J. RAYMOND, JR.

CONVEYER.

APPLICATION FILED JUNE 14, 1919.

1,345,634.

Patented July 6, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

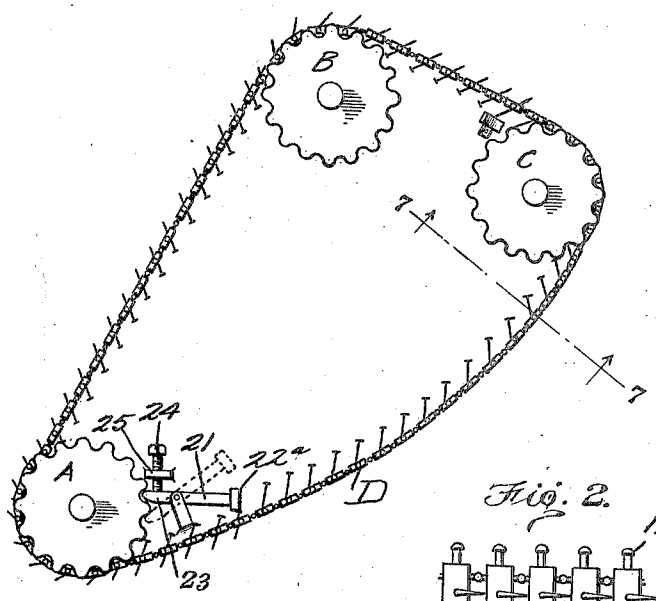


Fig. 2.

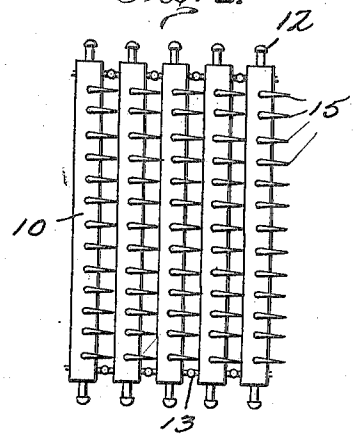


Fig. 3.

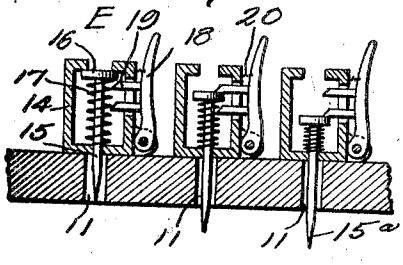


Fig. 5.

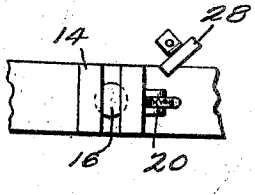
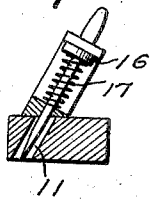


Fig. 4.



Inventor:
John Raymond, Jr.

C. L. Parker Attorney.

J. RAYMOND, JR.

CONVEYER.

APPLICATION FILED JUNE 14, 1919.

1,345,634.

Patented July 6, 1920.

2 SHEETS—SHEET 2.

Fig. 6.

