

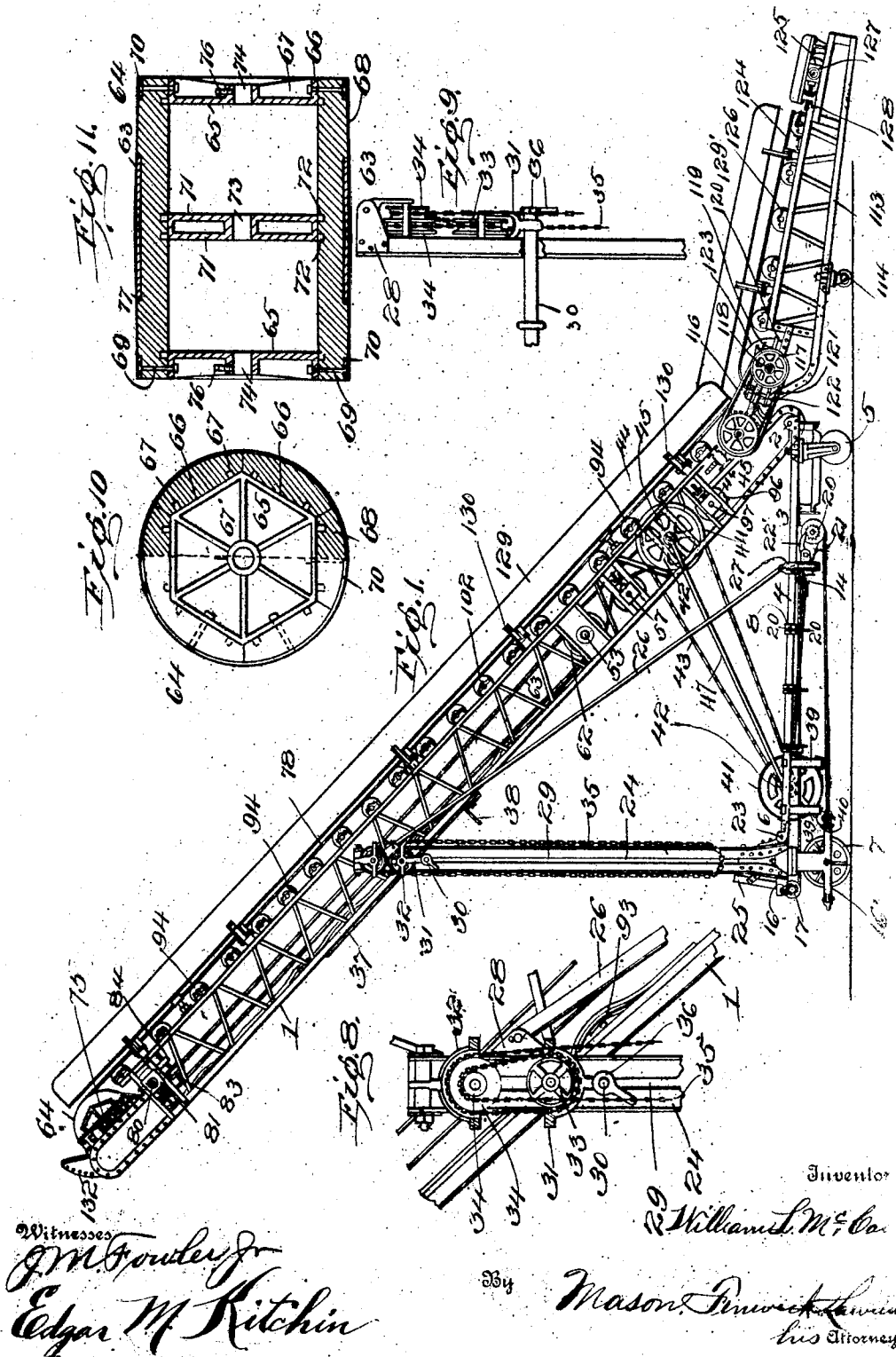
No. 890,689.

W. L. McCABE.
CONVEYER.

PATENTED JUNE 16, 1908.

APPLICATION FILED JUNE 4, 1908.

6 SHEETS—SHEET 1.



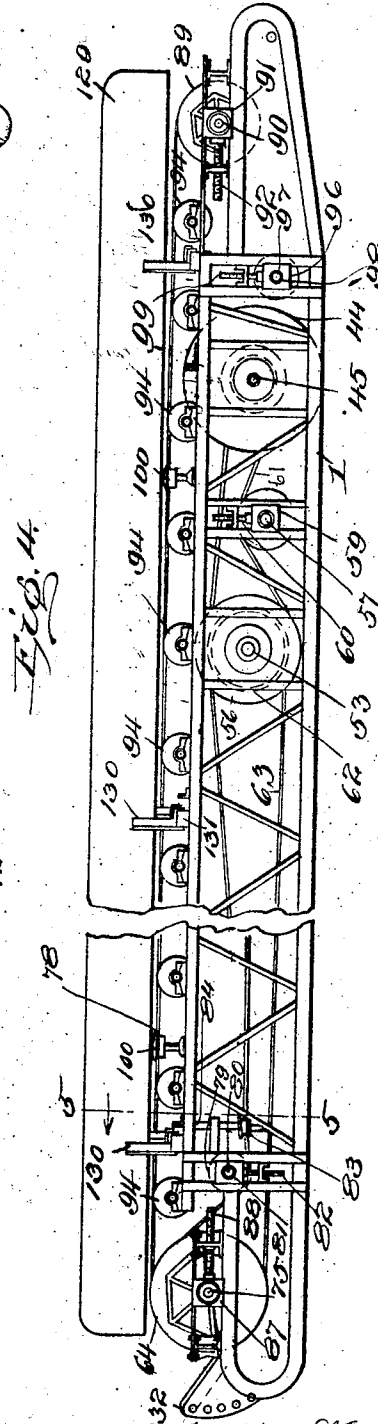
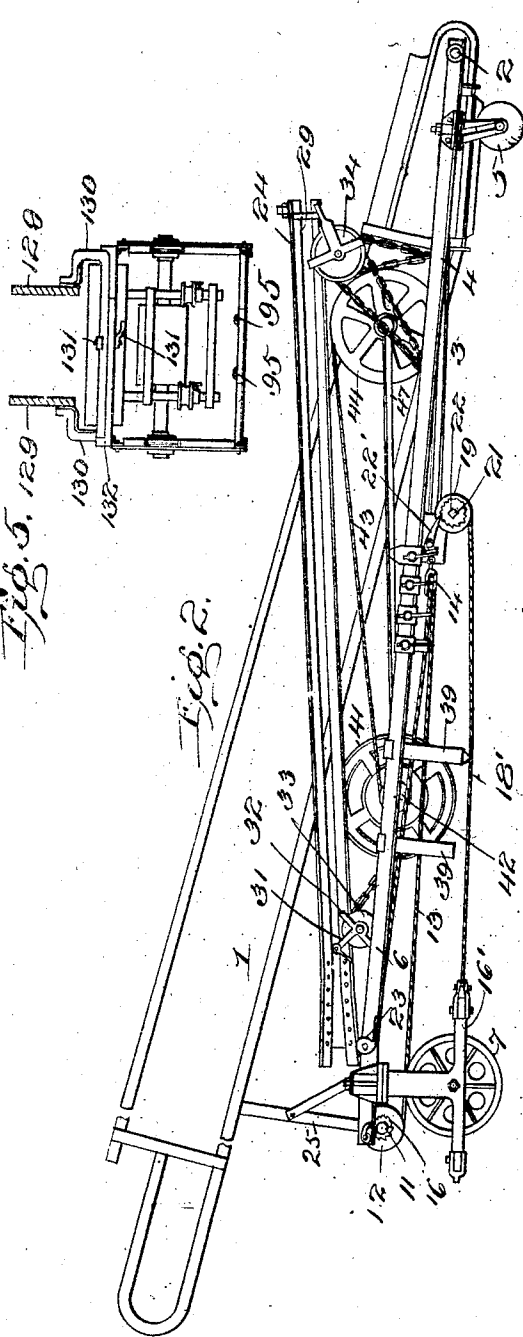
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6 SHEETS—SHEET 2.



