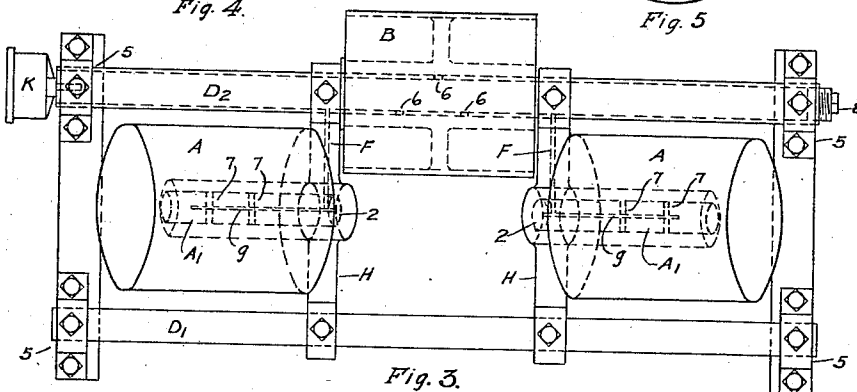
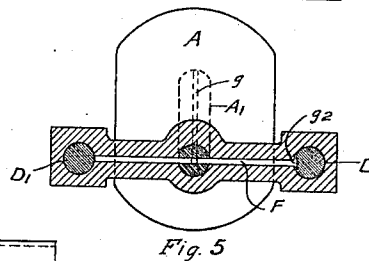
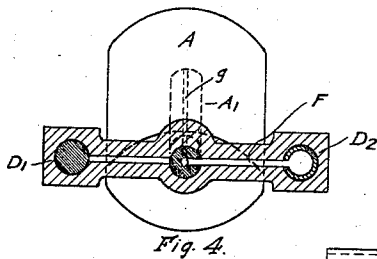
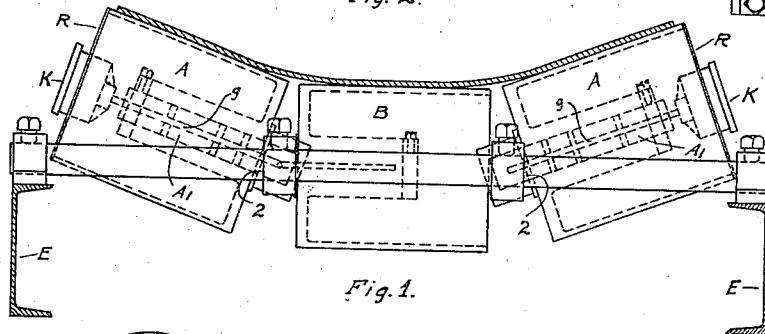
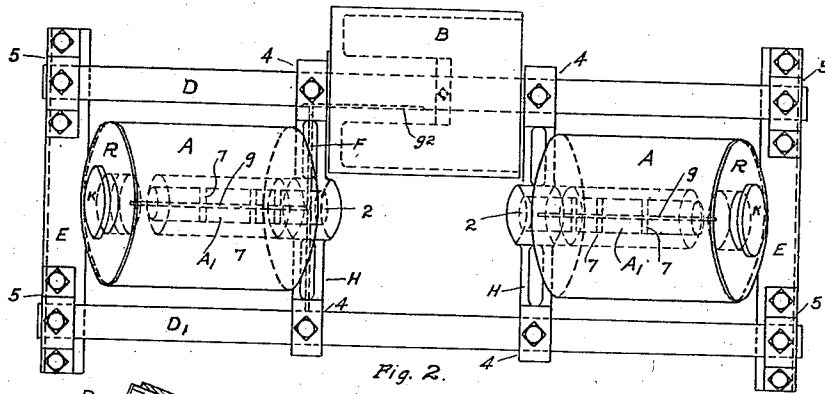


S. F. JOOR.
SUPPORTING IDLER FOR BELT CONVEYERS.
APPLICATION FILED MAY 11, 1911.

1,059,965.

Patented Apr. 22, 1913.



Witnesses.
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SUPPORTING-IDLER FOR BELT CONVEYERS.

1,059,965.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed May 11, 1911. Serial No. 626,517.

To all whom it may concern:

Be it known that I, SAMUEL F. JOOR, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Supporting-Idlers for Belt Conveyers, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to improvements in the supporting and guiding devices which are employed to sustain conveyer belting, particularly the rubber belting which is now largely used for the carrying of materials from place to place.