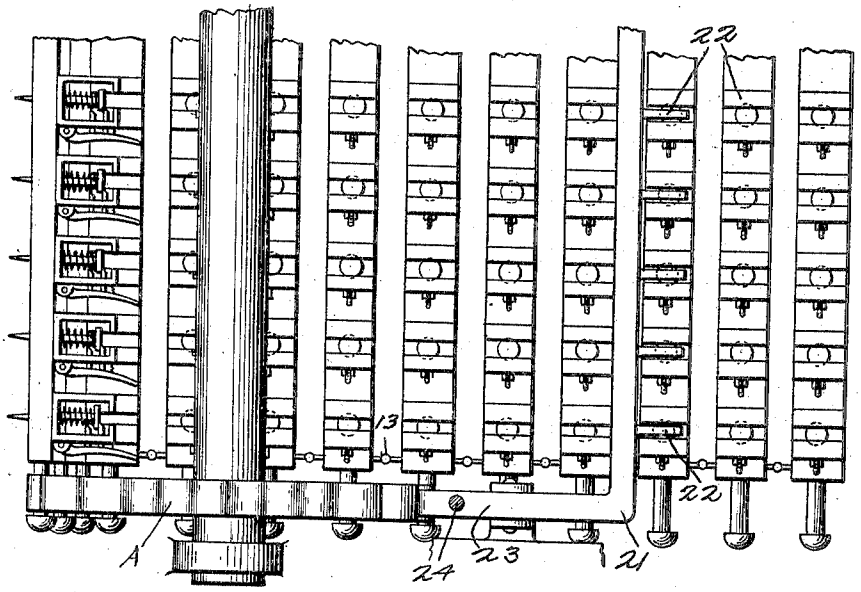
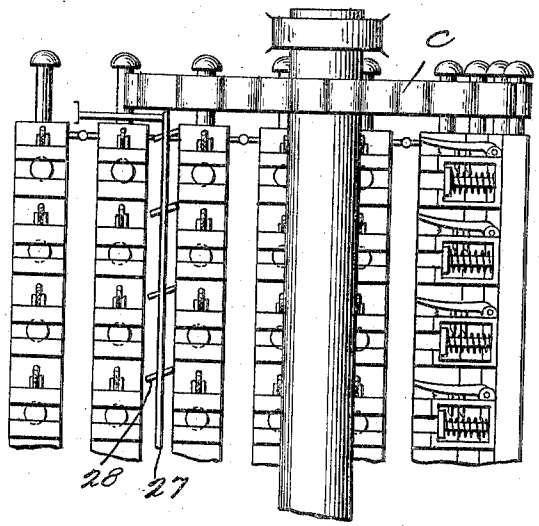


Fig. 7.



Inventor:
John Raymond, Jr.

C. L. Parker. Attorney.

UNITED STATES PATENT OFFICE.

JOHN RAYMOND, JR., OF SPRINGFIELD, VERMONT.

CONVEYER.

1,345,634. Specification of Letters Patent. Patented July 6, 1920.

Application filed June 14, 1919. Serial No. 304,247.

To all whom it may concern:

Be it known that I, JOHN RAYMOND, JR., a citizen of the United States, residing at Springfield, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Conveyers, of which the following is a specification.

My invention relates to new and useful improvements in conveyers, and more particularly to that type of conveyer used for conveying rags and pieces of fabric.

An important object of the invention is the provision of the conveyer having teeth which may be inserted through the conveyer apron of varying distance as demanded by the character of the material being transported.

A further object of the invention is the provision of means for entirely withdrawing the teeth of the conveyer when they have passed the point where their usefulness ends, and again inserting them through the apron as they arrive at the point where their use is again demanded.

These and other objects I obtain by the construction shown in the accompanying drawing which will be considered in an illustrating and not a limiting sense, and in which:

Figure 1 is a diagrammatic view of a conveyer embodying my invention;

Fig. 2 is a front elevation of a portion of the conveyer apron;

Fig. 3 is a sectional view illustrating various positions assumed by the pins;

Fig. 4 is a side elevation of one of the pins, showing these pins to be disposed on angle;

Fig. 5 is a diagrammatic view of one of the pins showing the action of the pin releasing mechanism, the arrows indicating the direction from motion of the conveyer;

Fig. 6 is an enlarged section, taken on the line 6—6 of Fig. 1; and

Fig. 7 is a similar section, taken on the line 7—7 of Fig. 1, the arrows indicating the direction of motion of the conveyer.

Referring now more particularly to the drawing, A, B and C denote sprocket gears mounted upon suitable shafts upon which operates conveying apron D. This apron comprises lateral slats 10, provided with angularly disposed openings 11, the ends of the slats being provided with extensions 12 adapted to engage the teeth of the sprocket, and the sides of the slats being provided with link members 13, by which the slats are connected to form the apron.

Within the apron, mounted upon the inner sides of the slats 10, are yokes 14, adapted to receive the upper ends of pins 15 slidably mounted in the openings 11 of the slats. These pins are provided with an enlarged head 16 and are normally withdrawn as shown at E, Fig. 3, by means of compression springs 17. Mounted to one side of the yoke 14 is a pivoted lever 18 having horizontally extending jaws 19 beveled on their upper faces as shown. These levers are held in the position shown by any suitable means such as coil springs 20.

It will be seen that if the pins are depressed the jaws 19 will engage over the head of the pin, holding the point 15^a thereof through the opening in the slats so that the teeth are in operable position, the distance varying dependent upon which of the jaws 19 engage the head of the pin. It is obvious that by providing greater length for the pin and more jaws upon the lever 18 the range of adjustment may be made a very wide one.

