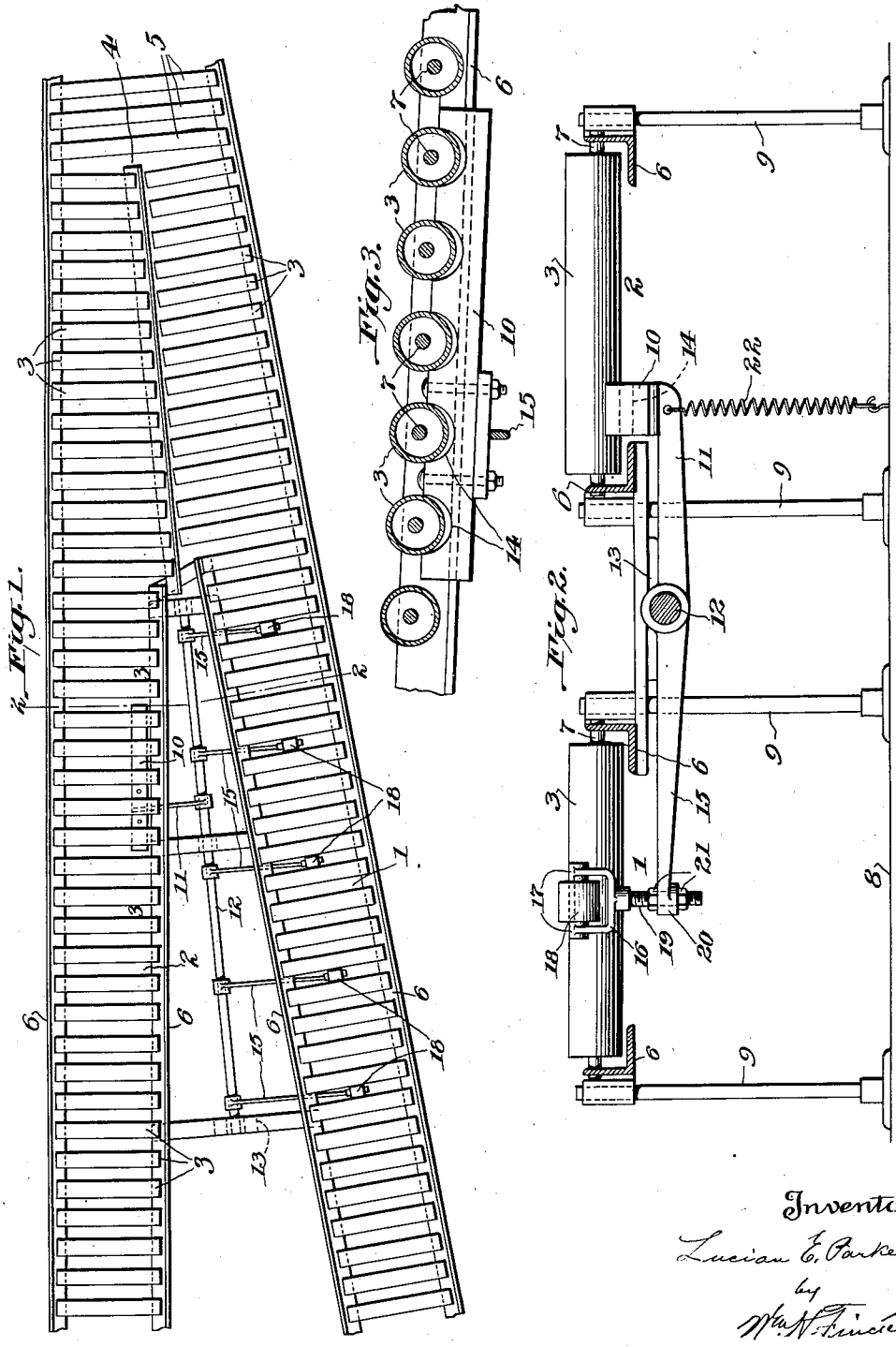
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L. E. PARKER

TRIP AND BRAKE DEVICE FOR CONVEYERS

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Inventor:
Lucian E. Parker
by
Wm. N. Trieschel
Attorney.

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LUCIAN E. PARKER, OF WADSWORTH, OHIO, ASSIGNOR TO THE OHIO MATCH COMPANY, OF WADSWORTH, OHIO, A CORPORATION OF OHIO.

