

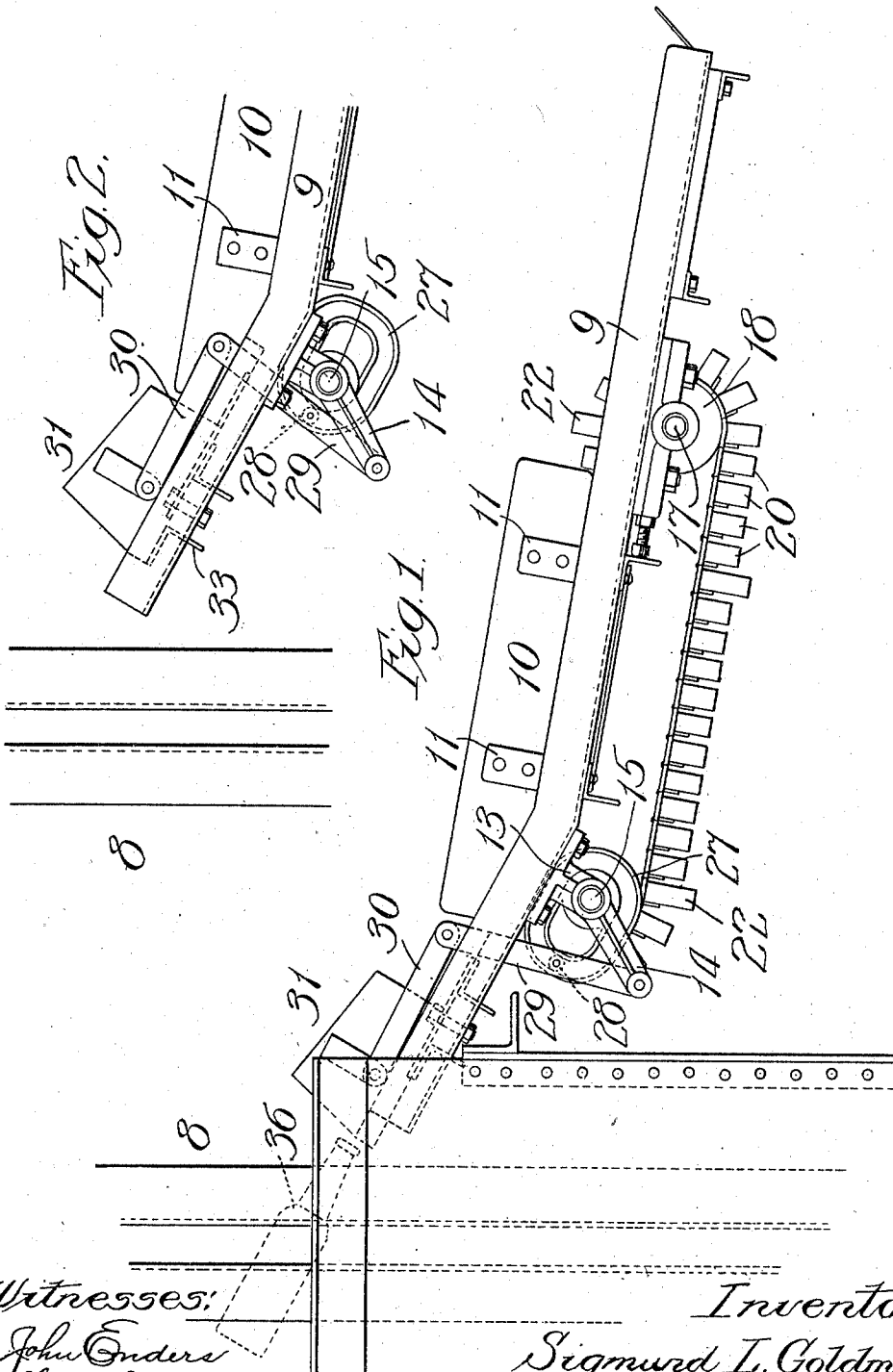
S. L. GOLDMAN.
DISCHARGE CONVEYER.

APPLICATION FILED MAR. 21, 1910.

967,758.

