A. WILFORD.

CONVEYER.

APPLICATION FILED FEB. 13, 1913.

1,094,508.

Patented Apr. 28, 1914.

2 SHEETS—SHEET 1.

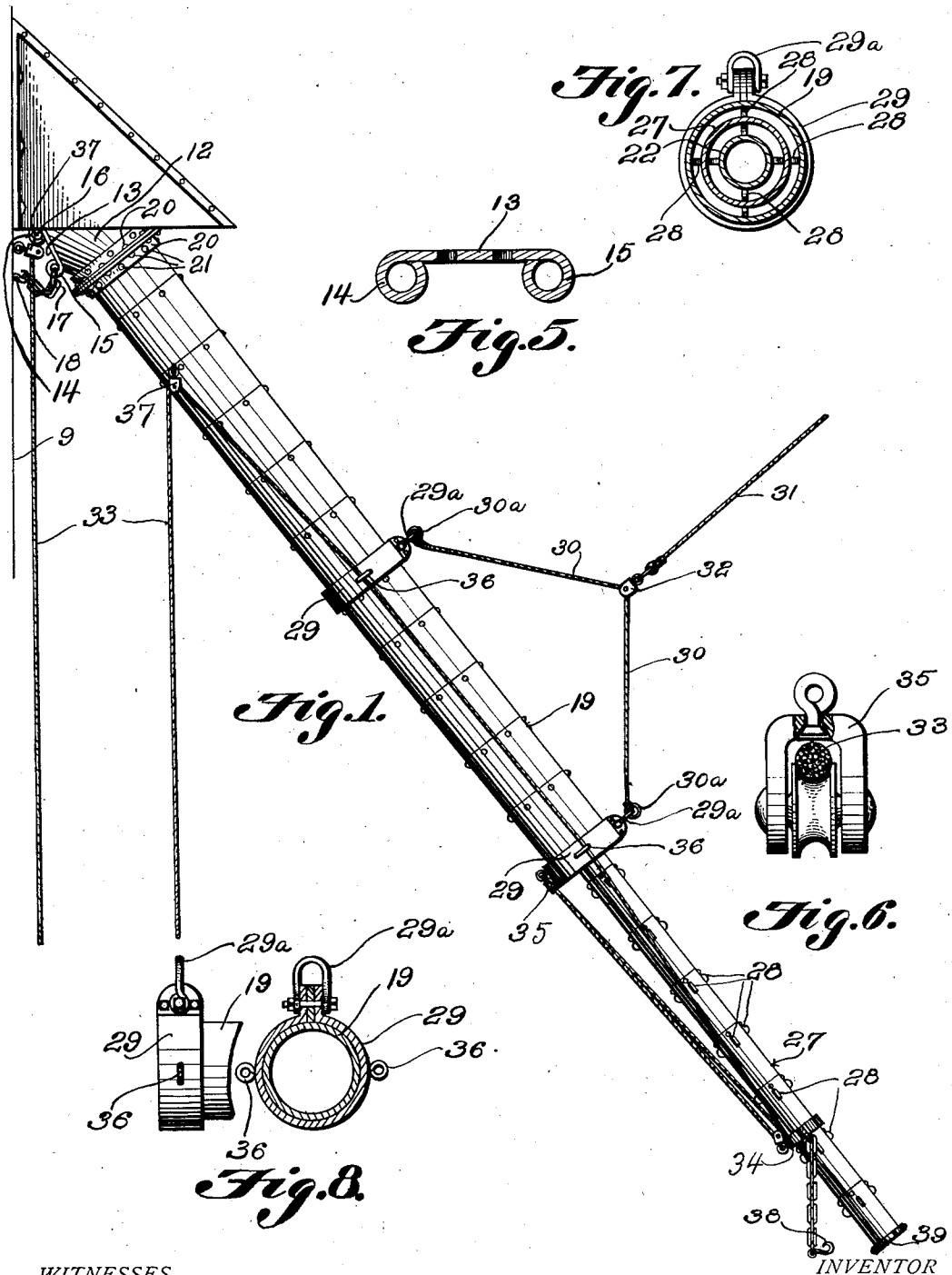


Fig. 1.

Fig. 5.

Fig. 7.

Fig. 6.

Fig. 8.

