

D. W. SULLIVAN.
CONVEYER.

APPLICATION FILED FEB. 2, 1909.

952,381.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 3.

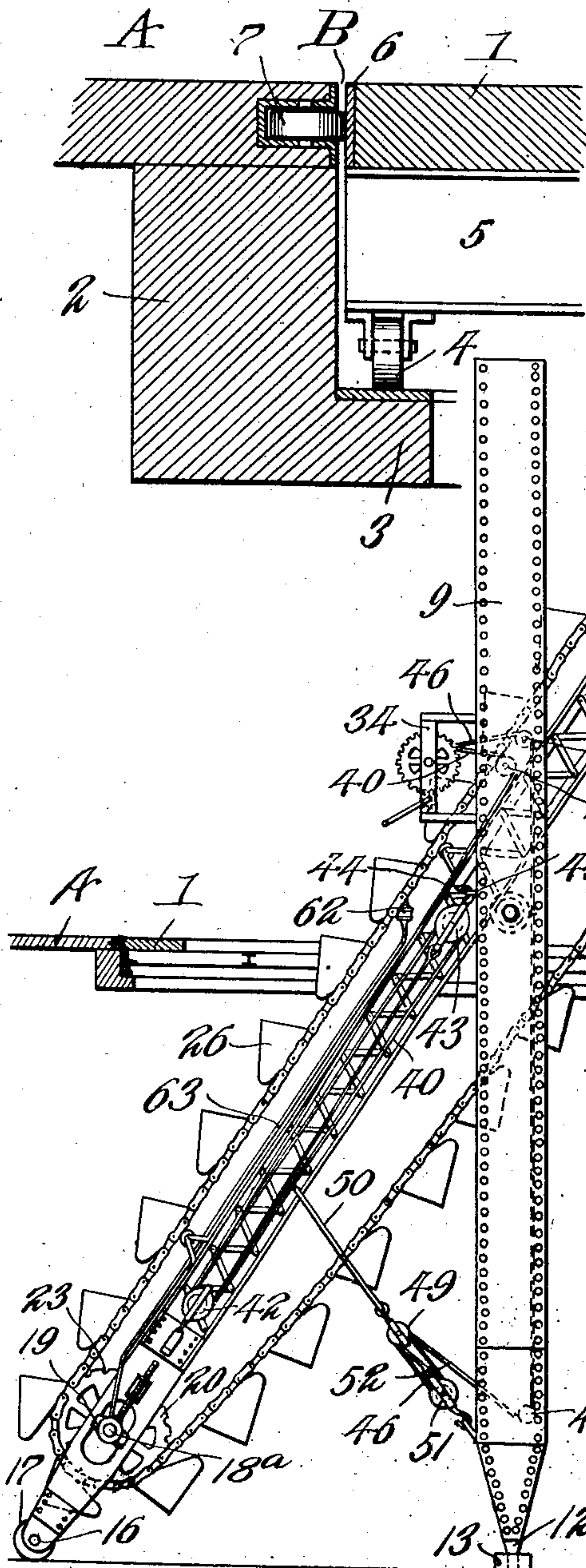
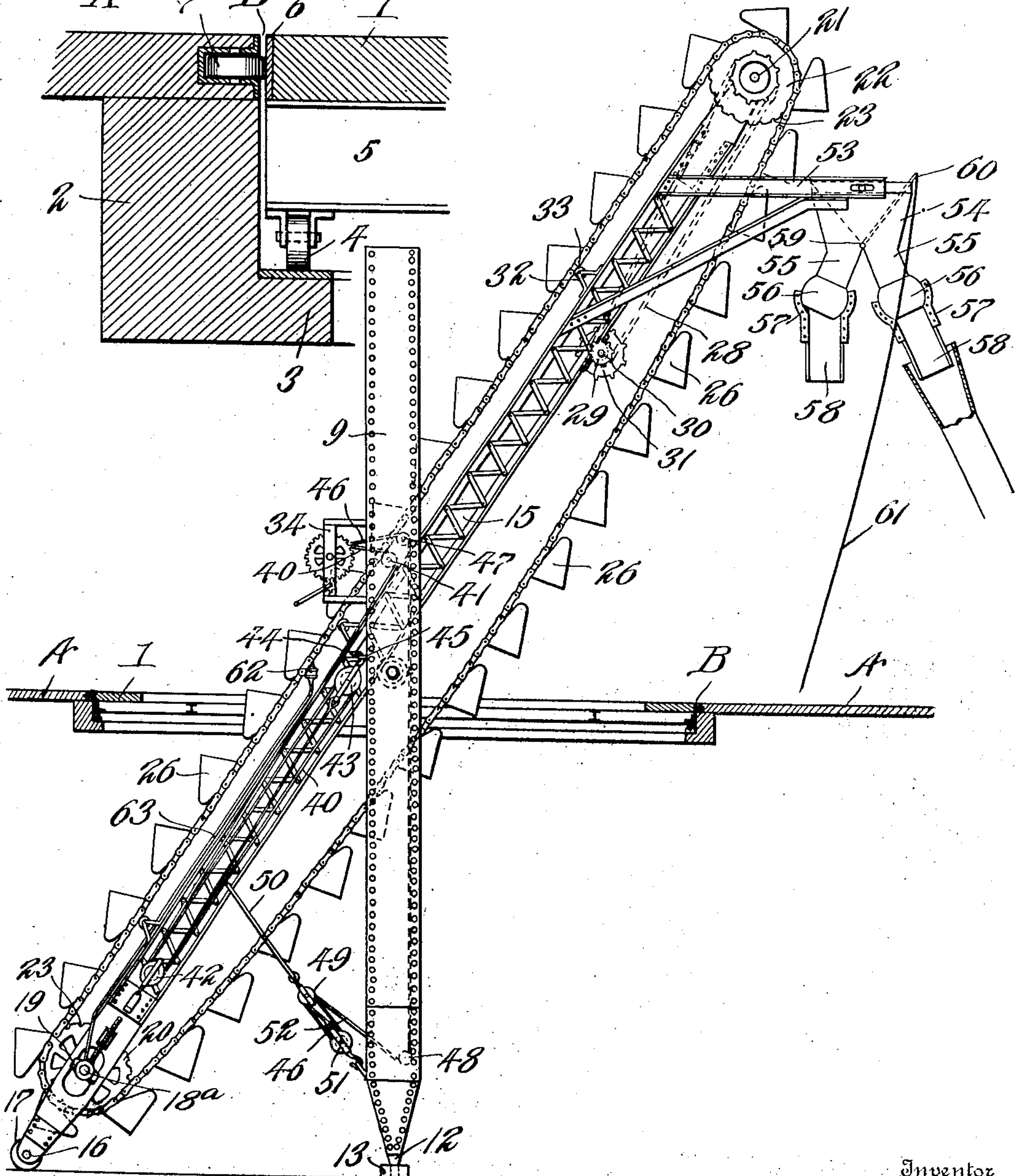


