Feb. 23, 1926. 1,573,998

E. S. RIBBANS

STONE GATHERER

Original Filed Dec. 23, 1921

Fig. 1.

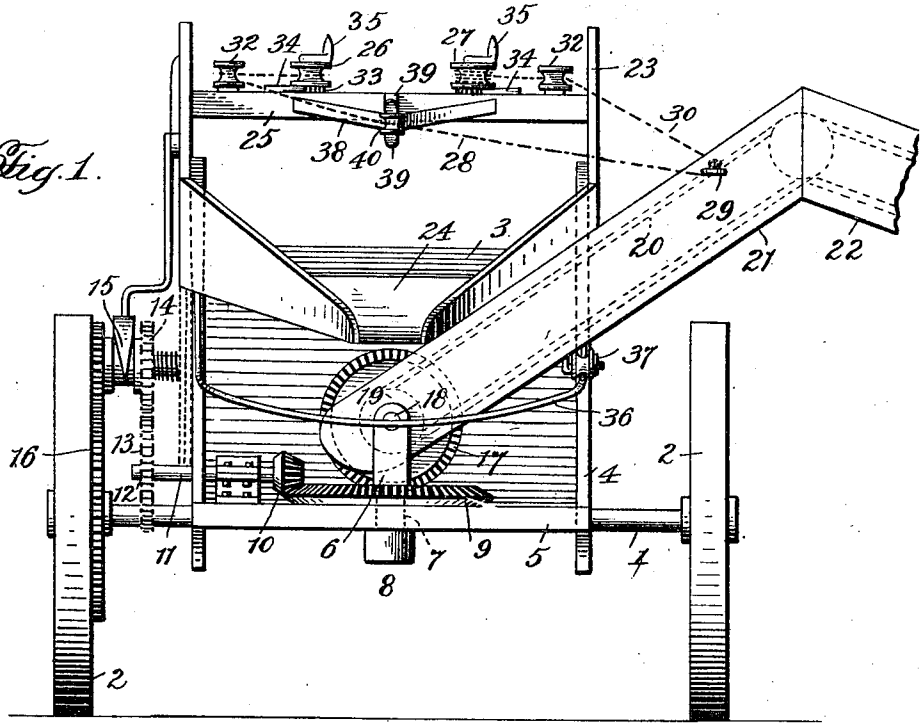


Fig. 2.

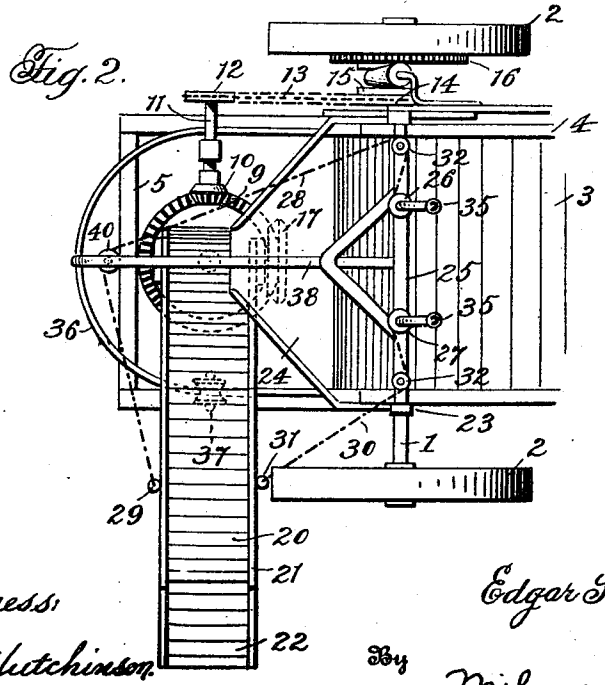
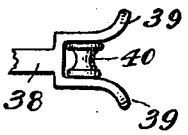


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDGAR S. RIBBANS, OF HAMPTON, NEW JERSEY.

STONE GATHERER.

Original application filed December 23, 1921, Serial No. 524,486. Divided and this application filed September 10, 1924. Serial No. 736,989.

