 25 can be swung outward in the slot 27 and the arm 11 thus freed from its control.

5 Although I prefer in all cases to use the swinging arms carrying the bearings for the beater-shaft, bearings to be lifted vertically in order to remove the beater from the sieve may be employed, if desired, one of such
10 bearings being shown in Fig. 5, on reference to which it will be observed that a pair of swinging bolts 25 are employed to secure the bearing in position after adjustment.

My invention is not restricted to the use of
15 the self engaging and disengaging clutch which I have shown for connecting the driving-shaft and beater-shaft of the machine, although the use of such a shaft is preferred.

Having thus described my invention, I claim
20 and desire to secure by Letters Patent—

1. The combination, in a pulp-screening machine, of a sieve, a beater, a beater-shaft, means for lowering the beater-shaft into the

sieve and raising it therefrom, a driving-shaft, and a clutching device self-engaging when the
25 beater is lowered into the sieve, and self-detaching when the beater is raised from the sieve, substantially as specified.

2. The combination, in a pulp-screening machine, of a sieve, a beater, a beater-shaft re-
30 movable from the sieve, and a driving-shaft in line axially with the beater-shaft when the latter is in operative position in respect to the sieve, each shaft having a disk secured to its respective shaft and provided with periph-
35 eral notch and lateral projection for engaging with the opposed parts of the other disk, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two sub-
40 scribing witnesses.

CHARLES S. BUCKLIN.

Witnesses:

F. E. BECHTOLD,
JOS. H. KLEIN.