Patented Aug. 16, 1910.

4 SHEETS—SHEET 1.



Witnesses:

John Enders
Chas. A. Bull.

Inventor:

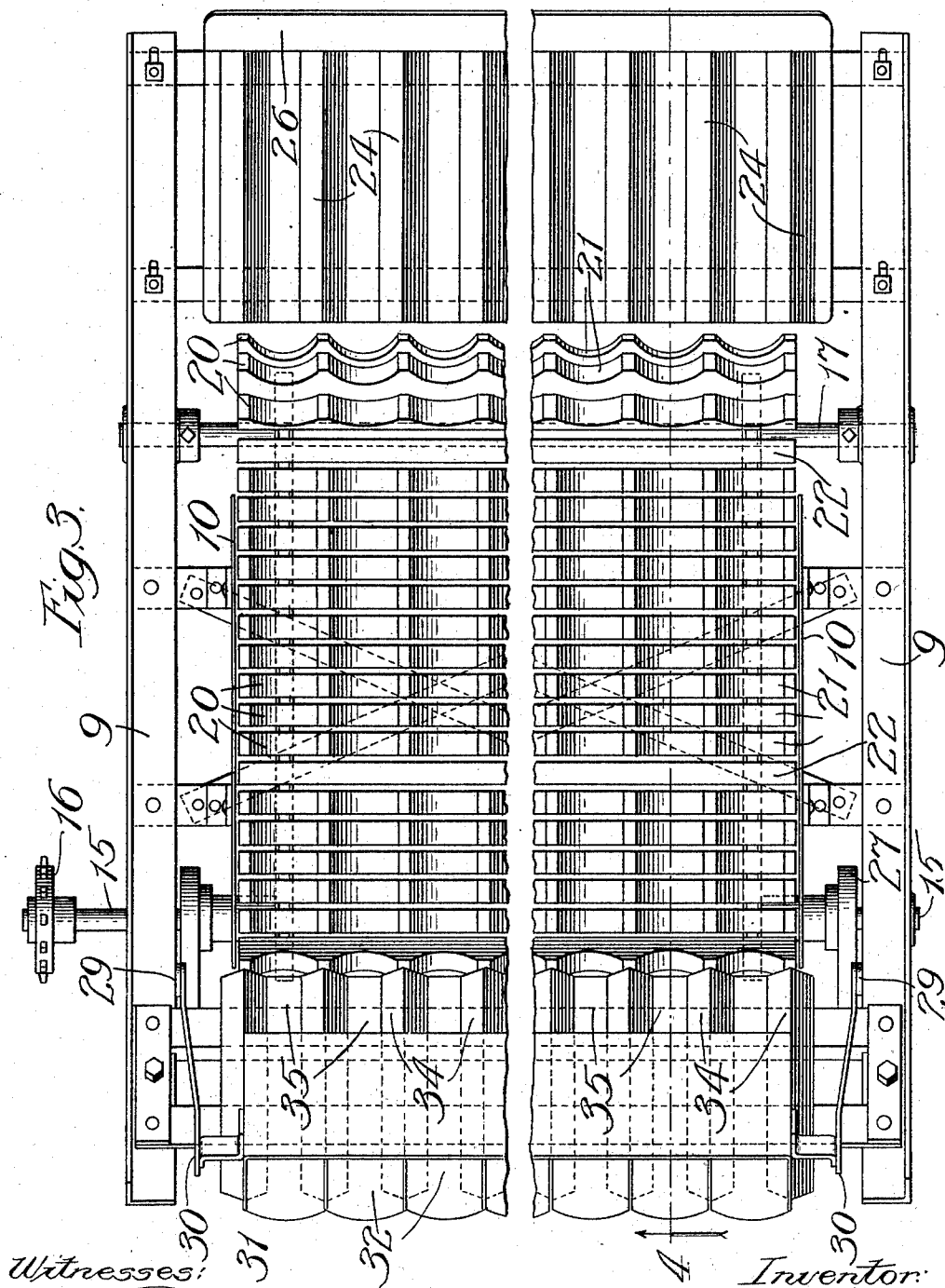
Sigmund L. Goldman
By *Dequyfort, Lechritton & Miles*
Attys. &