Figure 1 is a side elevation of one of the supporting elements in an apparatus embodying my improvements, showing the belt, in section. Fig. 2 is a plan view of the parts illustrated in Fig. 1. Fig. 3 is a modified arrangement for lubricating the rollers. Fig. 4 is a cross section through the bridge casting of the form shown in Fig. 3. Fig. 5 is a cross section through the bridge casting of the form shown in Fig. 1.

25 In the drawings A—A indicate inclined rollers, and B a horizontal roller or rollers, of which one is generally combined with two of the inclined rollers to constitute one of the supporting elements.

30 A¹ indicates the supporting device or bracket for carrying rollers A, and D and D¹ indicate two shafts upon which the three rollers are supported; E—E represent wood or steel frames.

35 The inclined rollers A are each journaled upon an inclined shaft A¹, which is tubular or pipe-like. Each of these shafts is mounted in a socket 2, formed integral with the bridge casting H. This casting extends from one of the shafts D, D¹ to the other, parallel to the central longitudinal vertical plane of the conveyer, all the rollers of each supporting element being sustained on the two shafts D and D¹. The horizontal rollers turn on one of the shaft D, D¹ which also supports one end of the bridge castings H H with the inclined pulleys thereon. By forming all of these parts of the support for the pulleys or rollers in this way, I provide for insuring that the mountings shall all be true in relation to each other. It will be understood that in order to hold the belt properly

in place upon the rollers, it is necessary that they should be mounted with mathematical accuracy. When the bracket or holder is constructed in the way which I have devised, the shaft holders or sockets at 4 can be machined so that the shaft apertures therein shall be perfectly parallel to the plane of the axes of the sockets 2.

In the constructions where the rollers A are mounted in independent brackets it has been found that from the warping or twisting of the frame-structure they are thrown out of the desired alinement, and consequently the belt does not run uniformly on the two sides of its center line. When the carrier or bracket for the supporting element is made in the way herein provided, both edges of the belt are carried with uniformity. Another advantage attained by having the roller support formed in the way which I have described is that I can effect a uniform distribution of the lubricant over all surfaces where relative movement occurs.

K indicates the cups or receptacles for initially receiving the oil or grease. These are secured to the upper ends of the inclined shafts A¹. Each of these has a longitudinal passage 9 (the shaft being preferably formed of a section of tubing). The chamber or duct in the shaft communicates with the lubricant channel F, which is formed by coring the casting H. These channels F in turn communicate with the chamber 9² in the shaft D upon which the roller B is mounted. This shaft D carrying pulleys B may also be a tube section, as shown at D² in Figs. 3 and 4, firmly secured by set screws in the sockets or bearings 5. One end is closed by a plug 8, and it is provided with apertures registering with the channels F. To the other end is connected the grease or oil cup K. At 6 there are apertures formed through the wall of this shaft to permit the lubricant to reach the exterior surface of the shaft and lubricate the hub of the pulley B which revolves thereon.

When the parts are constructed and arranged in the way which I have shown and described, it will be seen that the grease lubricant tends to pass through the hollow shafts D² and thence across, through the channels F to the interior of the hollow

shaft A¹. Some of it escapes through the aperture 7 to the exterior surface of the shafts A¹ for lubricating the pulleys A, and some of it, as above described, passes through the apertures 6, to lubricate the pulley B.

What I claim is:

1. In a belt conveyer support, the combination with side frame members and a pair of oppositely inclined pulleys having their axes in a transverse vertical plane of a horizontal pulley whose axis is located in a vertical plane at one side of and parallel to the plane of the inclined pulleys, and supporting means for said pulleys consisting of two cross members, one of which constitutes the shaft of the horizontal pulley projected sufficiently to rest upon said side frame members, and the other cross member being parallel thereto, and connecting bridges carried by said cross-members on which the

spindles of the inclined pulleys rest, substantially as described.

2. In a belt conveyer support, the combination of two rods suitably supported at right angles to the longitudinal center line of the belt conveyer, a horizontal roller journaled upon one of said rods, a plurality of bridge castings connecting and supported upon said rods, and inclined pulleys supported upon said bridge castings, respectively, at one side of the vertical plane of the axis of said horizontal pulley, said pulleys, when assembled, constituting a concave support for a belt conveyer running thereover.

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

SAMUEL F. JOOR.

Witnesses:

FRANK WALSH,
ALICE G. DUFFY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."