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Witnesses

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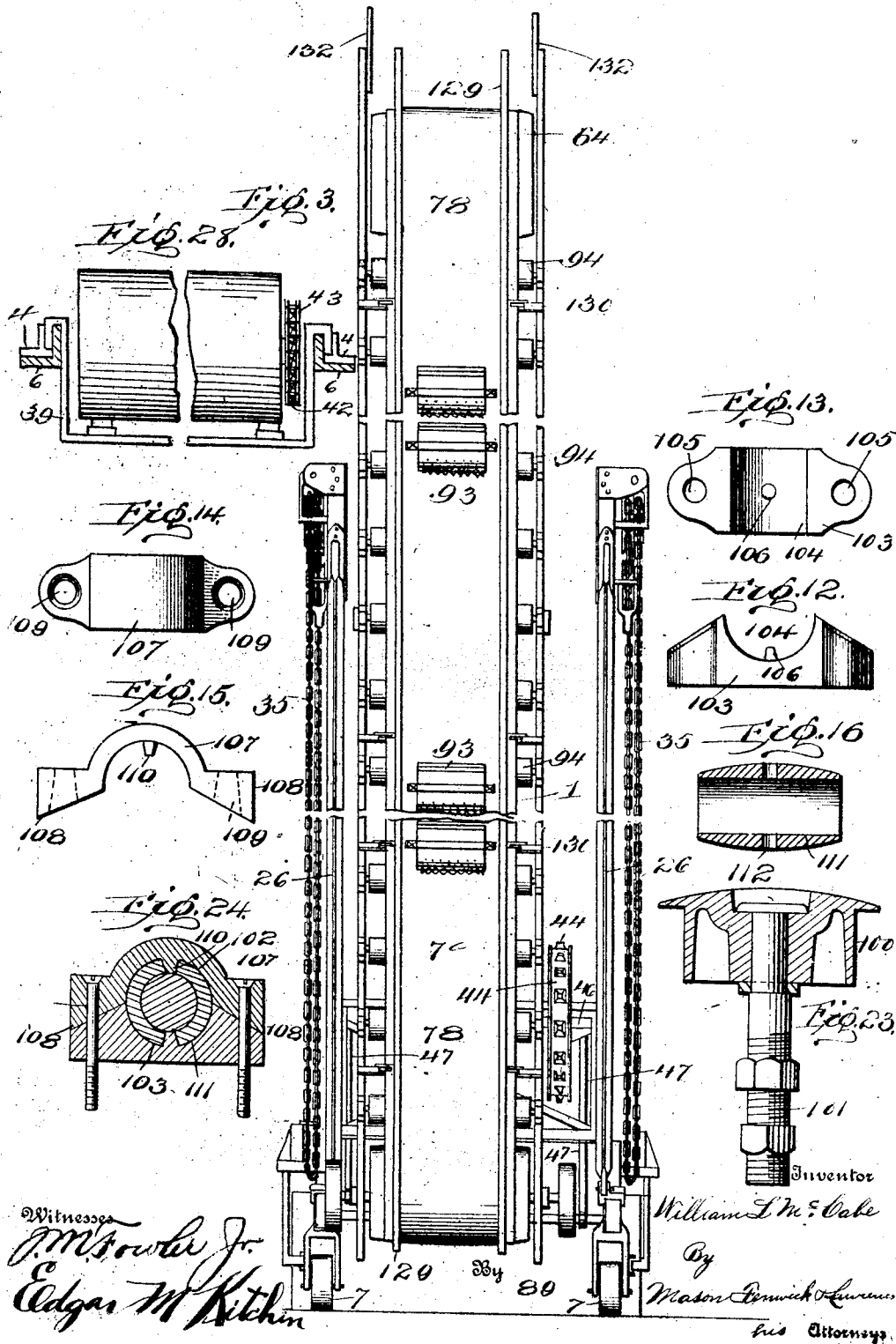
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6 SHEETS—SHEET 3.