WITNESSES

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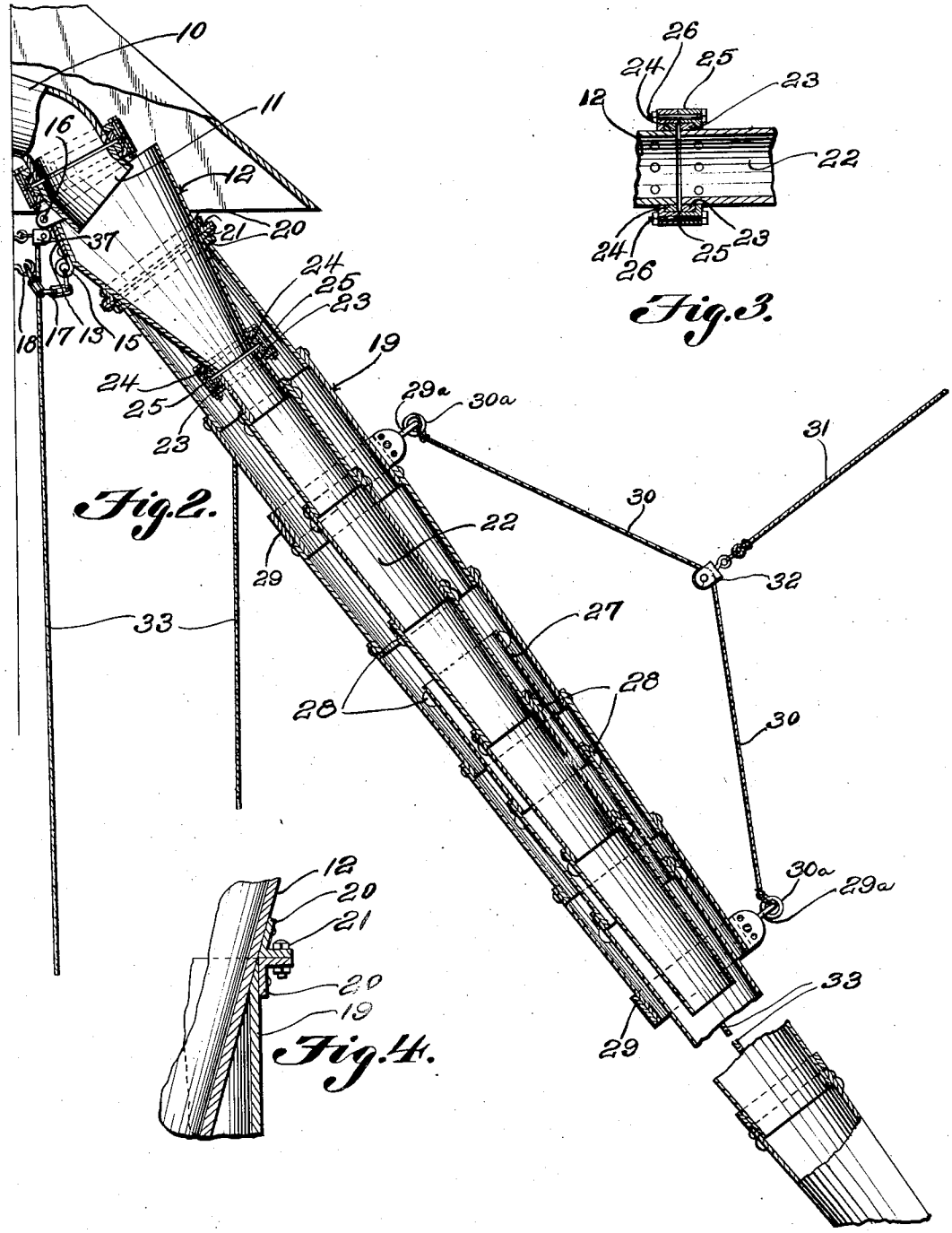


Fig. 2.

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ALBERT WILFORD, OF BALTIMORE, MARYLAND.

CONVEYER.

1,094,508. Specification of Letters Patent. Patented Apr. 28, 1914.

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To all whom it may concern:

Be it known that I, ALBERT WILFORD, a citizen of the United States, residing at Baltimore, State of Maryland, have invented new and useful Improvements in Conveyers, of which the following is a specification.

The present invention relates to conveyers, and more especially to that type of conveyers employed in connection with grain elevators for delivering the grain therefrom to a vessel, car, or other vehicle.

The object is to provide a simple, comparatively inexpensive, and yet thoroughly practical structure, which can be easily handled, will occupy but little space when not in use, can be readily placed in position to deliver the grain or other material, is constructed to prevent ingress of rain or water to the parts that are apt to rust out, and is easily adjustable, so that new portions may be brought into use when others become worn out, thereby materially extending the life of the device.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the conveyer. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail view on an enlarged scale of the connection between the upper conveyer section and the head. Fig. 4 is a similar view of the connection between the head and the casing. Fig. 5 is a detail view on an enlarged scale showing the structure of the hinge and mounting for the safety chain. Fig. 6 is a detail view of the supporting pulley. Fig. 7 is a cross sectional view through the conveyer. Fig. 8 is a detail view of one of the rings.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, the elevator building is designated 9, and projecting therefrom is the crane 10 having a revoluble spout 11. Hingedly supported from this spout, is the conveyer. In the present embodiment, a downwardly tapered or funnel-shaped head 12 is employed that is hinged to the spout 11. This hinge connection is secured by a pair of bars 13 fastened to the underside of the head 12, and having their ends turned to form eyes 14 and 15. Passing through the upper eyes 14, is a pintle or pivot bolt 16 that passes through suitable ears secured to the under side of the spout 11. The lower eyes 15 constitute means for securing the ends of the safety chains 17 that are connected to hooks 18, fastened to the side of the building. These safety chains only come into action in case the hinge should break.