To all whom it may concern:

Be it known that I, EDGAR S. RIBBANS, a citizen of the United States, residing at Hampton, in the county of Hunterdon and State of New Jersey, have invented certain new and useful Improvements in Stone Gatherers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to new and useful improvements in stone gatherers and more particularly to a conveyor therefor and the present application is a division of my copending application filed December 23, 1921, Serial No. 524,486.

The principal object of the invention resides in the provision of a conveyor, adapted for stone gatherers or similar machines, which may be adjusted to discharge the conveyed material to either side of the vehicle or machine, said adjustable conveyor being pivotally mounted for horizontal swinging movement.

Another object of the invention resides in the provision of novel means for swinging the conveyor to either side of the machine and for holding the same in its adjusted position.

Still another object consists in providing means to give an initial swinging movement to the conveyor when the holding means are released.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel details of construction and arrangement of parts described in the following specification and illustrated in the accompanying drawings and it will be understood that such changes may be made as will fall within the scope of the appended claims.

In the drawings:

Fig. 1 is a rear elevation of a stone gathering machine showing a side elevation of my improved form of adjustable conveyor.

Fig. 2 is a fragmental top plan, and

Fig. 3 is a detail of a pulley or roller adapted to be engaged by the swinging ropes or cables.

In the drawings 1 indicates the rear axle of a stone gathering machine such as is disclosed in my copending application above referred to and 2 indicates the rear ground wheels rotatably mounted upon the axle 1. An endless conveyor indicated at 3 is mounted in a frame shown generally at 4 and such conveyor is inclined upwardly from the forward end towards the rear so as to elevate the material carried thereon. Secured to the rear end of the frame 4 is a rearward extension or platform 5. Rotatably mounted upon the extension or platform 5 is a substantially U-shaped frame 6 which has a downwardly extending projection 7 received in a socket 8 formed on the bottom of the platform. A beveled gear wheel 9 is rotatably mounted upon the projection or platform 5, between the frame 6 and platform, said beveled gear wheel having meshing therewith a small beveled gear 10 secured to the end of the transversely extending shaft 11. A sprocket wheel 12 is secured to the opposite end of the shaft 11 and has extending therearound a sprocket chain 13 which also extends around the sprocket wheel 14 which is driven through means of a clutch mechanism 15 and a chain of gears indicated generally at 16 from the drive wheels 2.

Also meshing with the beveled gear 9 is the vertically extending beveled gear 17 which is secured to the inner end of a transversely extending shaft 18 mounted in the U-shaped frame 6. Sprocket wheels 19 are secured to the shaft 18, intermediate the ends of the frame 6 and receive the chains 20, of an endless conveyor which operates in an upwardly extending frame 21 as quite clearly illustrated in Fig. 1 of the drawings. Extending downwardly from the upper end of the frame 21 is a chute or platform 22 to which the material is discharged from the conveyor 20. It will be seen that the conveyor 20 is operated through means of the beveled gears 9 and 17.

Secured to or formed on the frame 4 are the upwardly extending standards 23 to which are secured a downwardly inclined chute 24 which receives the material from the conveyor 3 and discharges the same onto the conveyor 20.

A horizontally extending bar 25 is secured adjacent the upper ends of the standards 23 and carries the transversely spaced rotatable drums 26 and 27. A chain 28 has one end connected to the drum 26 and the opposite end connected to one side of the conveyor frame 21 as shown at 29. A chain 30 has one end connected to the drum 27 and the opposite end is connected to the conveyor

frame as shown at 31. Rotatably mounted at each end of the bar 25 are the pulleys 32 around which the chains 28 and 30 pass, said pulleys acting as guides for the chains. When the conveyor is to be swung from one side to the other one of the chains is wound upon that drum to which it is connected while the other chain is adapted to be unwound from its respective drum. Secured to each of the drums 26 and 27 is a ratchet wheel 33 adapted to be engaged by a pawl 34 carried on the bar 25. The pawls and ratchets will prevent accidental rotation of the drums. Each of the drums may be provided with a crank handle 35 or if desired an interchangeable handle may be provided. A downwardly inclined semi-circular track 36 is secured to the standards 23 and forms a guide and support for the wheel 37 secured to the underside of the conveyor frame 21. This track not only acts as a support for the conveyor but when it is desired to swing the conveyor, being downwardly extending, will give an initial movement to the conveyor to start its swing.