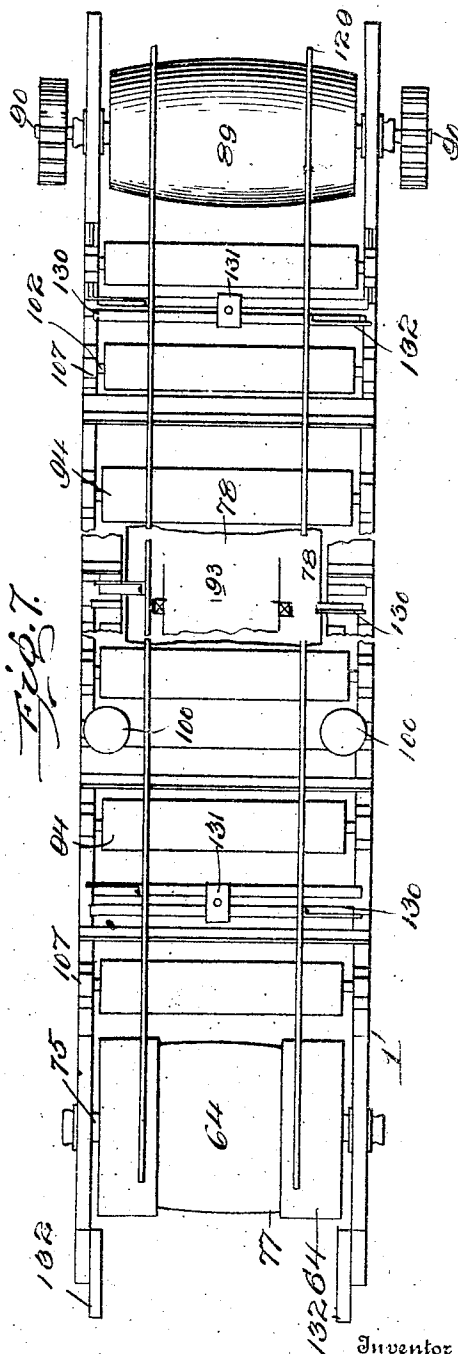
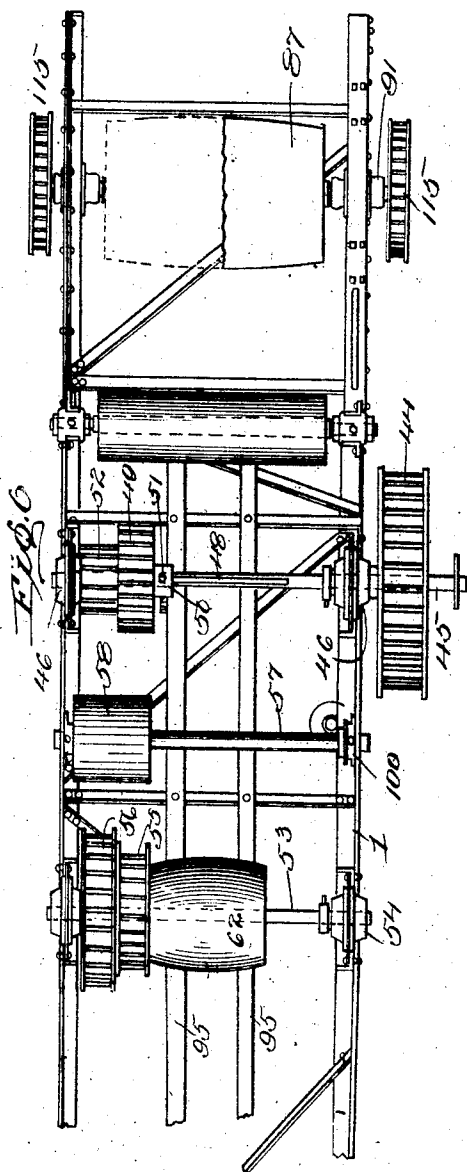
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6 SHEETS—SHEET 4.



Witnesses
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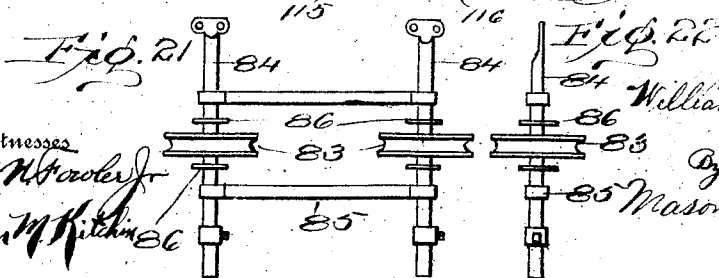
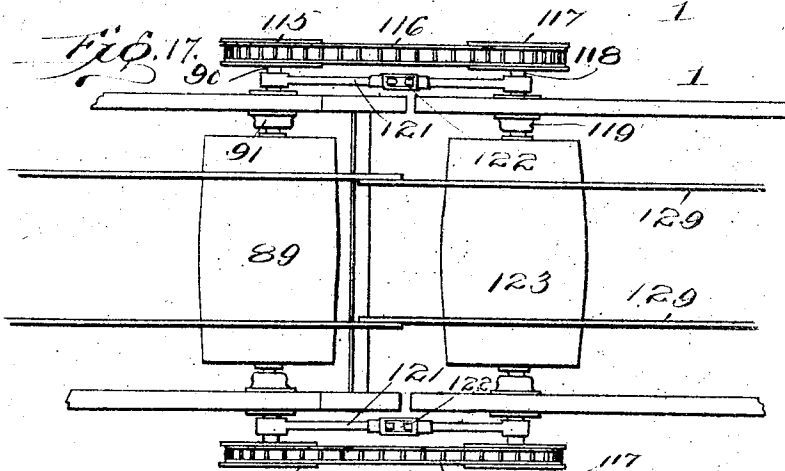
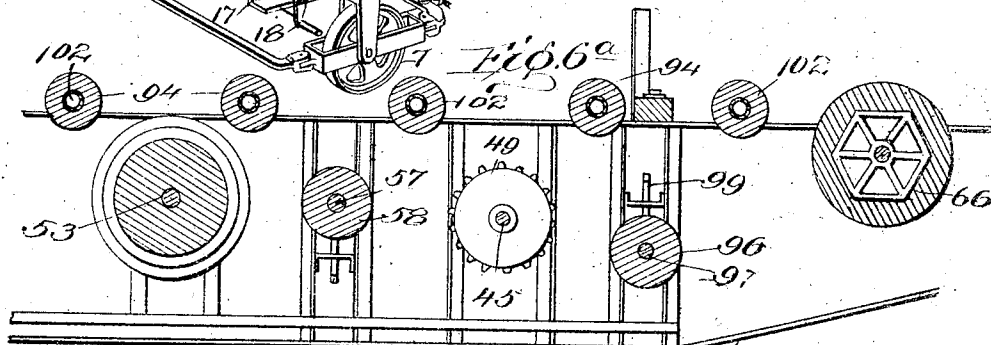
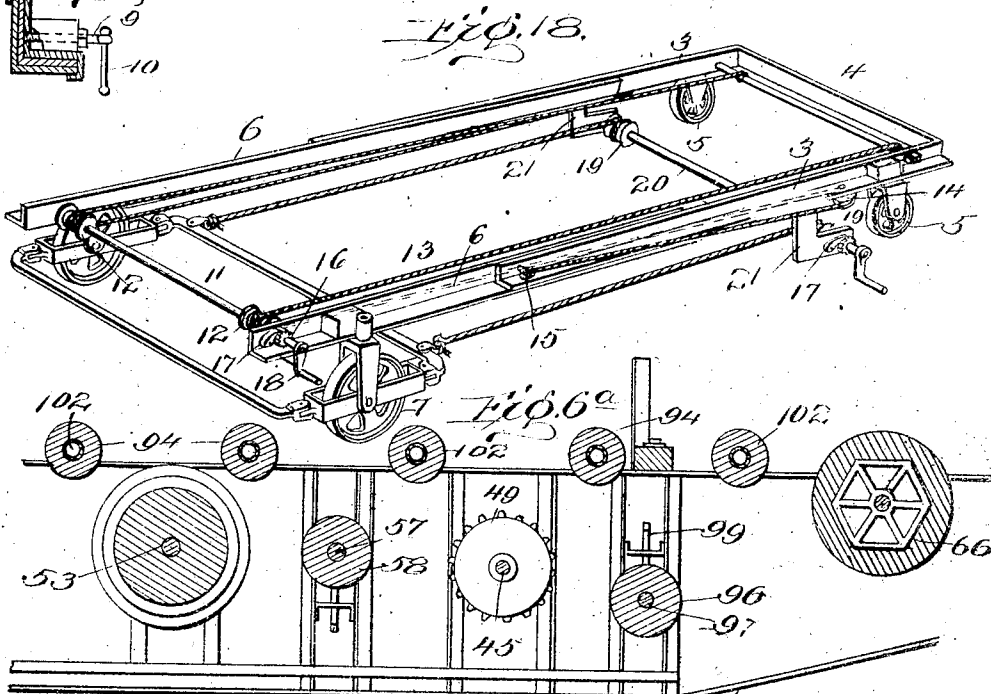
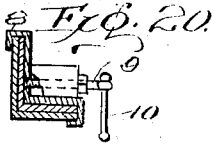
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6 SHEETS—SHEET 5.