Fig. 1.



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Witnesses

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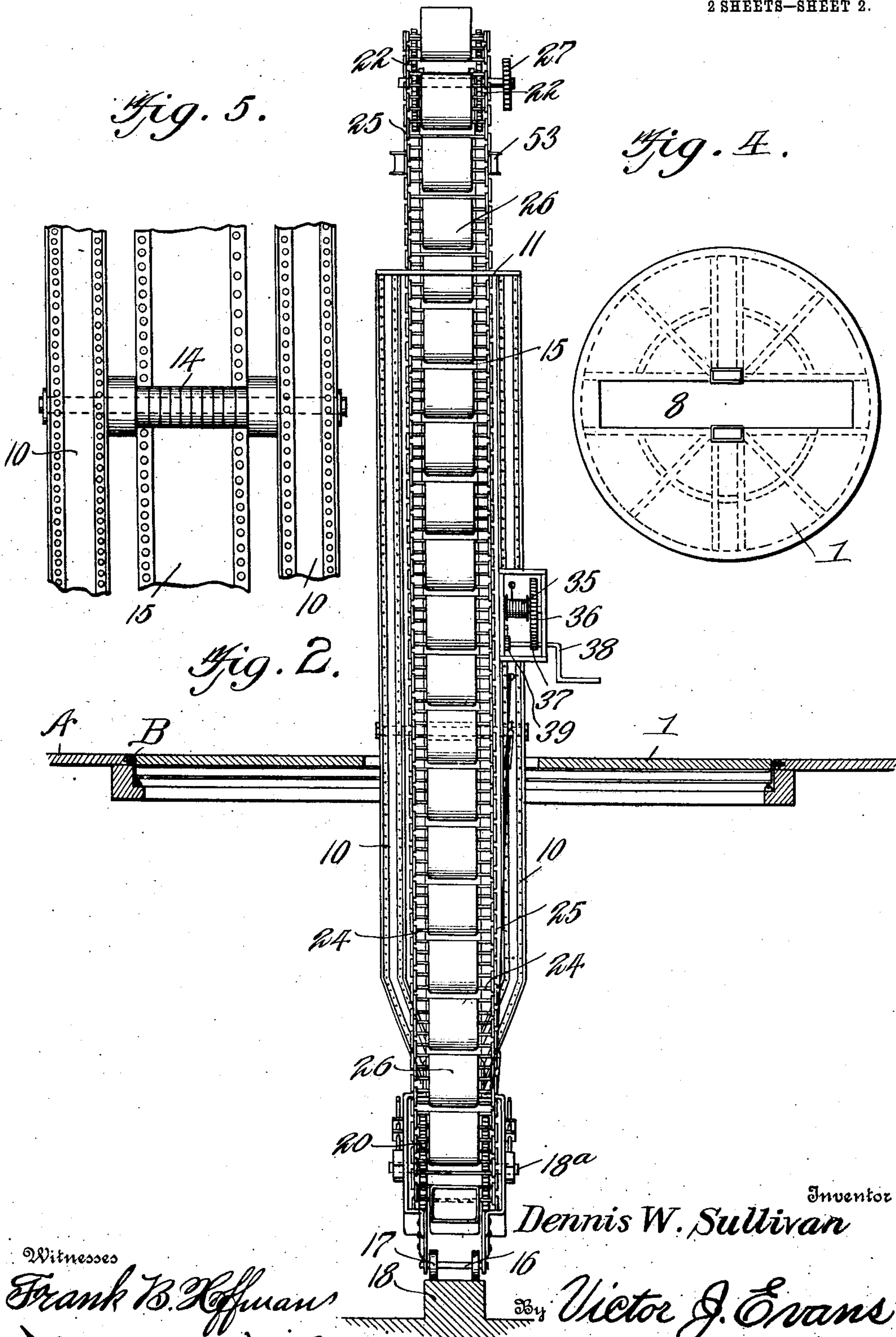
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UNITED STATES PATENT OFFICE.

