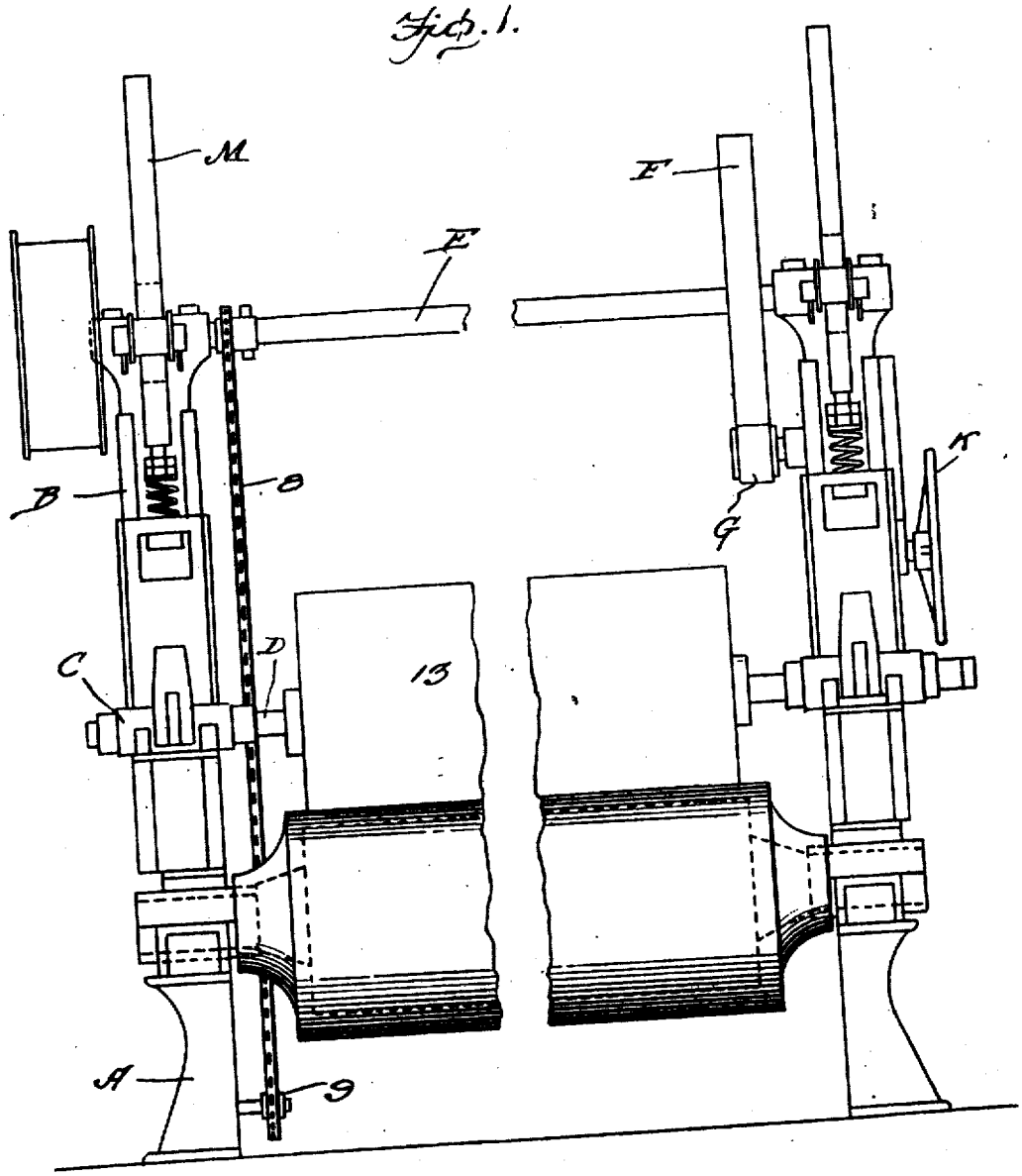
1,628,488

May 10, 1927. E. BOURGORD ET AL

OPERATING APPARATUS FOR SAFETY GUARDS ON ROLL WINDERS OF PAPER MACHINES

Original Filed Aug. 14, 1925 2 Sheets-Sheet 1

Fig. 1.