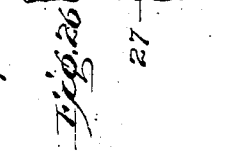
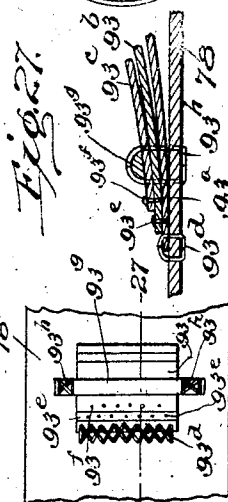
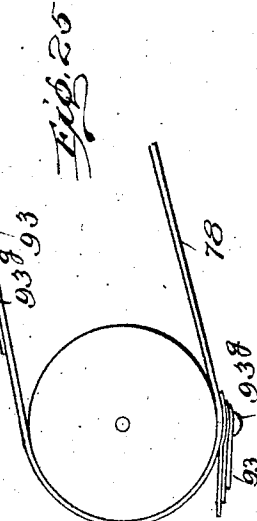
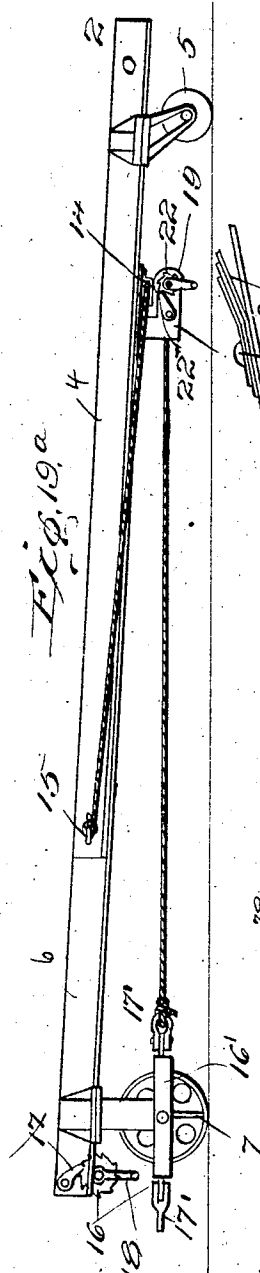
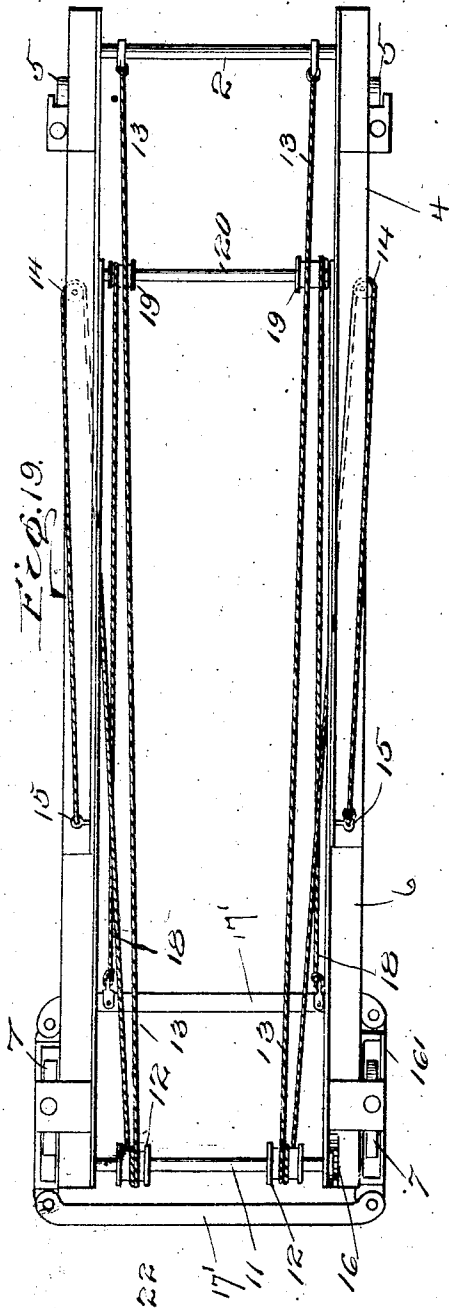
No. 890,689.

W. L. McCABE.
CONVEYER.

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APPLICATION FILED JUNE 4, 1906.

8 SHEETS—SHEET 6.



Inventor

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By Mason, Fenwick & Lawrence
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UNITED STATES PATENT OFFICE.

WILLIAM L. McCABE, OF SEATTLE, WASHINGTON.

CONVEYER.

No. 890,453.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed June 4, 1906. Serial No. 320,145.

To all whom it may concern:

Be it known that I, WILLIAM L. McCABE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Conveyers, and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to portable conveyers, and particularly to the endless belt type.

One of the objects in view is the provision of a conveyer capable of being adjusted readily to any desired position and firmly and rigidly held in position during operation.

With this and further objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawing, Figure 1 is a view in side elevation of a conveyer embodying the features of the present invention, the conveyer framework being shown in the raised position. Fig. 2 is a similar view of the same with the conveyer framework shown in the lowered position, only the outline of the frame being illustrated. Fig. 3 is a view in front elevation of the parts seen in Fig. 1, the auxiliary frame being omitted. Fig. 4 is a detail view in side elevation of the framework detached. Fig. 5 is a transverse section taken on the plane of line 5—5 of Fig. 4 looking in the direction of the arrow. Fig. 6 is a top plan view of one end of the main framework with the conveyer belt and the idlers omitted, the upper portion of the frame being broken away. Fig. 6* is a longitudinal, vertical, central section of a portion of one end of the framework. Fig. 7 is a top plan view of the entire framework, the intermediate portions being omitted, and only a fragment of the conveyer belt being illustrated. Fig. 8 is an enlarged, detail, sectional elevation of one of the differential pulley mechanisms and surrounding parts.