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CONVEYER.

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To all whom it may concern:

Be it known that I, DENNIS W. SULLIVAN, a citizen of the United States, residing at New London, in the county of New London and State of Connecticut, have invented new and useful Improvements in Conveyers, of which the following is a specification.

This invention relates to conveyers, and more particularly to one adapted for use upon a steamship or collier to be used particularly in transferring coal from the ship or collier to a vessel, and has for an object to provide apparatus of this character embodying a rotatable frame mounted beneath the deck of the ship or collier and provided with an angularly adjustable frame carrying an endless conveyer belt provided with buckets or similar receptacles adapted to collect or gather coal from the ship or collier at a point beneath the deck and to carry the coal upwardly and discharge the same into a chute for transferring coal or the like to the desired point.

A still further object of my invention resides in the peculiar construction and novel manner of mounting the conveyer frame upon the frame proper or support so that the endless belt can be easily, effectively and conveniently shifted or revolved to change its position with respect to the deck of the boat.

Other objects and advantages will be apparent as the nature of the invention is better set forth, and it will be understood that changes within the scope of the claim may be resorted to without departing from the spirit of the invention.

In the drawings, forming a portion of this specification and in which like characters of reference indicate similar parts in the several views:—Figure 1 is a side view of the apparatus showing its position with respect to the collier or ship. Fig. 2 is a front view. Fig. 3 is a detail section through a portion of the deck of the collier or ship showing the construction of the turntable. Fig. 4 is a top plan view of the turntable. Fig. 5 is a detail rear elevation of a portion of the conveyer frame and the supporting frame therefor.

Referring now more particularly to the drawings, there is shown the deck A of a collier or ship which is provided with an opening B in which is mounted a turntable 1. The deck A is provided with an annular rail 2 having an inwardly directed flange 3

upon which supporting rollers or wheels 4 are adapted to revolve. The wheels or rollers 4 are carried by beams or sills 5 upon the under side of the turntable 1. The turntable is provided upon its peripheral edge with a metal band or collar 6 engaged with anti-friction rollers 7 carried by the deck A and which have portions extending partly into the opening B. The turntable 1 has formed therein an elongated passage 8 in which is mounted a vertically disposed frame 9 comprising vertically extending side members 10 which are connected to each other at their upper ends by a cross bar 11.

It will of course be understood that the side members 10 of the frame 9 can be constructed from angle iron beams or bars or a frame for the purpose desired may be constructed in any desirable manner. The side members 10 of the frame 9 adjacent to their lower ends are extended inwardly and have secured thereto a pivot stud 12 mounted in a step bearing 13 upon the keelson of the collier, as shown, and this construction provides means so that the frame 9 can be conveniently revolved when desired.

