No. 855,141. PATENTED MAY 28, 1907.

B. F. SOMMERS.

BARREL ELEVATOR AND TRIP.

APPLICATION FILED NOV. 9, 1906.

2 SHEETS—SHEET 1.

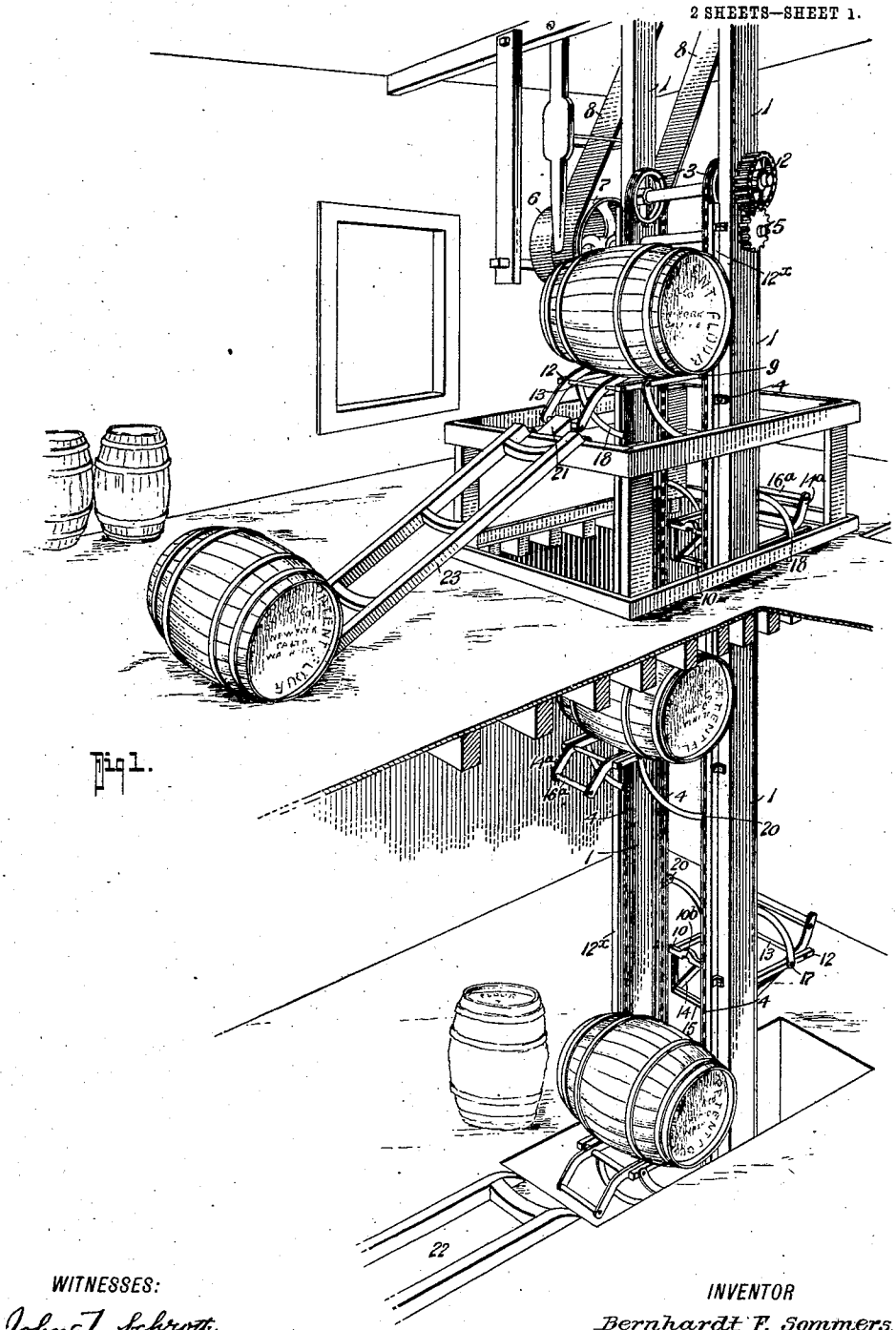


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 3.

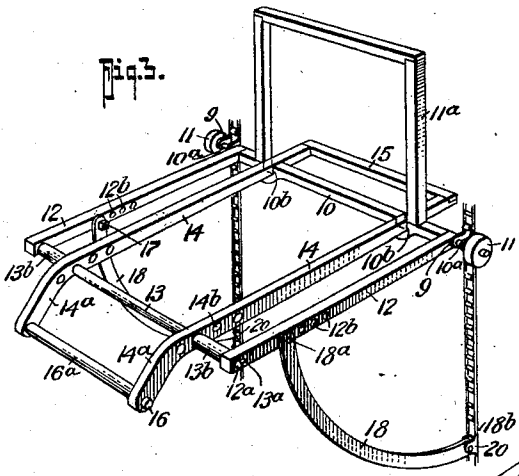


Fig. 4.