Fig. 9 is an edge view of the parts seen in Fig. 8. Fig. 10 is a view partly in transverse section and partly in end elevation of the upper or driving drum of the conveyer belt. Fig. 11 is a longitudinal, vertical central section of the parts shown in Fig. 10. Fig. 12 is a detail view in side elevation of the base of

one roller shaft bearing sleeve casing. Fig. 13 is a top plan view thereof. Fig. 14 is a top plan view of the upper section of said casing. Fig. 15 is a view in side elevation of the parts seen in Fig. 14. Fig. 16 is a longitudinal, vertical, central section through one of the roller shaft bearing sleeves. Fig. 17 is a detail top plan view of the contiguous ends of the main and auxiliary frames and surrounding parts. Fig. 18 is a perspective view of the telescoping platform actuating mechanism and surrounding parts, the motor and standards being omitted. Fig. 19 is a top plan view thereof. Fig. 19* is a view thereof in side elevation. Fig. 20 is a transverse section taken on the plane of line 20—20 of Fig. 1. Fig. 21 is an enlarged detail view in front elevation of the belt guiding pulleys. Fig. 22 is an edge view thereof. Fig. 23 is an enlarged detail view partly in section and partly in elevation of one of the belt-edge engaging pulleys. Fig. 24 is a detail transverse section through one of the journals and its bearing block of one of the belt supporting rollers. Fig. 25 is an enlarged detail view illustrating a portion of the carrier belt, and showing the package engaging cleats connected therewith. Fig. 26 is a top plan view of a portion of the belt illustrating in detail one of the cleats. Fig. 27 is a longitudinal, vertical section taken on a plane of line 27—27 of Fig. 26. Fig. 28 is a detail, sectional elevation showing the supports for the motor.

Referring to the drawings by numerals, 1 indicates the framework of the main conveyer which framework is preferably made up of angle irons and T-irons and constitutes the support for the conveyer mechanism hereinafter specifically described. The said framework 1 at its lower end pivotally engages the shaft 2 which extends transversely of and is carried by the truck 3.

The truck is made up of a platform or frame 4 which pivotally supports the framework 1, so that the said frame or platform 4 is not bodily movable independently of said frame, and may therefore be considered as the "fixed" platform. The said fixed platform 4 is mounted on suitable casters 5 and is engaged by a telescoping or longitudinally movable platform or framework 6, which latter platform is preferably sustained by suitable casters 7. The sides of the platforms 4 and 6 are preferably made of angle irons arranged parallel, the angle of the sides of the frame 6

inclosing the angle irons of the sides of frame 4. Suitable clamping plates 8—8 are arranged to inclose the overlapping portions of the sides of frames 4 and 6, best seen in Fig. 20. A bolt 9 is threaded through each of the clamping plates 8 in position for clamping the overlapping sections together when the bolt is tightened by means of a rod or other suitable handle 10 connecting to the outer end of the bolt. In practice, the platform 6 may be slid longitudinally to the position desired, and the bolts 9 tightened for producing a rigid framework, making the entire truck 3 a substantially integral structure as far as the independent platform thereof is concerned.

For the purpose of facilitating adjustment of the platforms 4 and 6 with respect to each other, a shaft 11 is journaled in suitable brackets depending from the rear end of the frame 6 and is provided with fixed drums 12—12. Cables 13—13 are fixed at their inner ends to the shaft 2 and extend rearwardly and are passed about the drums 12 and wrapped about the same, and then extended forwardly again and passed about block 14 suitably supported by the forward end of the platform 6. The cables extend past the said blocks and are connected to eyes 15—15, fixed to the rear ends of the sides of frame 4. The shaft 11 is preferably provided with a ratchet-wheel 16, engaged by a pawl. The shaft is adapted to be engaged by any suitable operating tool 18, and when rotated by said tool in one direction takes in one portion of the cable 13 for drawing the platform 6 forwardly, the portion of the cables beyond the drums 12 being paid out at the same time, which accommodates the movement of the frame 6 with respect to frame 4, with regard particularly to the connections of the cables to the eyes 15. When it is desired to force the frame 6 rearwardly, it is only necessary to reverse the rotation of the shaft 11 and the portions of cables 13 which engage the shaft 2 will be paid out while the other portions of the cables will be taken in, such taking in of the said cables causing the cables to exert a drawing force on the eyes 15 for causing the block 14 to travel towards such eyes. This will produce an outward movement of platform 6.

In order to prevent the casters 7 from pivoting undesirably, the said casters are inclosed by suitable frames 16', the frames being connected by links 17'—17'. The front link 17 is engaged by cables 18—18, which extend to and are connected with drums 19—19 fixed to a shaft 20 carried by the frame portion 4. The shaft 20 is preferably provided with a ratchet-wheel 22 engaged by a suitable pawl 22' for preventing undesirable rotation of the shaft. The shaft may be provided with any suitable operating means, as indicated in Fig. 19^a.

Pivoted to the platform 6, as at 23, on opposite sides of the platform are standards 24, 24 which are adapted to be swung to and from a vertical position. When disposed vertically the said standards are directly above the casters 7, so that said casters directly support the weight sustained by said standards 24.

In order to insure the operation of the conveyor, and to positively prevent accidental collapse I preferably provide brace bars 26, one arranged at each side of the platform 6, and each connected at its lower end to a bracket 27 projecting upwardly from one of the clamping plates 8, and at the upper end to a bracket 28 extending from the respective standard 24. The connections of the braces 26 are such as to facilitate ready removal of the braces and consist preferably of bolts passed through the respective brackets and braces and retained in place by cotter pins.

Each standard 24 is preferably provided with a longitudinal slot 29, and a shaft 30 extends transversely through said slots and projects beyond the outer face of said standards. Each projecting end of the shaft 30 extends through a depending bar 31 of a pulley casing 32, said pulley casing inclosing a pulley 33 arranged beneath differential pulleys 34 suspended from the upper end of the respective standards. The differential pulleys 34 are of the ordinary type, as seen best in Figs. 8 and 9. An endless chain 35 is passed upwardly about the larger of the differential pulleys 34 and downwardly about the pulley 33 and again upwardly about the smaller of the differential pulleys 34, and again downwardly. The chains 35 are thus arranged to operate in the ordinary manner in connection with the well-known form of differential pulleys and may be actuated for raising and lowering the shaft 30, and when not being operated the chains will sustain the shaft 30 in any given position. For the purpose of retaining the shaft 30 in its position with respect to the bars 31, a suitable nut 36 is threaded on to each end of said shaft, and is preferably provided with an operating handle for facilitating gripping the respective plate 31 and releasing the same when desired.