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John Anders
Chas. H. Buell

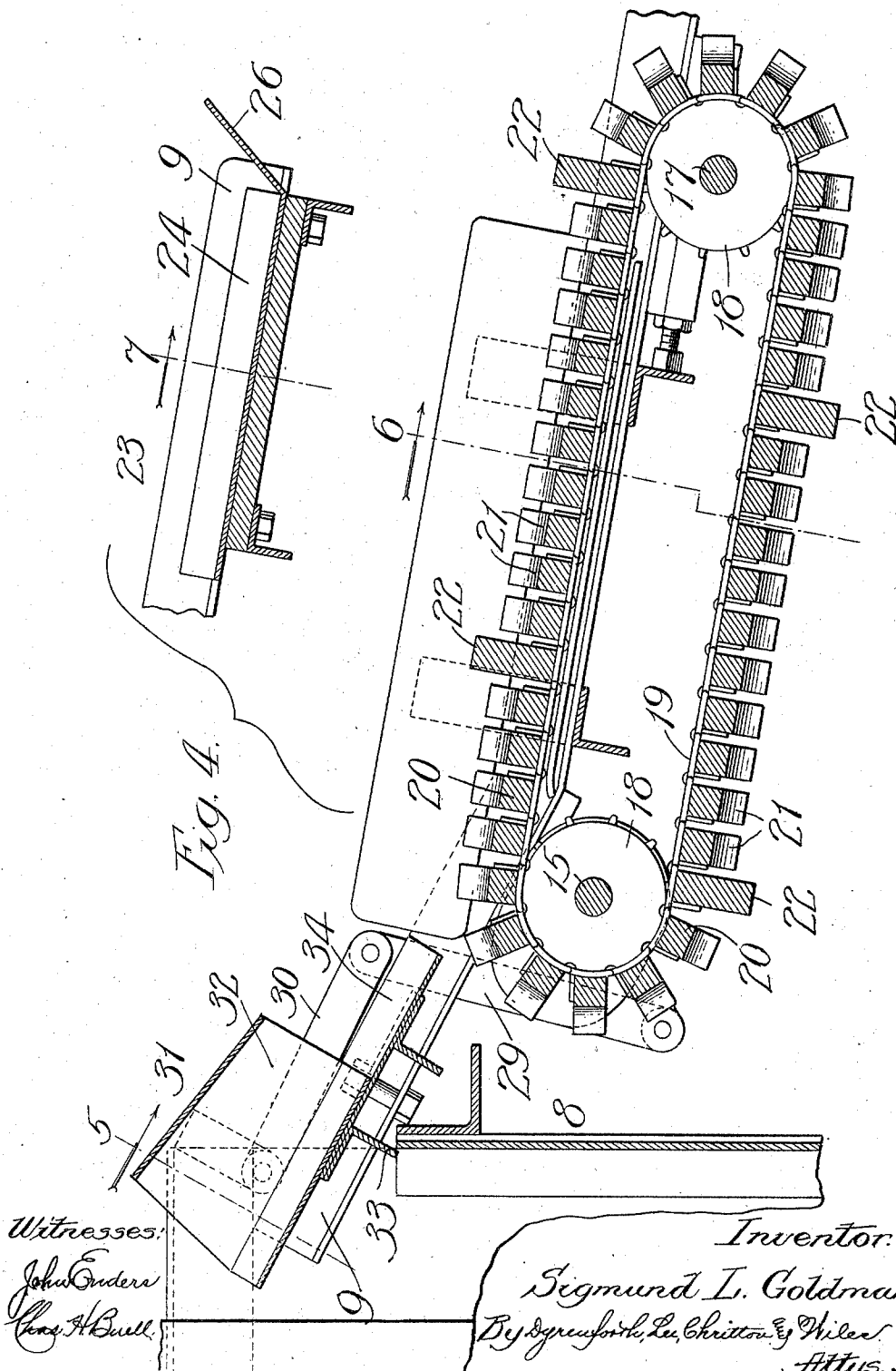
Inventor:
Sigmund L. Goldman.
By Syrengforth, Lee, Christon & Wiles,
Attys. 441

