Feb. 23, 1926. **1,574,511**

W. E. PHILIPS

BELT CONVEYER SUPPORT

Filed March 14, 1924 2 Sheets-Sheet 1

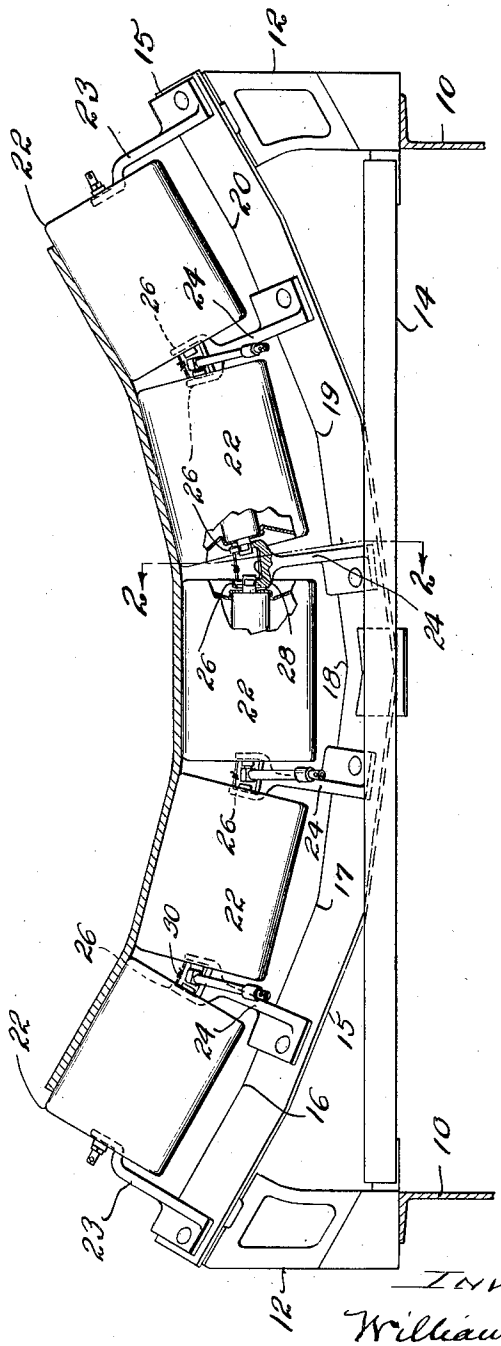


Fig. 1.

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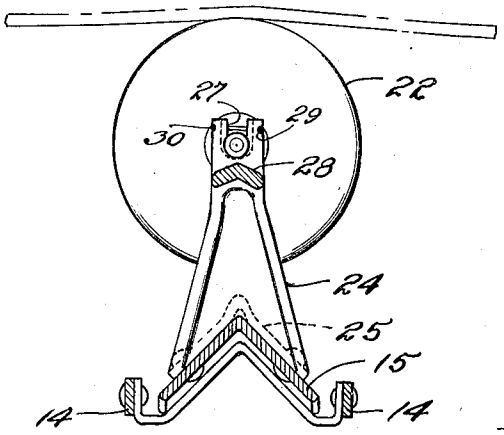


FIG. 2

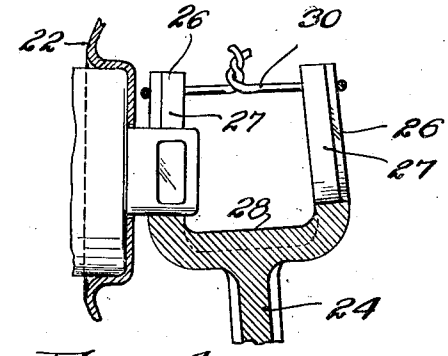


FIG. 4

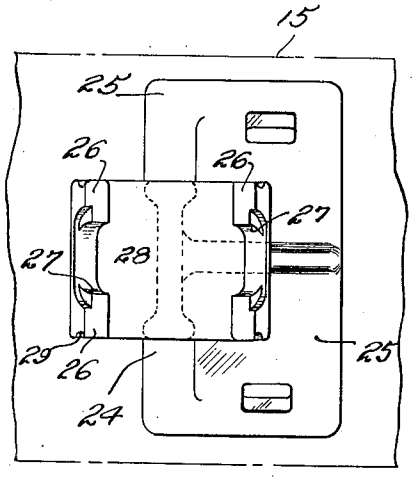


FIG. 3

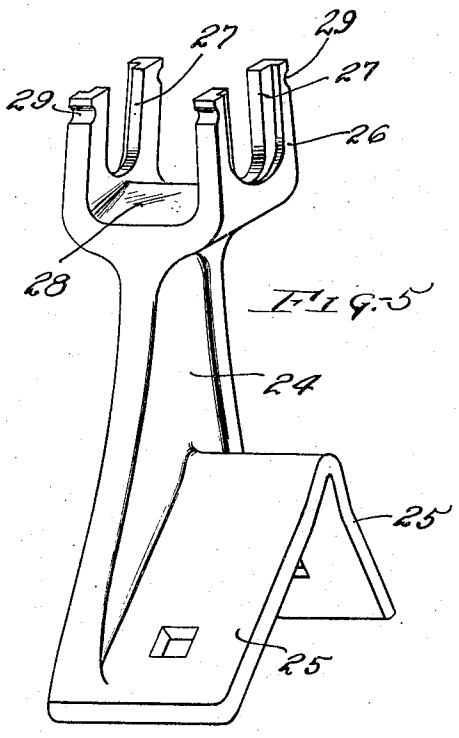


FIG. 5

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Patented Feb. 23, 1926. 1,574,511

UNITED STATES PATENT OFFICE.