In operation, the framework 1 extends between the standards 24 and rests upon the shaft 30, suitable bearing plates 37 being arranged on the under face of the framework 1 for taking the wear occasioned by movement of the frame with respect to the shaft and by movement of the shaft with respect to the frame. At the lower end of each plate 37 is preferably arranged a bracket 38 for preventing further movement of the shaft 30 with respect to the frame. It is to be noted from the foregoing description that the frame 1 may be swung upon its pivot vertically by

actuation of the chains 35, and the upper end of the frame thereby raised or lowered to the required extent. It will be further noted that if the extreme movement of the shaft 30 through the operation of the chain 35 is not sufficient, the platform 6 may be moved in one direction or the other for causing the shaft 30 to move along the wearing plates 37 and thereby elevate or lower the upper end of the frame 1, according to whether the platform 6 is moved forwardly or rearwardly. The hooked bars 39 depend from and slidingly engage each of the side bars of the platform 6 and the opposite bars 39 are connected by cross bars 40 arranged for sustaining a preferably electric motor 41, to the shaft of which is fixed a sprocket wheel 42 about which is passed a sprocket chain 43 which extends to and is passed about a driving sprocket wheel 44 fixed to a shaft 45 journaled in bearings 46—46 in the frame 1. Spacing bars 47 are arranged on opposite sides of the motor 41 and each is provided with an eye in its upper end surrounding the shaft 45, and at its lower end is provided with an eye surrounding the shaft of the motor 41, said bars serving to keep the shafts properly spaced for retaining chain 43 in a taut condition, pivotal movement of the frame 1 being accommodated as far as the chain 43 is concerned by sliding the support for the motor 41 longitudinally of the platform 6.

The shaft 45 is formed with a longitudinal groove 48 for receiving the spline of a sprocket wheel 49. The wheel 49 is formed with a suitable hub 50 through which is threaded the set screw 51 into engagement with the shaft 45 for locking the sprocket 49 in position on said shaft, said sprocket being adapted to be adjusted longitudinally of the shaft 45. A sprocket 52 of less diameter is fixed to or formed integral with the sprocket 49. Spaced longitudinally of the frame 1 from the shaft 45 is a shaft 53 which is journaled in suitable bearings 54—54 mounted in said frame, and fixed to the shaft 53 are sprockets 55 and 56, the sprocket 55 being of less diameter than the sprocket 56. A shaft 57 is journaled in the framework 1 between the shafts 45 and 53 and carries an idler pulley 58. The journals of the shaft 57 find bearings in bearing boxes 59 which are supported by longitudinally adjustable screws 60, whereby the pulley 58 may be adjusted vertically for taking up the slack in the chain 61 which is passed about either of the sprockets 49 or 52 and one of the sprockets 55 or 56.

In practice, the chain 61 may be positioned to connect sprockets 52 and 56 for securing low speed, or the said chain may be caused to connect sprockets 49 and 55 for securing high speed. If an intermediate speed is desired, the sprockets 49 and 52 are shifted longitudinally of shaft 45 until the sprocket 52

is brought into alinement with sprocket 55 and the chain 61 is passed about the sprockets 52 and 56 for transmitting power from shaft 45 to shaft 53.

The shaft 53 carries a fixed pulley 62 about which is passed a driving belt 63 which belt extends longitudinally of the framework 1 and is passed about the drum or pulley 64 at the upper end of the framework. The pulley 64 is of special construction, as best seen in Figs. 10 and 11. End plates 65 are provided and are formed with a plurality of flat peripheral faces 66 strengthened by any suitable number of radial webs 67. Projecting upwardly from each of the said flat faces are suitable pins 67—67, and the said plates 65 are connected by segmental members 68—68 which are preferably formed of wood for convenience of renewal and for cushioning the operation of the parts. The pins or lugs 66 project into the segments 68 and the segments are further held in position by bolts 69—69 which are passed through the material of the flat faces 66 and through the segments, the outer ends of the bolts 69 being preferably held against pulling through the wood segments, by the provision of a metallic band 70 at each end of the pulley 64 through which the bolts 69 are passed.

Arranged within and intermediate the length of the segments 68 is a pair of plates 71—71 of similar construction and arrangement to plates 65 and provided with projecting lugs or pins 72 corresponding in arrangement to the lugs or pins 67 of the plates 65. The webs 71 are connected centrally by a bearing thimble 73 which is arranged in alinement with the corresponding thimbles 74—74 of the plates 65, said thimble being designed to receive a shaft 75 which has its projecting ends suitably journaled in the framework 1. Any suitable set screws 76—76 are provided for locking the plates 65 to the shaft 75. The respective segments 68 are formed with a transverse notch so positioned that when the segments are assembled for producing the drum 67 a circumferential groove 77 is produced and is arranged for receiving the driving belt 63 so that the outer surface of said driving belt will lie flush with the periphery of the groove. The drum 68 is thus left with a smooth continuous surface for the reception of the load-carrying belt 78.

In order to compel the driving belt 63 to accommodate itself perfectly to the groove 77, one lap of the belt is engaged by an idler 79 carried by a shaft 80 journaled at its ends in journal boxes 81. The journal boxes 81 are mounted to slide transversely of the framework 1 and are engaged by screws 82 adapted to adjust said boxes for taking up the slack in the belt 63. The said idler 79 prevents the belt from having any undesirable vertical movement and keeps the same snugly in place against the drum 64. It will

be obvious that any edgewise movement of the driving belt will be disastrous to the smooth, even running of the present improved conveyer and might stop the operation thereof, as the said belt, if moved edgewise, would interfere with the travel of the carrying belt 78. I therefore provide guiding pulleys 83—83 arranged in position for engaging the opposite edges of the belt 63 and journaled on vertical shafts 84—84 fixed to the framework 1. The shafts 84 are preferably cross-braced by bars 85—85 which are spaced apart a sufficient distance for accommodating the pulleys 83 therebetween and permitting a certain amount of vertical movement. The pulleys 83 are preferably of the grooved type and the edges of the belt 63 lie within the grooves of said pulleys so that the pulleys play up and down with any slight vertical vibration of the belt while retaining the belt absolutely against edgewise play. Suitable washers 86—86 may be fixed upon the shafts 84 above and below the pulleys 83 and spaced a short distance therefrom for limiting the vertical movement of the pulleys.

The shaft 75 of the drum 64 is journaled in journal boxes 87 arranged to slide longitudinally of the framework 1 and engaged by screws 88 for adjusting said journal boxes for taking up slack in the carrying belt 78, the said belt extending from the drum 64 to the opposite end of the framework and about a drum 89 similar in construction and arrangement to drum 64, except that it is not provided with an annular groove for the reception of the driving belt. The drum 89 is fixed to the shaft 90 journaled in boxes 91 mounted to slide longitudinally of the frame 1 and engaged by screws 92 for purposes of adjustment, whereby the slack in the belt 78 may be taken up. The belt 78 may be of any ordinary type, but by preference it is provided with brackets 93—93 at suitable intervals for engaging the material to be conveyed, preventing the slipping of the same longitudinally of the belt. The carrying surface of the belt extends above the upper surface of the framework 1 and is supported by a series of pulleys 94 and the return lap of the belt passes beneath the belt 63 and moves longitudinally within the frame 1 above the lower surface thereof. Longitudinal beads or slats 95—95 are carried by the lower transverse braces of the framework 1 in position for supporting the return lap of the belt 78. The said beads 95 are preferably half-round in transverse section and are usually formed of wood, the rounded surface being uppermost for being engaged by the belt. Near the lower end of the framework 1, preferably below the driving mechanism, is arranged an idler 96 which engages the return lap of the belt 78 for retaining the same in proper relation to

the drum 89. The said idler 96 is mounted upon a shaft 97 which is journaled in boxes 98 mounted to slide transversely of the framework 1 and engaged by screws 99 for facilitating any desired adjustment thereof. At any suitable points along the length of the frame 1, and particularly near the ends thereof, I provide pulleys 100 which engage the edges of the carrying lap of the belt 78 and prevent any edgewise play of said belt. Each of the pulleys 100, as seen best in Fig. 23, is provided with an annular flange adapted to engage the upper surface of the belt for preventing the same from rising, and the pulley is journaled upon a suitable bolt 101 fixed in the upper edge of the framework 1. The load carrying lap of the belt 78 is thus retained against edgewise movement and against leaving the pulleys or rollers 94. Objectionable undulating movement of the belt which sometimes occurs, is obviated by the use of the pulleys 100.