Any suitable means for depressing the pins for engagement by the jaws 19 may be provided. In the present illustration I have shown this as comprising a pivoted bar 21, having formed thereon extensions 22 corresponding in number and arrangement with the number of pins provided on each slat. The bar is also provided with a rearward extension 23 adapted to be engaged by the teeth of the sprocket A. It will be obvious that the hammer is raised by the teeth and as the teeth pass falls by gravity, the heads 22^a of the extensions 22 striking the heads 16 of the pins 15, forcing them downwardly so that the pins extend through the openings in the slats, the pins being held in this position by the jaws 19. To allow of adjustment of the extent through which this hammer operates to depress the pins, an adjusting screw 24 mounted in a suitable support 25 is provided. This adjusting screw, as shown, contacts the extension 23 of the bar 21 limiting its upward movement and thereby regulating the length of the pins which project through the slats.

Means for withdrawing the needles is shown as comprising a lateral bar 27 upon which are mounted cam plates 28. These cam plates are angularly disposed and engage the upper ends of levers 18 and with-

draw the lever sufficiently to allow the escape of the head 16 of the pin from the jaws 19 thereof, the pins being returned to their normal position by the spring 17.

The operation of my device is as follows: As a conveyer apron moves forward, the heads 22ª of the bar 21 being actuated by the sprocket teeth through the extension 23 rise and fall in successive blows driving the pins of each slat out into the operative position. Should the operator desire to change the length of pin which projects through the slat, he may do so by adjusting the screw 24. Continuing, the pins pick up the particles of fabric, carrying them to their destination and are withdrawn to inoperative position as previously described.

It will be obvious to those familiar to the art that many changes in construction and mode of operation may be made without departing from the spirit of my invention, and I accordingly do not limit myself to the structure herein shown and described.

Having thus described my invention, I claim:

1. In a device of the type described, a conveyer belt comprising slats suitably connected together and provided with openings in the faces thereof, pins mounted in said openings and resiliently held with their operative ends withdrawn within said slats, means for forcing the pins varying distances through said openings into operative position, means for holding the pins in operative position, and means for withdrawing said holding means.

2. In a device of the type described, a conveyer belt comprising suitably connected lateral slats having openings in their faces, pins mounted in said openings and normally held in inoperative position, means contacting the heads of the pins to drive them through said opening into operative position, means for regulating the distance through which said pins are driven, means for holding the pins in operative position. and means for releasing the pins for return to normal position.

3. In a device of the type described, a conveyer belt comprising suitably connected transverse slats having openings in their faces, pins mounted in said openings and normally held in inoperative position, means engaging the heads of said pins to drive the pins through the openings into operative position, means for regulating the distance said pins are driven through the opening, means for holding the pins in operative position, means for releasing said holding means, and means for returning said pins to inoperative position.

4. In a device of the type described, a conveyer belt comprising suitably connected lateral slats having openings in their faces, pins mounted in said openings and normally held in inoperative position, a pivoted bar, extensions on said bar adapted to engage the heads of pins and drive them through said openings into operative position, means for oscillating said bar, means for holding the pins in operative position, and means for releasing the pins to return to normal position.

5. In a device of the type described, a conveyer belt comprising suitably connected lateral slats having openings in their faces, pins mounted in said openings and normally held in inoperative position, means contacting the heads of pins to drive them through said openings into operative position, means for regulating the distance through which said pins are driven, means for holding the pins in operative position comprising a pivoted lever, jaws on said lever adapted to engage the heads of said pins and prevent their return to normal position after being depressed, and means for oscillating the lever to release the pins for return to normal position.

6. The combination with a conveyer apron, of conveyer pins therefor, springs normally withdrawing said pins within the conveyer, means adapted to impact with said pins to force the same through said conveyer into operative position, means for locking said pins in operative position and means for releasing said locking means.

7. The combination with a conveyer apron, of conveyer pins therefor, springs normally withdrawing said pins within the conveyer, means adapted to impact with said pins to force the same through said conveyer into operative position, means for locking said pins in operative position, means for releasing said locking means and means for varying the distance through which said pins are forced by said impact means.

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

JOHN RAYMOND, JR.

Witnesses:

IRENE A. DASHNER,

ECTUS P. LEMNAH.