Secured to the head 12, between its ends, is a tubular casing 19. As illustrated more particularly in Fig. 4, the fastening is obtained by employing a pair of angle irons 20 that are secured respectively to the head 12 and casing 19, and said angle irons have their outturned flanges fastened together by a series of bolts 21. By this means, it will be evident that while the casing is rigidly secured to the head, it can be detached for the purposes of repair or renewal of the parts. Located within the casing in spaced relation thereto, is a tubular conveyer section 22, which projects slightly beyond the lower end of the casing 19. The upper end of this section 22 is rotatably connected to the lower end of the head 12. To this end, the upper end of said casing has secured thereto, a band 23, and the lower end of the head has a band 24 fastened to it. Over these bands are placed flanged collar sections 25 secured together by bolts 26. Another conveyer section 27 is slidably mounted on the section 22, and operates within the casing 19. Both of these sections are preferably made up of lengths of sheet metal riveted together, and bridging the joints formed by said lengths, are rounded shoes 28 that serve to guide the parts in their relative movements. It will of course be understood that the said sections 22 and 27 may each be formed of a single piece.

In order to support the conveyer, a pair of rings or bands 29 are clamped about the casing 19 at spaced points, and have outturned ears, to which are fastened U-clips 29^a. A cable 30 has terminal rings 30^a engaged with the clips. Additional reinforcing bands may be employed if desired. A supporting and lifting cable 31, connected to any suitable operating means, has a pulley 32 swiveled to its lower end, and this pulley is engaged with and operates freely on the cable 30. In order to conveniently raise the lower conveyer section 27, or in other words, draw it into the casing, cables 33 are employed that operate over pulleys 34 journaled on opposite sides of the lower end of the section 27, these cables passing upwardly around a pulley 35 secured to the

lower end of the casing 19. The opposite stretches of the cable extend longitudinally along said casing 19, passing through guide eyes 36 carried by the bands 29, and the upper portions of said stretches pass through pulleys 37, thence they drop down to a point where they can be readily grasped and operated. It will be evident that by pulling upon these cables, the lower section will be moved upwardly into the casing, and when the cables are released, said section will drop, by its own weight, or may be drawn outward manually. The lower end of the section is preferably provided with a pair of hooks 38, by means of which an extension section or goose neck may be readily applied, in order to divert the material in any desired direction, and this end is also preferably reinforced by a band 39 secured to its lower end.

This structure is comparatively light, very permanent, and is easily manipulated. It can be placed in position with ease and expedition. Moreover, it will be noted that the outer casing constitutes a shield over the joint between the two conveyer sections, preventing the ingress of rain and water. Moreover, with this arrangement, should either conveyer section wear through at any one point, it can be easily rotated, thus presenting a new portion for the lower wall and preventing leakage.

It will of course be understood that in order to show the structure properly, it has been necessary to magnify the thickness of the sheet metal with relation to the length of the parts.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a conveyer of the character set forth, the combination with a tubular conveyer section, of a casing surrounding the same, and another tubular conveyer section slidably mounted between the first section and the casing.

2. In a conveyer of the character set forth, the combination with a tubular conveyer section, of a casing surrounding the same, another tubular conveyer section slidably mounted between the first section and the casing, and means connected to the casing for supporting the conveyer.

3. In a conveyer of the character set forth, the combination with a tubular conveyer section, of a casing surrounding the same, another tubular conveyer section slidably mounted between the first section and the casing, and shoes mounted respectively on the different sections and slidably engaging the other sections.

4. In a conveyer of the character set forth, the combination with a tubular conveyer section, of a casing surrounding the tubular conveyer section, and another tubular conveyer section slidably mounted on the first mentioned tubular conveyer section and moving within the casing.

5. In a conveyer of the character set forth, the combination with a head, of a tubular conveyer section connected to the head, a casing connected to the head and surrounding the conveyer section in spaced relation thereto, and another tubular conveyer section surrounding the first section and slidable thereon into the casing.

6. In a conveyer of the character set forth, the combination with a casing, of a tubular conveyer section fixedly mounted in the casing, and another conveyer section slidably mounted between the casing and the first-mentioned section.

7. In a conveyer of the character set forth, the combination with a head, of a casing secured thereto, a tubular conveyer section rotatably connected to the end of the head and arranged within the casing, and another tubular conveyer section slidably mounted on the first mentioned section and movable in the casing.

8. In a conveyer of the character set forth, the combination with a head of a tubular casing secured to the head and having a lower open end, a tubular conveyer section rotatably connected to the lower end of the head and arranged within the casing in spaced relation thereto, another conveyer section slidably mounted on the first mentioned section and movable thereon within the casing, and means for supporting the conveyer from the casing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT WILFORD.

Witnesses:
ROBERT D. LONG, JR.,
WILLIAM M. ROBERTS.