

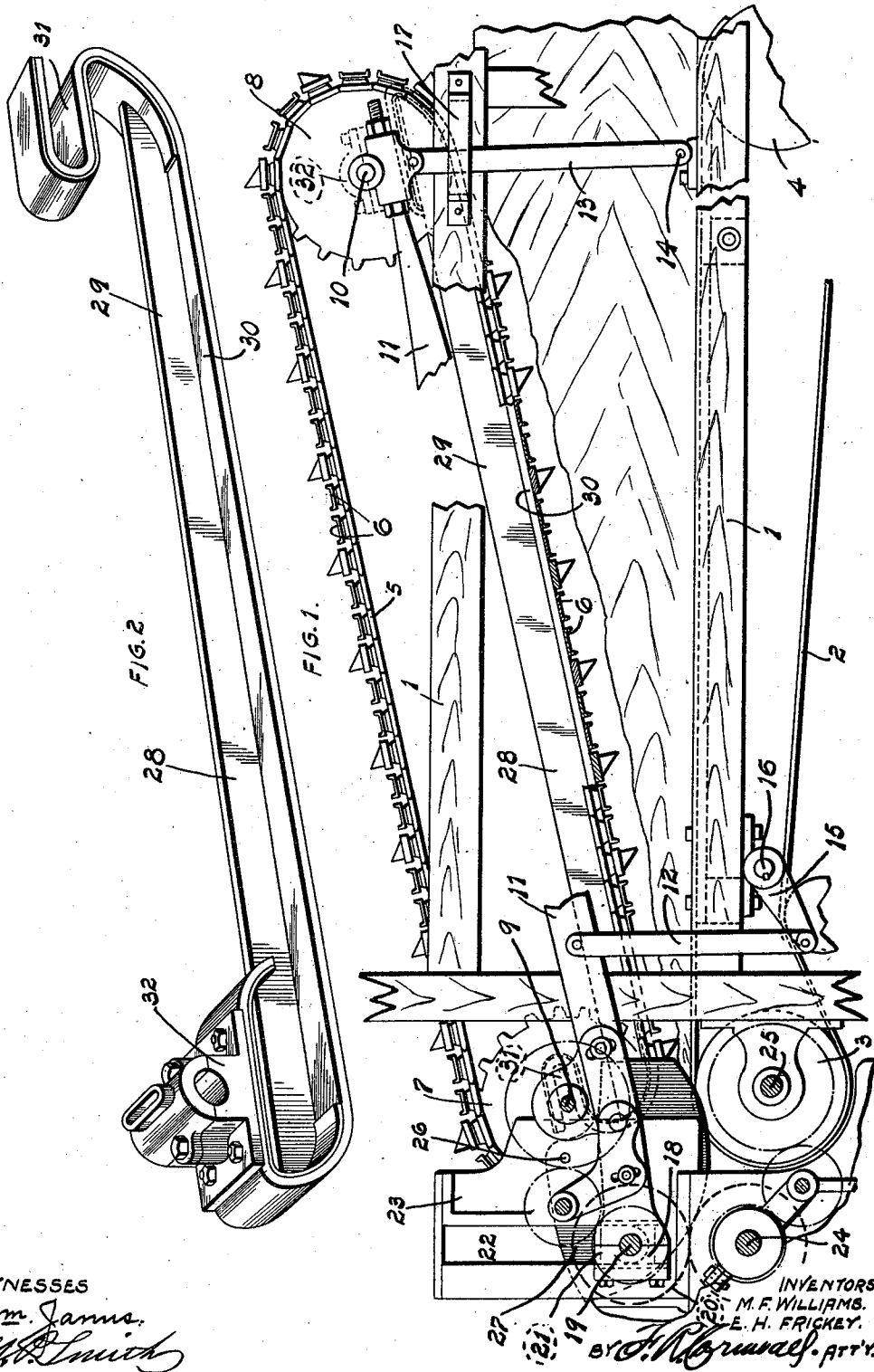
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GUARD BAR.

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1,001,108.

Patented Aug. 22, 1911.



WITNESSES

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GUARD-BAR.

1,001,108.

Specification of Letters Patent. Patented Aug. 22, 1911.

Original application filed August 21, 1908, Serial No. 449,751. Divided and this application filed October 1, 1910. Serial No. 584,929.

To all whom it may concern:

Be it known that we, MILTON F. WILLIAMS and EDWARD H. FRICKEY, both citizens of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Guard-Bars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a general view of our improved device as applied to the feeding mechanism of a disintegrating machine. Fig. 2 is a detail perspective view of our device shown detached from the other parts of the machine.

The invention relates to an improvement in a support for a flexible conveyer or similar mechanism. When such a conveyer is mounted on sprocket wheels and engages the material to be fed the conveyer is likely to vibrate or be strained away from the material to such a degree that the feeding action is imperfect. It is our purpose to provide a track member to act as a back support for the continuous flexible conveyer to prevent the excessive movement of the conveying elements from the material to be acted upon.