TRIP AND BRAKE DEVICE FOR CONVEYERS.

Application filed April 4, 1924. Serial No. 704,256.

To all whom it may concern:

Be it known that I, LUCIAN E. PARKER, a citizen of the United States, residing at Wadsworth, in the county of Medina and State of Ohio, have invented a certain new and useful Improvement in Trip and Brake Devices for Conveyers, of which the following is a full, clear, and exact description.

This invention relates to a device for use with roller conveyers of the type known as the "Haslet" conveyer, whereby when there are two conveyer chutes which discharge to the same opening and which receive packages or articles from separate sources, means are provided for preventing collision between packages or articles descending the separate chutes when they arrive at the junction or discharge end of the chutes.

It is common in conveyers of this type where two or more chutes converge at a single discharge end, for packages or articles descending the separate chutes and which are deposited upon such chutes at substantially the same time, to collide when they strike the point of intersection of the chutes at their discharge end, thereby causing jamming of the conveyer and consequently necessitating clearing of same and additional handling of the packages or articles before further use of the conveyer may be made.

My invention consists in a trip and brake device for use with such conveyers, having a brake adapted to be applied to the rollers of one chute of the conveyer, and this brake arranged for operation by trippers capable of actuation by packages descending the other chute of the conveyer, as I will proceed now to explain and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a plan view of a somewhat diagrammatic nature, illustrating my invention as applied to a conveyer of the "Haslet" type, having two chutes converging at a single point of discharge. Fig. 2 is a section taken in the plane of line 2—2 of Fig. 1. Fig. 3 is a section taken in the plane of line 3—3 of Fig. 1.

Referring more particularly to the drawings, 1 and 2 indicate the two chutes of the conveyer, each provided with a plurality of similar rollers 3. These two chutes converge at the point 4 and the conveyer is continued to a discharge point by rollers 5. Suitable frames 6 preferably of ordinary angle iron, support and form bearings for the shafts 7 (Figs. 2 and 3) of the rollers, and these angle members 6 are supported above the floor or other support 8 and on a suitable incline, as indicated in Fig. 3, by means of stands 9 of any suitable number, as required by the length of the conveyer.

The operation of conveyers of this type is well known, but in the interest of clearness, it may be said that owing to the incline at which the conveyer is arranged, and the fact that the rollers 3 and 5 are free to rotate upon their bearings, packages placed upon the rollers of the conveyer will, of their own weight, by force of gravity, descend the conveyer. Now, it will be readily seen, as above pointed out, that should packages of the same weight be placed upon the chutes 1 and 2 of the conveyer at the same time, supposing that the rollers of one conveyer offer no more resistance to the progress of one package than do the rollers of the other to the other package, the two packages will arrive at the point of convergence of the two chutes, that is at the point 4, at substantially the same time and will collide at that point, and under such circumstances will ordinarily obstruct the conveyer and necessitate the stoppage of other packages travelling thereon.

The device of my invention prevents this obstruction and consists in a brake member 10 arranged beneath one chute of the conveyer and carried by an arm 11 fixed to a shaft 12. The shaft 12 is mounted in suitable bearings 13 carried by the stands 9 or the angles 6, and is capable of oscillation in its bearings. The brake member 10 is formed with recesses 14 equal in number, and substantially conforming, to the curvature of the rollers beneath which it is positioned. Also fixed to the shaft 12 is a plurality of arms 15 extending beneath the other chute of the conveyer and carrying at their ends yokes 16 provided with bearings 17, in which are mounted trip rollers 18, normally extending above the plane of the top surfaces of the rollers 3. In order that the height to which the trip rollers 18 extend above this plane, and, consequently, the braking pressure applied may be adjusted I provide the yokes 16 with threaded stems 19 passing through suitable sleeves 20 in the ends of

the arms 15 and engaged by adjusting nuts 21. For the purpose of maintaining the trip rollers 18 in such position that they are normally above the plane of the surface of the rollers 3, I provide a spring 22 which exerts a downward pull upon the end of the arm 11.