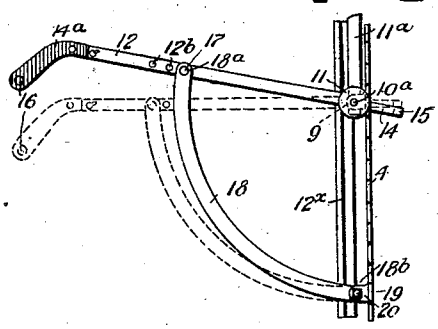


Fig. 5.

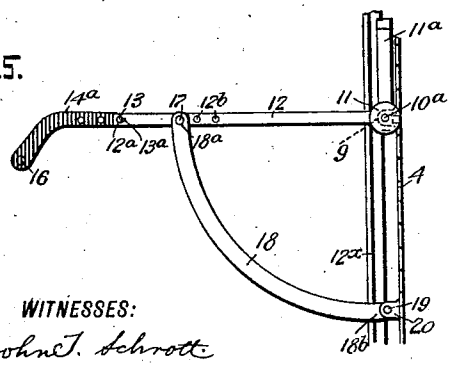


Fig. 2.

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BARREL ELEVATOR AND TRIP.

No. 855,141. Specification of Letters Patent. Patented May 28, 1907.

Application filed November 9, 1906. Serial No. 342,653.

To all whom it may concern:

Be it known that I, BERNHARDT F. SOMMERS, residing at Evansville, in the county of Vanderberg and State of Indiana, have invented certain new and useful Improvements in Barrel Elevators and Trips, of which the following is a specification.

My invention relates to certain new and useful improvements in barrel elevators, and it particularly relates to new and useful improvements in barrel trips for use on barrel elevators.

In its generic nature, my invention comprises a barrel carrier upon which a barrel trip frame is pivotally and adjustably mounted, and a trip catch carried by the barrel carrier for limiting the movement of the trip frame together with means for preventing the conveying chains from swinging out as the trip block is engaged by the trip frame.

In its more detail nature, my invention comprises certain novel construction, combination and arrangement of parts, all of which will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1, is a perspective view of my invention applied for use. Fig. 2, is a central, vertical longitudinal section thereof. Fig. 3, is a perspective view of the barrel carrier and its coöperating mechanism. Fig. 4, is a side elevation thereof showing the barrel carrier frame in one position, under one adjustment in full lines and in another position under another adjustment in dotted lines. Fig. 5, is a similar diagrammatic view showing the trip frame in a different position from that shown in Fig. 4.

Referring now to the accompanying drawings in which like numerals and letters of reference indicate like parts in all of the figures, 1 designates the supporting frame-work in suitable bearings in which the conveyer chain shafts 2—2^a are fulcrumed and the shafts 2—2^a have sprocket wheels 3—3 around which the endless conveyer chains 4 pass. The upper shaft 2 is geared with a drive shaft 5 which carries fast and loose pulleys 6—7 around which the drive belt 8 takes. Suitable means for shifting the drive belt from one pulley to another may be provided in any manner well known in the art as the same, *per se*, forms no part of my present invention.

At suitable intervals the chains 4 are provided with links 9 that have bearing portions to receive the pivot shaft or spindle portions 10^a of the rear supporting beam 10 of the barrel carrier and the spindle portions 10^a project through the links 9 and carry guide rollers 11 which coöperate with the guides $12^\times$ on the supporting frame 1 in a manner presently explained.

The beam 10 supports a yoke frame 11^a which forms what I call the trip frame catch or stop and the beam 10, within the yoke frame 11^a is provided with notched portions 10^b to receive the longitudinal bars 14 of the trip frame hereinafter again referred to.

Extending forwardly from the beam 10 near each end thereof are the longitudinal bars 12 of the barrel carrier which are joined at their forward ends by a rod 13 which passes through apertures 12^a in the beams 12 and are secured in said apertures by a key 13^a or otherwise, as may be found desirable.

The beam 12 is provided with a plurality of transverse apertures 12^b to receive the securing bolt 17 that passes through one of the apertures 12^b and through an aperture 18^a in the brace members 18, the lower ends of which are apertured as at 18^b to receive the securing bolts 19 which pass through bearings in supplemental links 20 of the chains 4.

The trip frame comprises the longitudinal beams 14 whose front ends 14^a are curved downwardly into a "runner" shape and are joined by a shaft 16 upon which a friction roller 16^a is mounted. The beams 14 are connected at their rear ends by a fixed cross bar 15, as shown.

14^b designates a plurality of apertures in the beams 14, by reason of which the trip frame can be adjusted on the rod 13 to change the leverage thereof.

The rod 13 may be provided with spacing members 13^b at each side of the trip frame, if desired.

21 designates a trip block secured upon a suitable part of the supporting frame of the machine, which is adapted to engage the roller 16^a at times to operate the trip frame in a manner presently explained.