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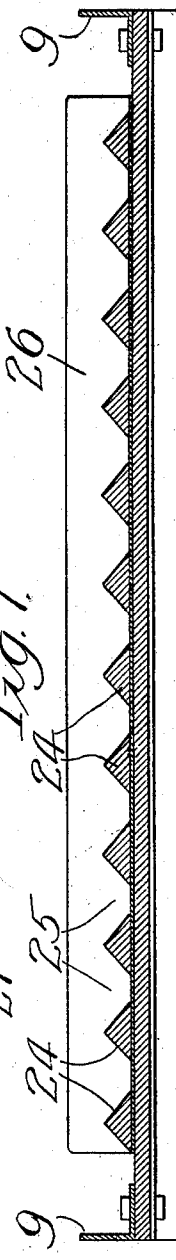
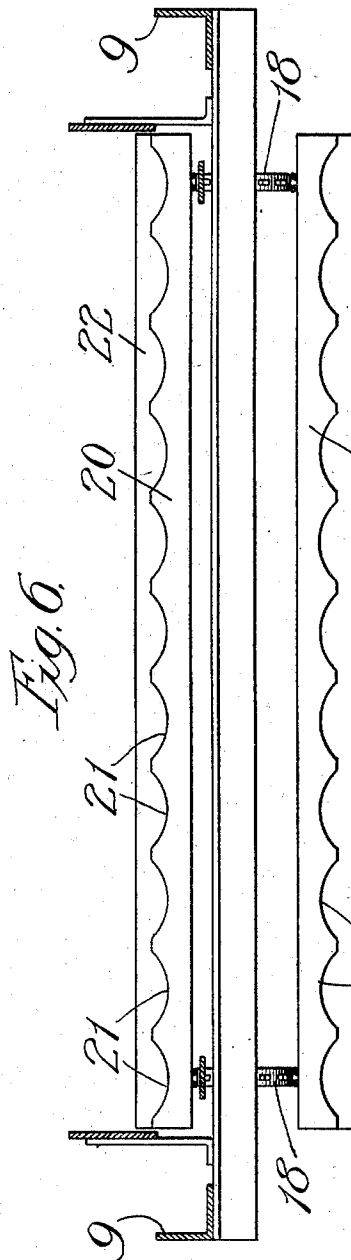
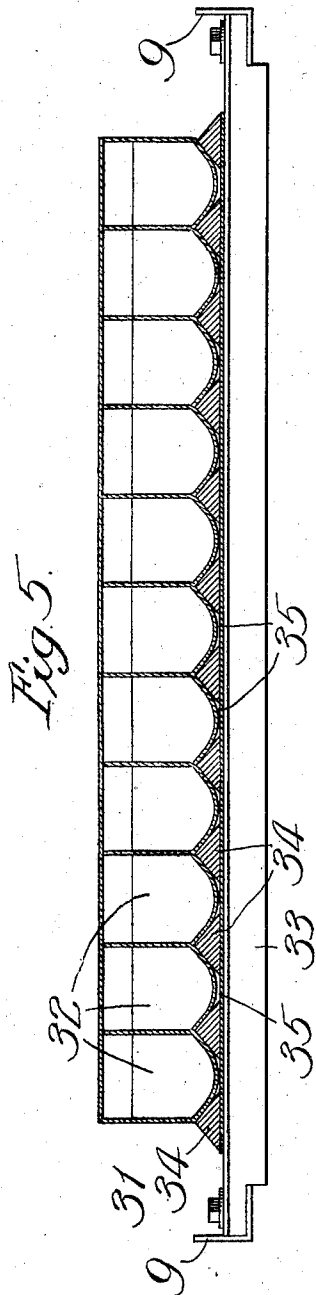


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Witnesses:
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Chas. H. Buell

Inventor:
Sigmund L. Goldman.
By *Bygrenfork, Lee, Chritton & Wiles,*
Attys.

UNITED STATES PATENT OFFICE.

SIGMUND L. GOLDMAN, OF CHICAGO, ILLINOIS.