With this arrangement it will be seen that, should a package be placed upon each of the chutes 1 and 2 of the conveyer at the same time, as above pointed out, the package upon the chute 1 coming successively into contact with the trip rollers 18 will successively depress these rollers, and, through their connection by means of the shaft 12 with the brake carrying arm 11, will raise the brake into braking engagement with all of the rollers under which it is arranged. Now, the package upon the chute 2, if it reaches the rollers to which the brake has been applied before the package on the chute 1 has had time to pass over all of the trip rollers, will be stopped in its passage down the chute, because, due to the fact that the brake has been applied to some of the rollers thereof, these rollers cannot turn, and the package consequently cannot proceed.

In this way it will be seen that any package upon the chute 1 of the conveyer will always have time to proceed so far in advance of the package upon chute 2 of the conveyer as to preclude the possibility of collision at the point 4 of convergence of the two chutes of the conveyer.

Various changes may be made in the construction and arrangement of the parts and in the mode of operation of my device without departing from the spirit of the invention and the scope of the following claims.

What I claim is:—

1. In a trip and brake device for conveyers, the combination with a conveyer of the roller type having a plurality of chutes converging in a single discharge, of a brake arranged for cooperation with a roller of one of said chutes and a trip arranged for cooperation with a package travelling on another of said chutes, and connections between said trip and brake whereby when said trip is depressed said brake will be applied.

2. In a trip and brake device for conveyers, the combination with a conveyer of the roller type having a plurality of chutes converging in a single discharge, of a brake arranged for cooperation with a plurality of rollers of one of said chutes, and a trip arranged for cooperation with a package travelling on another of said chutes, and connections between said trip and brake whereby when said trip is depressed said brake will be applied.

3. In a trip and brake device for conveyers, the combination with a conveyer of the roller type having a plurality of chutes converging in a single discharge, of a brake arranged for cooperation with a plurality of rollers of one of said chutes, and a plurality of successively operable trips arranged for cooperation with a package travelling on another of said chutes, and connections between said trips and brake whereby when said trips are depressed said brake will be applied.

4. In a trip and brake device for conveyers, the combination with a conveyer of the roller type having a plurality of chutes converging in a single discharge, of a brake arranged for cooperation with a plurality of rollers of one of said chutes, and a plurality of successively operable trips arranged for cooperation with a package travelling on another of said chutes, and connections between said trips and brake whereby when said trips are depressed said brake will be applied, and means for normally maintaining said brake out of braking position and said trips elevated.

5. In a trip and brake device for conveyers, the combination with a roller conveyer having a plurality of chutes converging in a common discharge, of a brake member arranged for cooperation with rollers of one of said chutes, a shaft, an arm fixed on said shaft and carrying said brake member, and a plurality of arms fixed to said shaft and carrying trip members normally extending between and above the rollers of another of said chutes and adapted for successive depression by an article descending said chute and all capable of oscillating said shaft to apply said brake.

6. In a trip and brake device for conveyers, the combination with a roller conveyer having a plurality of chutes converging in a common discharge, of a brake member arranged for cooperation with rollers of one of said chutes, a shaft, an arm fixed on said shaft and carrying said brake member, a plurality of arms fixed to said shaft and carrying trip members normally extending between and above the rollers of another of said chutes and adapted for successive depression by an article descending said chute and all capable of oscillating said shaft to apply said brake, and means for adjusting said trip members whereby the pressure applied to said brake member may be adjusted.

7. A conveyer system comprising a rollerway, a rollerway adapted and arranged to deliver articles to said first mentioned rollerway, and means actuated by an article on said first mentioned rollerway for preventing rotation of rollers of said second rollerway adjacent to the junction between said rollerways.

8. A conveyer system comprising a main rollerway, a branch rollerway adapted to deliver articles to said main rollerway, a brake member adapted and arranged to be pressed against rollers of said branch roller-

way adjacent to the main rollerway to prevent rotation thereof, and means controlled by an article on said main rollerway for actuating said brake member.

9. A conveyer system comprising a rollerway, a rollerway adapted and arranged to deliver articles to said first mentioned rollerway, brake means for preventing rotation of rollers of said second rollerway adjacent to the junction between said rollerways, and means for actuating said brake means, including a roller in said first way located near the junction of said ways and normally disposed above the level of the other rollers and adapted to be depressed by an article on said way.

In testimony whereof I have hereunto set my hand this 31st day of March A. D. 1924.

LUCIAN E. PARKER.