The side members 10 of the frame 9 have connected thereto a revoluble roller or supporting element 14 with which is slidably engaged a frame 15 having its lower portion disposed in the hold of the collier beneath the deck A, and as shown, the frame 15 is provided with a horizontally disposed axle 16 provided with supporting rollers 17 mounted upon the keelson 18 and adapted to travel thereon. The frame 15 is provided adjacent to the lower end thereof with a horizontally disposed shaft 18^a mounted at its end in adjustable bearing boxes 19, and as shown the said shaft has secured thereto sprocket wheels 20. The frame 15 is provided adjacent to the upper end thereof with a driven shaft 21 provided with fixed sprocket wheels 22 disposed in line with the sprocket wheels 20. The sprocket wheels 20 and 22 are provided with peripheral notches 23 to receive cross bars 24 which are connected to each other by links 25. The cross bars have secured thereto preferably at intervals conveyer buckets or receptacles 26. The construction of the cross bars and the links and buckets form an effective endless belt or conveyer for a purpose to be hereinafter more fully disclosed. The shaft 21 has secured thereto a sprocket wheel 27 over which is passed a drive belt 28 engaged

with a sprocket wheel 29 upon a driven shaft 30 secured in any suitable manner upon the under side of the frame 15 and disposed between the leads of the endless conveyer or belt. The shaft 30 carries a sprocket wheel 31 that may be geared in any suitable manner to a motor or any other driving mechanism. In order that the conveyer can move with but little friction I provide the frame 15 with a plurality of brackets 32 which support rollers 33 engaged upon the under side of the outer lead of the conveyer or belt.

The frame 9 has secured thereto a supplemental frame 34 provided with a windlass 35, the shaft of which is provided with a spur wheel 36 in mesh with a similar spur wheel or pinion 37 upon a crank shaft 38. The crank shaft 38 is provided with a suitable ratchet detent 39 to prevent retrograde movement of the said shaft as will be understood. The windlass 35 has secured thereto one end of a flexible connection or cable 40 which is passed over a guide roller 41 carried by the frame 9 and this cable is engaged with a block or pulley 42 upon the frame 15. The connection or cable 40 is also engaged with a block or pulley 43, and the terminal end of said cable or flexible connection is secured to a hook 44 removably engaged with a retaining element 45 upon the frame 9. The windlass 35 has also secured thereto one end of a cable or flexible connection 46, the said cable having a portion passed over a pulley 47 upon the frame 9 and extended downwardly and beneath a pulley 48 adjacent to the lower end of the frame 9. The cable is finally passed over a pulley 49 carried by a frame 50 extending from the frame 15. The frame 9 adjacent to the lower end thereof is provided with a block or pulley 51 around which and the pulley 49 the cable or flexible connection 46 is passed and the terminal end of said cable or connection is secured as illustrated at 52 to the frame of the block or pulley 51.

The frame 15 has extending therefrom a supplemental frame 53 which supports a chute 54 having discharge tubes 55 provided at their lower ends with spherical heads or portions 56 engaged with socket members 57 carried by hollow discharge connections 58. The chute 54 has pivoted thereto as shown at 59 a gate 60 which may be manu-

ally operated by means of a connection 61 so that the gate 60 can be swung into two positions to alternately open and close the tubes 55 to allow coal or material to be discharged at the desired point. The upper end of the chute 54 is disposed directly beneath the buckets or receptacles 26 to receive coal or material therefrom in their return movement.

Should it be desired to cause the frame 15 to assume a greater angle than that shown in Fig. 1 the crank shaft 38 is manually operated to wind thereon the cables 40 and 46, the former in view of the described connections effectively raising the frame 15, and the latter in view of its previously described connections will effectively move the lower end of the frame 15 inwardly toward the frame 9. The construction described by me is such that should it be desired to reverse the position of the frame 15 so that the discharge chute 54 can have its position correspondingly changed the frame 15 can be rotated in view of the fact that it is supported upon the revoluble frame 9.

It is desirable in apparatus of this character to lubricate various working elements thereof from the most convenient point, and I therefore provide an oil cup or container 62 at a point above the deck A, and I connect with said cup or container a discharge pipe 63 which has its lower end connected in any suitable manner with one or both of the boxes 19 to thoroughly lubricate the shaft 18^a.

I claim:—

In apparatus of the class described, a revoluble horizontally disposed turntable, said turntable having a passage formed therein, a vertically extending frame extending through portions of the turntable, a bearing beneath the said turntable, a stud carried by the frame and mounted in the said bearing, an angularly adjustable frame carried by the main frame and disposed with a portion in the passage formed in the said turntable, and endless chain carried buckets carried by the last named frame.

In testimony whereof I affix my signature in presence of two witnesses.

DENNIS W. SULLIVAN.

Witnesses:

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