WILLIAM E. PHILIPS, OF CLEVELAND, OHIO, ASSIGNOR TO THE STEARNS CONVEYOR COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

BELT-CONVEYER SUPPORT.

Application filed March 14, 1924. Serial No. 699,371.

To all whom it may concern:

Be it known that I, WILLIAM E. PHILIPS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Belt-Conveyer Supports, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates particularly to means for supporting belt conveyers, and is primarily concerned with conveyers of the troughing roll type.

A construction heretofore employed for supporting the roll on a belt conveyer embodies the use of a single bracket disposed between adjacent rolls, and having opposed tubular openings therein arranged to receive the shaft of each roll. An objection to this construction is that the intermediate roll in a unit or group cannot be removed in the event of breakage without dismantling the entire unit. To overcome this difficulty the practice has been to employ a pair of brackets which are adapted individually to engage the ends of a shaft on which the roll is supported. This necessitates approximately twice the number of brackets over the former construction and thereby increases the cost of a conveyer.

The present invention is therefore concerned with the provision of novel means for supporting belt conveyer rolls so as to eliminate the objections above referred to and to provide a simple, compact construction which is durable and which may be readily and economically assembled.

I carry out the above objects by employing a unitary supporting member intermediate adjacent rolls and I so construct this member that the roll shafts may be removed by lifting each independently of the other from the supporting members. In this way, the individual rolls may be replaced without necessitating a dismantling of the entire unit.

In the drawings, Fig. 1 is a section through a portion of a conveyer embodying my invention; Fig. 2 is a section taken on the line 2—2 in Fig. 1; Fig. 3 is a plan view of a bracket made in accordance with my invention; Fig. 4 is a section on an enlarged scale through a portion of the bracket, and Fig. 5 is a perspective view of the bracket.

I have shown my invention in connection with a conveyer embodying frame members 10, which are adapted to receive suitable members 12 which position the ends of the conveyer support. The support illustrated comprises a member 15 which may be an angle iron bent as indicated at 16, 17, 18, 19 and 20 to provide angularly disposed portions. The ends of the support are indicated as being secured to the members 12 while the intermediate portions may be attached to a reinforcing member 14.

To position rolls 22 upon the support, I have illustrated end brackets 23 which are rigidly attached to the support 15 and are adapted to engage the outer ends of the associated roll shaft. To support the inner ends of the outer rolls and also to support the intermediate rolls, I employ a novel form of bracket 24 which is arranged to be disposed between adjacent rolls.

Each bracket 24 is shown as having a base 25 as comprising two flanges which may be arranged, one at right angles to the other, to straddle the angle iron 15. At the junction of the two flanges, I provide an upright arm, the top of which is bifurcated to provide arms 26. These arms are slightly inclined, with reference to each other, so as to provide a satisfactory bearing for the associated roller shaft.

To facilitate assembly of the unit and at the same time to permit any individual roll to be replaced, without necessitating removal of the other rolls in the unit, I have shown each arm 26, as having a slot 27 therein which is open at the top and which terminates short of the lower end of the arm. The portion of the bracket intermediate the arms 26 is preferably inclined as at 28 so as to deflect any material which may fall from the conveyer. Moreover the space between the arms is such that adequate provision may be made for lubricating the roller.

To prevent inadvertent removal or dropping out of the assembled rolls during shipment I have shown each arm 26 as having groove 29 adjacent thereof. Within the grooves I may place a wire 30 which is suitably fastened as indicated in Fig. 4. During

use the rolls are retained in position by gravity.

In view of the foregoing description it will be understood that a bracket made in accordance with my invention reduces the number of brackets required in a single group or unit and at the same time facilitates the removal of any roller without disturbing any of the other rollers in the same group. An advantage of a bracket made in accordance with my invention is the fact that a simple and compact arrangement for supporting the rollers may be attained.

I claim:

1. The combination with a pair of pulley idlers placed end to end and each having a shaft, of an intermediate support for the shafts of said idlers comprising a bracket having a foot, an upwardly extending shank and portions extending laterally in opposite directions at the top of the shank, and upwardly extending arms at the outer ends of the lateral portions, each arm having an upwardly opening slot receiving one end of an adjacent idler shaft.

2. A bracket for supporting a pulley idler consisting of a supporting foot, a shank rising therefrom, oppositely extending portions at the top of the shank, and upstanding arms at the outer ends of said oppositely extending portions, each arm having through it an opening for receiving the end portion of an adjacent idler shaft.

3. A bracket for supporting a pulley idler, consisting of an integral member having a shank, a foot extending from the shank in the form of a ridge, and a bifurcated head providing two upwardly extending arms transversely of the ridge, each arm having through it an upwardly opening slot in which the end portion of the adjacent idler shaft is mounted.

4. A conveyer comprising in combination a belt and a support therefor, said support comprising a member extending transversely beneath the conveyer and provided with a plurality of straight portions inclined one toward the other, a plurality of supporting brackets arranged upon the straight portions of said supports, each bracket having a bifurcated top providing a pair of spaced arms and each arm having a slot open at the top, shafts supported by said brackets in such manner that the ends of the shafts terminate intermediate said arms, and pulley idlers on said shafts.

In testimony whereof, I hereunto affix my signature.

WILLIAM E. PHILIPS.