The elevator is usually designed for conveying barrels from one floor to the floor above, and on the lower floor of the building a suitable chute-way 22 may be provided for leading the barrels onto the barrel carrier while a similar chute-way 23 may be provided to receive the barrels as they roll off the trip

frame and the barrel carrier when the trip frame is operated by the trip block 21 in the manner now to be explained.

As the barrel carrier reaches the upper portion of the elevator, the trip block will be engaged by the roller 16^a thus causing the roller 16^a to be depressed and elevate the rear bar or cross beam 15 of the trip frame until the trip frame reaches the inclined position shown in Fig. 2, the barrel upon the carrier will then roll down the trip frame onto the chute-way 23 and may be rolled to any place desired. As the roller 16^b leaves the trip block 21 the trip frame will again assume its normal position in a plane parallel with that containing the beams 10 and 12, it being understood that the beams 14 lie with their rear portions in the notches 10^b of the beam 10.

It should be also stated that as the trip frame is being tripped the guide rollers 11 will remain in engagement with the guides therefor and thus prevent the chain being pulled out of its straight alinement.

The guides $12^\times$ it should be stated may be angle irons of substantially L shape in cross section.

By reason of the adjustability of the trip frame on the barrel carrier, the trip frame may be given a more or less leverage and hence the speed with which the barrels will be rolled off the carrier can be varied.

Likewise by reason of the adjustability of the braces 18, the barrel carrier can be adjusted to the desired position to hold the barrel safely in place.

From the foregoing description taken in connection with the accompanying drawings it is thought the complete construction, operation and numerous advantages of my invention will be readily understood by those skilled in the art to which it appertains, and I desire to say that slight changes in the detailed construction, combination and arrangement of parts may be made without departing from the spirit of the invention or the scope of the appended claims.

What I claim is:—

1. In a barrel elevator, the combination with endless conveyer chains, of barrel carriers secured thereon and comprising a barrel receiving frame, braces adjustably secured thereto, a trip frame pivotally carried by said barrel receiving frame, means for tripping said trip frame and means for limiting the movement of said trip frame, substantially as shown and described.

2. The combination with an endless conveyer, of a barrel carrier mounted thereon and comprising a barrel receiving frame, a trip frame pivotally and adjustably mounted in said barrel frame, and means for tripping said trip frame at times.

3. The combination with an endless conveyer, of a barrel carrier mounted thereon and comprising a barrel receiving frame, a trip frame pivotally and adjustably mounted on said barrel receiving frame, means for tripping said trip frame at times, and a yoke frame supported by the barrel receiving frame for regulating the movement of the trip frame.

4. The combination with an endless conveyer, of a barrel carrier mounted thereon and comprising a barrel receiving frame, a trip frame pivotally and adjustably mounted in said barrel receiving frame, means for tripping said trip frame at times, and means for holding the endless conveyer from swinging out when the trip frame is tripped, substantially as shown and described.

5. In a barrel receiving means, a barrel carrier comprising a barrel receiving frame, a trip frame pivotally and adjustably mounted in said barrel receiving frame, a yoke frame carried by the barrel receiving frame for coöperating with the trip frame, and braces for supporting the barrel receiving frame, and adjustable connections between said braces and said barrel receiving frame, substantially as shown and described.

6. In a barrel receiving means, a barrel carrier comprising a pivotally mounted barrel receiving frame, a trip frame pivotally and adjustably mounted in said barrel receiving frame, a yoke frame carried by the barrel receiving frame for coöperating with the trip frame, and braces for supporting the barrel receiving frame, and adjustable connections between said braces and said barrel receiving frame, substantially as shown and described.

7. The combination with endless conveyer chains, of supplemental link members carried thereby, a barrel receiving frame having spindle portions at one end passing through bearings in said supplemental links, guide rollers carried by said spindle portions, a fixed guide for coöperating with said guide rollers, said barrel receiving frame including a notched beam and a rod, a trip frame pivotally mounted on said rod and having portions lying in the notched beam, and means for tripping said trip frame at times.

8. The combination with endless conveyer chains, of supplemental link members carried thereby, a barrel receiving frame having spindle portions at one end passing through bearings in said supplemental links, guide rollers carried by said spindle portions, a fixed guide for coöperating with said guide rollers, said barrel receiving frame including a notched beam and a rod, a trip frame pivotally mounted on said rod and having portions lying in the notches of the notched beam, means for tripping said trip frame at times, and adjustable braces for supporting said barrel receiving frame substantially as shown and described.

9. The combination with endless conveyer

chains, of supplemental link members carried thereby, a barrel receiving frame having spindle portions at one end passing through bearings in said supplemental links, guide rollers carried by said spindle portions, a fixed guide for coöperating with said guide rollers, said barrel receiving frame including a notched beam and a rod, a trip frame pivotally mounted on said rod and having portions lying in the notches of the notch beam, a yoke frame carried by said notched beam to form a stop for said trip frame, and means for tripping said trip frame at times.

BERNHARDT F. SOMMERS.

Witnesses:
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WALTER W. CARSON.