DISCHARGE-CONVEYER.

967,758.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed March 21, 1910. Serial No. 550,776.

To all whom it may concern:

Be it known that I, SIGMUND L. GOLDMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Discharge-Conveyers, of which the following is a specification.

The object of my invention is to provide a construction of conveyer for bottles and the like, discharging from apparatus in which they have been cleansed, which shall cooperate with such apparatus in receiving and conveying off such articles in a manner to reduce to the minimum the danger of fracturing them in the operation.

I have more especially devised my improvement for cooperative use with a bottle-soaker, such as that which forms the subject of my United States Patent No. 920,564, dated April 4, 1909, to which reference is had for facilitating the description herein.

In the accompanying drawings—Figure 1 is a view in longitudinal sectional elevation of my improved conveyer shown in its cooperative relation to a bottle-soaking machine, illustrated by dotted representation; Fig. 2 is a view of the conveying apparatus like that shown in Fig. 1, but showing it in the non-receiving position of its parts relative to the discharge from the soaker; Fig. 3 is a broken plan view of the conveyer with the receiving-table at its delivery-end; Fig. 4 is an enlarged section on line 4, Fig. 3, with the receiving-table shown separately as necessitated by the scale of representation of the view on the sheet, and Figs. 5, 6 and 7 are sections taken, respectively, on lines 5, 6 and 7, Fig. 4.

For the purpose of the following explanation of my improved conveyer, it may be best described, though without intended limitation, to the bottle-soaking machine of my aforesaid patent, indicated by dotted representation in Fig. 1 and more meagerly in Figs. 2 and 4: The conveyer-frame consists of side-members 9, 9, shown as angle-irons positioned relative to a bottle-soaking apparatus, indicated as an entirety at 8, with the end-portions of such frame adjacent to said apparatus inclining at a steeper angle therefrom than the remainder of the inclining frame; and side-shields 10, 10 rise from these angle-irons, to which they are secured, as at 11, to extend past the angle of their variation in inclination. Depend-

ing from the steeper section 12 of the frame-members 9, in alinement with each other crosswise of the conveyer, are similar rigidly-fastened brackets 13, 13 terminating in rearwardly-inclining arms 14 rigid with the brackets and having journaled in them the drive-shaft 15 for the conveyer, carrying on one end a sprocket-wheel 16, to adapt it to be geared to the soaker 8 and thus be driven by it in properly-timed relation thereto. Another shaft, 17, is journaled in suitable bearings on the frame-members 9 just beyond the forward ends of the shields 10. Each shaft 15 and 16 carries a pair of similar sprocket-wheels 18, and corresponding members of each pair are connected by an endless chain 19, these chains carrying, to complete the conveying medium of the machine, slats 20 in endless series scalloped longitudinally along their outer faces to present concave seats 21 to the bottles as and for the purpose hereinafter explained; and at equal intervals in the slat series, higher members, 22, are included for the bottle-abutting or arresting purpose hereinafter referred to. The conveyer-proper terminates at a delivery-table 23 having the frame-members 9 for its sides and provided on its upper surface with longitudinally-extending spaced slats 24 of V-shape in cross-section (being angle-irons) to form bottle-receiving grooves 25 between them; and the table terminates at its advance-end in an upwardly-inclining stop-shield 26 to arrest the descending bottles without abruptness.

On the shaft 15, near each end thereof, is eccentrically supported to rotate with it a cam 27 presenting in its outer face an oval groove to an anti-friction roller 28 on a link 29 having one end pivotally connected with the end of the adjacent arm 14 and its opposite end pivotally connected with the adjacent end of another link 30, which is, in turn, connected pivotally to an end of a bottle-receiving head 31 reciprocated by the action of the cams between the conveyer and the soaking-machine. The head 31 comprises a series of similar open-ended chutes 32, to the opposite ends of which series the links 30 are pivoted, and it is supported, to adapt it to be reciprocated, on a base 33 secured at its ends to the frame-members 9, between which it extends, and provided on its upper surface with a series of spaced slats 34 forming grooves 35 to receive the bulging bottoms of the head-chutes 32 and

facilitate and guide the movements of the head on its support.