Extending rearwardly from the bar 25 is an arm 38 which has the vertically spaced extensions 39, the outer ends of which are flared outwardly as shown more particularly in Fig. 3. A pulley 40 is rotatably mounted between the extensions 39 and forms a bearing for the chains 28 and 30, at the same time properly positioning the chains so that the conveyor may be swung from side to side.

From the above detail description it is thought that the advantages and operation of my conveyor or elevator as it might be termed will be clearly understood. While I have described the conveyor as being used in connection with a stone gatherer of the type illustrated in my copending application it will be understood that the same might equally as well be used in connection with other vehicles where it may be desired to deliver material to either side thereof. In the present illustration the vehicle is drawn over the ground in any suitable manner and the material will be deposited upon the conveyor 3 by means of which it is elevated and discharged into the chute 24 which being downwardly inclined delivers it to the conveyor 20. The conveyor 3 will be operated as disclosed in my copending application or in any other convenient manner whereas the conveyor 20 is operated through means of the ground wheels 2, the gear chain 16, clutch 15, chain 13, shaft 11, beveled gear 10, beveled gear 9, and beveled gear 17. The beveled gear 17 is adapted to mesh with the beveled gear 9 at all times so that the conveyor 20 will be operated no matter in which position the conveyor may be moved. With a construction as disclosed the gathered material may be deposited from the conveyor 20, over the chute or platform 22, onto another suitable conveyor by which it will be transported to the desired position. The conveyor is swung from side to side by the operation of the drums and the chains connected thereto. Assuming the parts to be in the position illustrated in the drawings and it is desired to swing the conveyor to the opposite side of the vehicle. The pawl 34 engaging the ratchet wheel 33 secured to the drum 27 will be released and an initial swinging movement will be given to the conveyor by the inclined track or guide-way 36 and roller 37. Then the chain 28 will be wound upon the drum 26 thereby drawing the conveyor to the opposite side of the vehicle, at the same time the chain 30 being unwound from the drum 27. The pawl 34 engaging the ratchet wheel 33 secured to the drum 26 will hold the conveyor in its adjusted position. I wish to lay particular stress upon the fact that an initial movement is imparted to the conveyor through means of the track 36 and roller 37 for it can readily be appreciated that at times considerable strain would have to be placed upon the swinging chains if such an initial movement was not provided.

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

1. A stone gatherer including a supporting frame, a conveyor connected to the frame for horizontal swinging movement, and a track secured to the frame and adapted to support the conveyor, the ends of the track secured to the frame being on a higher plane than the intermediate portion thereof thereby normally tending to direct the conveyor towards the center of the track.

2. A stone gatherer including a supporting frame, a conveyor connected to the frame for horizontal swinging movement, a track secured to the frame, and a roller carried by the conveyor and operable upon the track, the ends of the track secured to the frame being on a higher plane than the intermediate portion thereof thereby normally tending to direct the conveyor towards the center of the rack.

3. A stone gatherer including a supporting frame, a conveyor connected to the frame for horizontal swinging movement, a track secured to the frame and adapted to support the conveyor, the ends of the track secured to the frame being on a higher plane than the intermediate portion thereof thereby normally tending to direct the conveyor towards the center of the track, and means for moving the conveyor towards the ends of the track and securing the same in position.

4. A stone gatherer comprising a supporting frame, a conveyor carried by the supporting frame, a second conveyor mounted

adjacent the rear end of the first mentioned conveyor for horizontal swinging movement, a track secured to the frame for supporting the second mentioned conveyor, the ends of the track secured to the frame being on a higher plane than the intermediate portion, means for holding the second mentioned conveyor adjacent the ends of the track and at right angles to the first mentioned conveyor, said means when released, allowing the second mentioned conveyor to automatically swing towards the center of the track for alignment with the first mentioned conveyor.

In testimony whereof I hereunto affix my signature.

EDGAR S. RIBBANS.