The pulleys or rollers 94 are preferably of a length equal to or greater than the width of the belt 78, and each of said rollers is carried by a shaft 102 journaled in a suitable bearing box at each end upon the upper edge of the frame 1. The bearing boxes for each of the shafts 102 are of special construction, as will be seen from Figs. 12 to 16 inclusive. Each of said boxes consists of a base 103 formed with a semi-annular notch or recess 104 arranged intermediate its length. At each end the base 103 is provided a bolt-receiving aperture 105. Preferably centrally of the recess or notch 104 is arranged an upwardly extending tooth or lug 106 for purposes hereinafter specified. In connection with the base 103 a cap or closure is employed, consisting of a semi-circular plate 107 provided with laterally extending lugs 108—108 apertured at 109 for registering with apertures 105, so that a retaining bolt may be passed through the apertures 105 and into the framework for retaining the bearing plates in position. A tooth or lug 110 depends preferably from the center of the plate 107 so as to be by preference in alignment with a tooth or lug 106. A thimble or sleeve 111 is arranged to be interposed between the plate 107 and the base 103 when the parts are assembled as indicated in Fig. 24. The thimble 111 is provided with transverse apertures 112—112 positioned for receiving the lugs 106 and 110, whereby the said thimble is positively locked against movement when positioned between the plate 107 and the base 103. The thimble 111 is provided with a longitudinal bore adapted to receive the journal end of the respective shaft 102.

As best seen in Figs. 1 and 17, I contemplate providing an auxiliary conveyer for delivering the goods to belt 78, which may be considered the main conveyer belt. The said auxiliary conveyer is made up of a 130

frame 113 supported on casters 114, the said casters being arranged on opposite sides and intermediate the length of the frame so as to produce a truck capable of being readily shifted as desired. In operation, the forward end of the frame 113 may rest upon the ground or flooring, and when it is desirable to shift the frame the same may be elevated and moved upon the casters 114.

The shaft 90 of drum 89, as clearly seen in Fig. 17, extends beyond its bearings and is provided at each end with a flanged sprocket 115 engaged by a sprocket chain 116 extending to a corresponding sprocket 117 fixed to the correspondingly projecting end of a shaft 118 journaled in the end of the auxiliary frame 113 contiguous to the main conveyer frame 1. The two sets of sprockets 115 and 117 and chains 116 are employed in order to provide an evenly-balanced driving mechanism, although it will be obvious that only one set of said sprockets and one chain may be employed, if desired. The shaft 118 is journaled in boxes 119 mounted to slide longitudinally of the framework 113 and is engaged by a screw 120 for adjustment of said journal boxes when it is desired. Spacing bars 121 are arranged on the opposite sides of the framework 113 and connect the respective journal boxes 119 with the corresponding journal boxes 91, the said bars 121 thus maintaining the chain 116 in a taut condition. Each of the bars 121 may be provided with a turn buckle 122 for taking up all slack in the chain 116. The shaft 118 carries a suitable driving drum 123, about which is passed a carrying belt 124 similar in construction and arrangement to belt 78, the said belt 124 being passed about a drum 125 at the lower or forward end of the frame 113 and being supported by the pulleys or rollers 126 arranged upon the upper surface of the frame 113. The drum 125 is preferably provided with adjustable journal boxes 127 for its shaft for facilitating taking up the slack in the belt 124, the said journal boxes being engaged by screws 128.

As best seen in Figs. 4 and 5, the main frame 1 is provided with suitable side boards or guiding plates 129—129, the said boards or plates extending substantially throughout the length of the frame 1 and serving to prevent any lateral displacement of the goods being conveyed by the belt 78. The side boards are supported by sliding bars 130—130 arranged at any suitable intervals along the length of the framework and positioned transversely thereof. Each of the bars 130 is preferably constructed of angle material adapted to fit upon the edge of a transverse bar 132 so as to slide thereon, the said bars 130 being engaged by a suitable clamping apparatus 131 for retaining the bars 130 at any given longitudinal adjustment, the said

clamping apparatus being indicated in Figs. 5 and 7 and not being herein specifically shown and described, as the same does not form a novel part of the present invention the same being fully disclosed in my former patent No. 635,177. As far as the present invention is concerned, it is only necessary that the sides 129 shall be capable of lateral adjustment for accommodating articles of various sizes, the said clamping mechanism being employed for locking the said side boards 129 at the various points of their lateral adjustment. The auxiliary frame 113 is provided with side boards 129' corresponding in every particular to the side boards 129.

In operation, the framework 1 is adjusted by means of the differential pulleys and the chains 29 until the upper end of said framework is at the required height. The goods to be conveyed are placed upon the belt 124 and are delivered thereby onto the belt 78 which carries up and delivers the same at the upper end of the framework. In the positioning of the conveyer against the side of a warehouse or elsewhere, it is found that in some instances injury is done by the impact of the material of the framework against the woodwork of the warehouse, and therefore I have provided a pair of wood or other suitable cushioning buffers 132 at the upper end of the framework, which will prevent injury being done when the framework is moved. When it is desired to transport the conveyer from one place to another, the frame 113 is disconnected from the frame 1, and the frame 1 is swung to its lowered position indicated in Fig. 2. When so lowered it will be seen that the framework rests upon standards 25 which are mounted upon the platform 6 in position for receiving said framework. It will be noted that the forward end of the platform 4 has its cross brace dropped sufficiently low to permit the front end of the framework to assume a position with a portion of the framework projecting below the upper surface of the platform.