It is obvious that our improved device may be used in many other connections with equal efficiency, as for example in connection with a chain drive or in connection with any analogous structure, wherein the flexibility of the part is necessary, but due to the vibration set up in the movement of the part is liable to prevent the perfect operation of the flexible element.

This application is a division of an earlier application filed by us on feeding mechanism for disintegrating machine on August 21, 1908, Serial No. 449,751, to which reference may be made to any details of construction not fully set forth herein.

Referring to the drawings, 1 indicates generally a frame work supporting the feeding mechanism. In the machine of our prior application the feeding mechanism is comprised of two continuous conveying elements acting in cooperation with a set of feed rolls.

In Fig. 1 of the drawings we have indicated the lower conveyer as a belt 2 passing

around support and feeding rolls 3 and 4, which are suitably mounted on the frame work 1. An upper conveyer consists of sprocket chains 5 provided with transversely extending slats or bars 6. The chains 5 of the upper conveyer pass over sprocket wheels 7 and 8, which are mounted on shafts 9 and 10, respectively. These shafts are carried by an oscillatory support or frame comprising inclined bars 11 arranged outside of the stationary frame work 1, and connected to pairs of rock-arms 12 and 13.

The rock-arms 13 which support the upper ends of the inclined bars 11 are pivotally connected at their lower ends to the stationary frame at 14, and the rock-arms 12 are pivoted to the lower ends of the inclined bars 11, and are connected to arms 15 on a rock-shaft 16 which is journaled in bearings on the stationary frame 1, the parts 11, 12 and 13 constituting an equalizing mechanism which insures parallelism between the vertically movable and immovable parts of the device.

The frame 1 is provided with guides 17 through which the arms 13 pass. These guides permit inward movement of the bars 11, and their carried parts to accommodate the vertical movement of the lower end of said bars connected to the shaft 16. The inclined bars 11 are provided at their lower ends with split bearings 18 through which a shaft 19 of an upper feed roll 20 passes. Mounted on the shaft 19 are boxes or bearings 21 that are vertically movable in slots 22 formed in a casing or stationary housing 23. The upper feed roll 20 is connected through means of an intermediate gear to a gear mounted on the shaft 9 to be rotated thereby. A lower feed roll is mounted on a shaft 24, and is connected through intermediate gears with the shaft 25 on which the roll or pulley 3 is mounted.

Pivoted at 26 on the frame work is a guard plate 27 adapted to be operated through connection with the shaft 19 to close the slot 22 as the bars 11 are moved upward.

So much of the structure as has already been described does not form the subject of our present invention, except as parts or elements of a machine upon which it is to be applied.

Our present improvement resides in a back support 28 shown in Fig. 2. This member comprises a track under which the lower series of slats of the upper conveyer may travel, so that it will be impossible for said series to yield or give when in contact with a hard or rigid piece of material being fed to the disintegrating machine, without lifting the bars 11. This member 28 is formed of a T or angle-iron with one of the flanges cut away at either end and the other flanges bent to form in one instance a support for a shaft bearing, and in the other instance the bearing itself.

In Fig. 2 it is clear that the flange 29 is cut away at both ends and the flange 30 is bent at the right end in an S-shape forming an elongated slot 31, which flange may be reinforced by another strip of material as illustrated, if desired. At the opposite end of the member the flange 30 is bent back upon itself to form a support for an ordinary shaft bearing 32 in two parts, suitably attached to said flange.

As shown in Fig. 1 the bearing 32 forms a journal for the shaft 10 and the elongated slot 31 a journal for the shaft 9. The flange 30 intermediate the bent ends bears against the slats 5 to prevent upward movement, as the conveying elements on these slats engage the material to be fed, which in the machine illustrated is conveyed along the said upper conveyer by the lower feeding mechanism 2.

The elongated slot 31 allows or permits of the adjustment or movement of the shaft 9 in said bearing relative to the shaft 10 which is useful in adjusting the tension of the sprocket chains of the upper conveyer.

We are aware that minor changes may be made in the construction, arrangement and combination of the various elements described without departing from the spirit of our invention, the scope of which is indicated by the accompanying claims.

We claim:

1. In a device of the character described, a track member comprising a T-iron bent at one end to form a seat for a shaft bearing, and at the other end bent to form itself a bearing allowing of adjustment for a shaft.

2. In a device of the character described, a track member comprising a T-iron with one flange cut away at both ends, and the other bent to form bearings for shafts, said latter flange being adapted to act as a support for a conveyer.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses, this 16th day of Sept., 1910.

MILTON F. WILLIAMS.
EDWARD H. FRICKEY.

Witnesses:

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