In the operation of the soaking-machine, as described in my said former patent, in carrying a series of bottle-filled racks on endless chains traveling vertically through the water-filled tank, the discharge of the bottles from each rack is rendered automatic by cam-action on its hinged gate to open the latter when the rack attains its discharging position, being that from which my improved conveyer extends with the head 31 working between the two and requiring to be reciprocated to take it out of the path of movement of a rack in which the latter continues after discharging its supply of bottles. The conveyer is actuated correspondingly with the soaker by gearing to the latter the shaft 15, as hereinbefore suggested, and the endless apron of the conveyer, consisting of the slat-carrying chains 19, is caused to travel in the direction to convey bottles discharged from the machine 8 to the receiving-table 23. The rotation of the shaft 15, by turning with it the cams 27, causes their action on the studs 28 so to actuate the links 29 and 30 as to reciprocate the chute-head 31 on its base.

The operation of the conveyer is so timed relative to the discharge from the machine 8 as to present the head 31 as a bridge, and the chutes 32 registering with the bottles in discharging, in close proximity to the latter at that time, so that the bottles may glide into the chutes registering with them; thus avoiding any jumping or deflection of the discharging bottles in their course to the conveyer, which would tend to fracture them and disorganize the transfer-operation from the soaker. The bottles, one of which is indicated at 36 in Fig. 1, glide through the head-chutes upon the conveyer-apron, the movement of which is so timed as to present to each discharged series of bottles an abutment-slat 22, which arrests the bottles by the engagement therewith of their advance-ends and causes them to be thenceforward carried by the conveyer at the rate of movement of its traveling apron until the respective abutment-slat rounds the sprockets 18, when the bottles glide, under the inertia of their movement, into the grooves 25 upon the receiving-table 23, where they are gradually arrested by the cushioning shield 26 and whence they may be removed by hand.

What I claim as new and desire to secure by Letters Patent is—

1. In a discharge-conveyer of the character described, the combination of a traveling apron comprising endless chains connected by slats provided in their outer lon-

gitudinal edges with series of transverse bottle-receiving grooves, with relatively-higher bottle-stopping slats at intervals, a reciprocating discharge-receiving head at the receiving end of the apron, and means for reciprocating said head, for the purpose set forth.

2. In combination, a discharge-conveyer of the character described, having an inclined traveling-apron, a reciprocating discharge-receiving head at the receiving-end of the apron, and means for reciprocating said head, and a receiving-table at the lower end of the apron provided with longitudinal receiving-grooves, for the purpose set forth.

3. In a discharge-conveyer of the character described, the combination of a frame, a conveying-apron and a drive-shaft therefor supported on said frame, a reciprocating discharge-receiving head supported on the frame at the receiving-end of the apron, cams eccentrically mounted on said shaft, and links connecting said head with the frame and engaging the cams to be actuated thereby to reciprocate the head, for the purpose set forth.

4. In a discharge-conveyer of the character described, the combination of an inclined frame of relatively-steep inclination at the receiving-end of the conveyer and provided with guide-grooves on said end, a conveying-apron and a drive-shaft therefor supported on said frame, a reciprocating discharge-receiving head supported on said frame-section and having a series of open-ended chutes fitting said grooves, cams eccentrically mounted on said shaft, and links connecting said head with the frame and engaging the cams to be actuated thereby to reciprocate the head, for the purpose set forth.

5. A discharge-conveyer of the character described, comprising, in combination, an inclined frame of relatively-steep inclination at the receiving-end of the conveyer, sprocket-wheels journaled on the frame, endless chains on the sprockets and slats connecting the chains including relatively wide obstructing slats at intervals, brackets extending from the frame, a drive-shaft journaled in the brackets, cams eccentrically mounted on said shaft to rotate with it, a reciprocating discharge-receiving head supported on said steep frame-section, and links connecting the head with said brackets and carrying studs engaging the cams, for the purpose set forth.

SIGMUND L. GOLDMAN.

In presence of—

W. B. DAVIES,
R. A. SCHAEFER.