As intimated above, suitable brackets or cleats 93—93 are provided at various points spaced apart along the length of the carrying belt 78. Each of the cleats 93 is made up of a strip 93^a of flexible preferably elastic material, and a similar strip 93^b superposed thereon, the strip 93^b carrying a similarly superposed strip 93^c. The strip 93^a is connected with the belt 78 at its rear edge by suitable lacing 93^d, and the strip 93^b is secured to a strip 93^a by rivets 93^e, and the strip 93^c is connected with the strip 93^b by rivets 93^f. As the strips 93^a, 93^b and 93^c are of rubber or other flexible, preferably elastic material, the said strips are free to spread apart at their upper or free ends, and will thus form a stay or bracket for aiding in preventing slipping of packages on the

belt. To prevent the free ends of the strips 93^a, 93^b and 93^c from having too free lateral play, I preferably provide a transverse bar or retaining rod 93^e, which extends transversely of and above the strip 93^c and beyond the side edges of the several strips, and is laced at its opposite ends 93^b to the belt 78. Thus the strips constituting the cleat 93 are free to have a certain degree of lateral play so as to open up or spread away from the belt sufficiently for firmly engaging any packages arranged on the belt, and the parts of the cleat are at the same time sufficiently firmly held for preventing being folded back upon themselves, and thus releasing the package.

What I claim is:

1. In a conveyer, the combination with a framework and conveying mechanism carried thereby, of a pair of standards arranged beneath said framework, a shaft supporting said framework, and differential pulleys and chains carried by said standards and supporting said shaft.

2. In a conveyer, the combination of a main conveyer framework, a conveyer belt arranged therein, end drums carrying said belt, means for driving one of said drums, an auxiliary conveyer framework spaced from the main framework, a conveyer belt arranged in said auxiliary framework, drums arranged in said auxiliary framework supporting the belt thereof, sliding journal boxes for the shaft of one of the drums of the auxiliary framework, and sliding journal boxes for the shaft of one of the drums of the main framework, spacing bars connecting said journal boxes, and driving gears connecting said shafts for transmitting power from the main conveyer belt to the auxiliary conveyer belt.

3. In a conveyer, the combination of a main conveyer framework, an auxiliary conveyer framework spaced therefrom, sliding journal boxes arranged at one end of one of said conveyer frameworks, and similar journal boxes arranged at the contiguous end of the other framework, longitudinally extensible shafts connecting said journal boxes, shafts journaled in said journal boxes, drums carried by said shafts, conveyer belting supported by said drums, means for conveying power from one of said shafts to the other, and means for driving the belting of one of said drums.

4. In a conveyer, the combination with a framework and a conveyer belt arranged therein, of a driving shaft journaled in said framework, a plurality of gears splined on said shaft, a second shaft journaled in said framework, a plurality of gears fixed to said second shaft, means for communicating power from one of the gears of the first shaft to one of the gears of the second shaft, said power communicating means being adapted to be adjusted for transmitting power from any one of the gears of the first shaft to any one of the gears of the second shaft, and

means driven by the second shaft for actuating said conveyer belt.

5. In a conveyer mechanism, the combination with a framework and a drum journaled therein, of conveying means actuated by said drum, a belt for driving said drum, an idler limiting said belt against vertical movement, and grooved pulleys engaging the edges of said belt for limiting the same against edgewise movement.

6. In a conveyer, the combination with a conveyer framework, a drum journaled therein and formed with an annular groove, and a conveyer belt passed about said drum, and designed to be driven thereby, of a driving belt passed about the groove in said drum, and pulleys rotatably mounted in position for sliding transversely of the path of movement of said driving belt and engaging the edge thereof for preventing edgewise play of said driving belt.

7. In a conveyer, the combination with a framework, a drum journaled in the same and formed with an annular groove, and a conveyer belt surrounding said drum and designed to be driven thereby, of a driving belt passed about the groove of said drum, shafts fixed in said framework transversely of the path of movement of said drum and grooved pulleys rotatably and slidably carried by said shafts and positioned with the edges of said driving belt within their grooves.

8. In a conveyer, the combination with a framework and a conveyer belt arranged therein, of rollers for supporting said belt, a shaft supporting each of said rollers, and a journal casing for each of said shafts comprising a base formed with a substantially semi-circular aperture and a lug projecting into the same, a substantially semi-circular plate disposed above said base and formed with a lug depending therefrom, and a thimble arranged between said base and plate and apertured for receiving said lugs.

9. In a conveyer, the combination with a framework and a platform pivotally engaging the same, of a conveyer mechanism carried by said framework, a shaft for driving said mechanism, a motor slidably carried by said platform, spacing bars connecting the shaft of said motor with said driving shaft, and means for transmitting power from the motor to the driving shaft.

10. In a mechanism of the class described, the combination with a conveyer of a platform supporting the same and comprising telescoping sections, a pulley carried by one of said sections, a cable fixed to the other said sections and passed about said pulley, a block carried by the section carrying the said pulley, the said cable being passed beyond the pulley and through said block and being extended beyond the block to and connected with the free end of that section to which the opposite end of said cable is connected, and

means for rotating said cable for paying out one side of said cable and for taking in the other side.

11. In a mechanism of the class described, the combination with a conveyer, of a platform frame sustaining the same, a second frame telescopically engaging the first-mentioned frame, a pulley rotatably carried by said second-mentioned frame, a cable fixed to the first-mentioned frame and extending to said pulley and wrapped about the same, a block connected with the second-mentioned frame at a point in front of said pulley, the cable being passed beyond the pulley and about said block and extending to and connected with the first-mentioned frame at a point in the rear of the block, and means for rotating said pulley for taking in one side of the cable and paying out the other, whereby said frames may be caused to telescopically approach each other, the said pulley being adapted to be rotated in an opposite direction for taking in the other side of said cable and paying out the side formerly taken in for causing said frames to telescopically separate.

12. In a conveyer, the combination with a carrying belt and means for supporting the same, of a cleat for said belt comprising a flexible member laced at one edge onto the belt, a transverse limiting bar extending across said flexible member at a point between the point of said lacing and the free end of the flexible member, and means for connecting said limiting bar to the belt.

13. In a conveyer, the combination with a conveying belt and means for supporting the same, of a cleat for said belt comprising a flexible strip, means securing the same to the belt, a second flexible strip, means connecting the second strip to the first strip, and means for limiting the lateral play of the free ends of said strips.

14. In a conveyer, the combination with a conveying belt and means for supporting the same, of a cleat for said belt comprising a plurality of flexible members connected with the belt at one edge and free at the opposite edge to move laterally, and means arranged transversely of said flexible members and connected to the belt for limiting the lateral play of the free ends of the said members.

15. In a conveyer, the combination with a conveyer belt and means for supporting the same, of a cleat therefor comprising a flexible member connected at one edge to the belt and free at its opposite edge to move laterally, a transverse limiting bar arranged above said flexible member and having its end extended beyond the same, and means connecting the ends of the limiting strip to the belt.

16. In a conveyer, the combination with a conveyer belt and means for supporting the same, of a cleat for said belt comprising a flexible strip connected with the belt at one edge and free for the remainder of its length to swing laterally, and a second flexible strip connected to the first flexible strip and otherwise free to move laterally.

17. In a conveyer, the combination with a conveying belt and a support therefor, of a cleat for said belt comprising a plurality of superposed flexible strips, means connecting the lowermost strip to the belt, and means connecting each successive strip to the preceding strip only.

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

WILLIAM L. McCABE.

Witnesses:

FRANK OLIVER,
WILLIAM H. MOORE.