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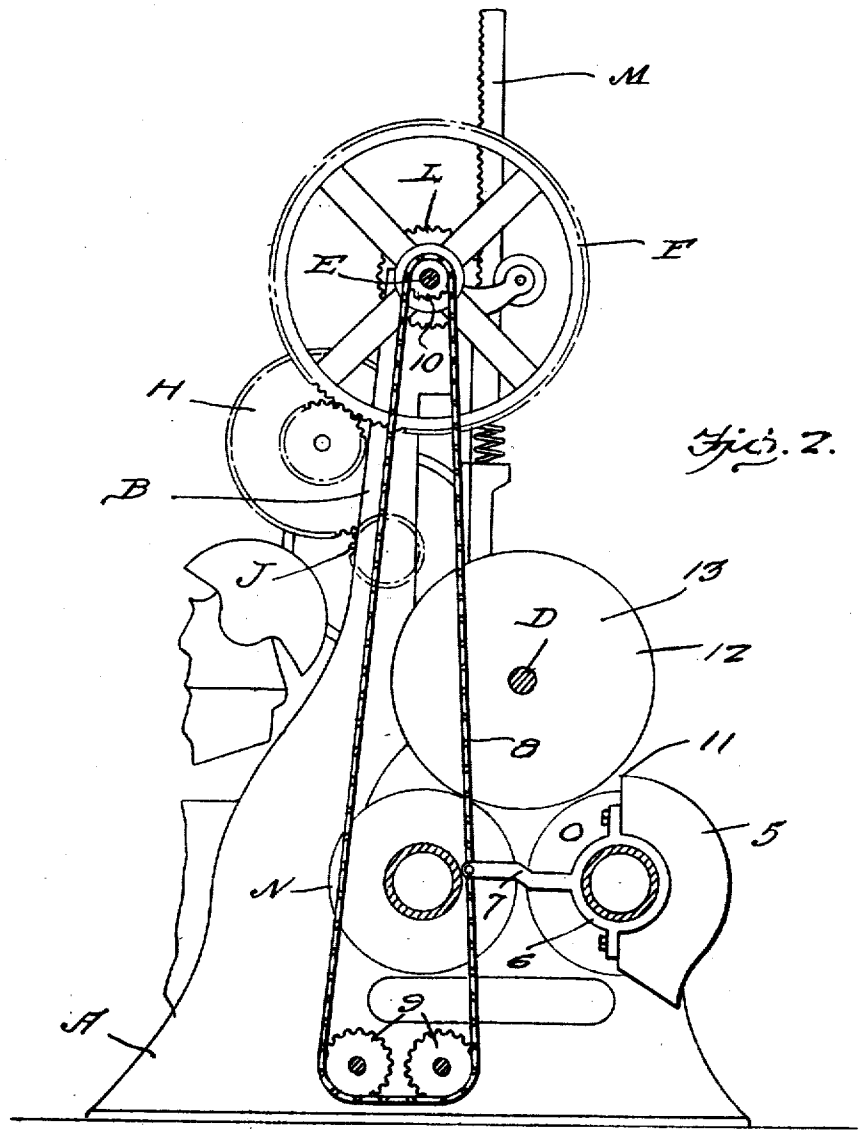


Fig. 2.

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UNITED STATES PATENT OFFICE.

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OPERATING APPARATUS FOR SAFETY GUARDS ON ROLL WINDERS OF PAPER MACHINES.

Application filed August 14, 1925, Serial No. 50,284. Renewed February 24, 1927.

The present invention relates to an apparatus for operating the safety guard on a roll winder of a paper machine, and has for its principal object to provide a structure that automatically controls the travel, and the clearance of the safety guard from the beginning of the winding of the roll of paper until it is finished.

Another important object of the invention is to provide an apparatus of this nature which is exceedingly simple in its construction, inexpensive to install, efficient and reliable in operation, durable, not likely to easily become out of order, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:—

Figure 1 is a front elevation of a paper winding machine showing our improved apparatus associated therewith, and

Figure 2 is a vertical section therethrough.

Referring to the drawings in detail it will be seen that we have illustrated a well known form of paper winding machine which includes among other elements a frame designated generally by the letter A and having the uprights B in which are slidable the bearings C for mounting the winder shaft D. A shaft E is journaled in the upper ends of the uprights B, and has fixed thereto a gear F meshing with a pinion G operable by a gear H meshing with a gear J on the shaft of an operating wheel K. A pair of rack pinions L are fixed to the shaft E, and have meshed therewith rack bars M rising from the sliding bearings C. It will thus be seen that the winder shaft D may be raised or lowered by turning the wheel K. Packing and guide rollers N and O are mounted for rotation below the winder shaft D in the usual manner.

The parts which we have thus far described are all of conventional construction, and well known in this art, and have been set forth in detail sufficiently to bring out the utility and operation of our improved apparatus, which we shall now describe in detail. A guard 5 of the usual formation is journaled about the axis of the roller O by brackets 6, one of which is provided with an arm 7 engaged with one link of a chain 8. This chain 8 is trained over sprockets 9 journaled at the lower end of the frame A and over a sprocket 10 mounted on the shaft E to rotate therewith. These parts designated by the numerals comprise our improved apparatus. It will be seen that as the paper winds upon the shaft D in the usual manner, the roll of paper increases, and the shaft D and its bearing C rise, thereby moving the rack bars M so as to rotate the sprockets L and the shaft E. The rotation of the shaft E causes the rotation of the sprocket 10, the movement of the chain 8 in its orbit of travel, thereby swinging the arm 7, and revolving the guard 5 about the axis of the roller O, thereby maintaining a constant distance between the upper edge 11 of the guard 5, and the periphery 12 of the roll 13 being formed on the shaft D. This apparatus will prevent numerous painful accidents which are caused by persons working on the roll 13, as will be apparent to those familiar with machines of the class described herein.

It is thought that the construction, operation, utility, and advantages of our improved apparatus will be clearly understood by those skilled in this art without a more detailed description. The present embodiment of the invention, which we have disclosed in detail, has been given merely by way of example since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description. It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described the invention, what we claim as new is:—

1. An apparatus for operating a safety guard on a roll winder; wherein the roll winder includes among other elements a frame, a winder shaft, bearings for the winder shaft slidable in the frame, rack bars leading from the bearings, a shaft journaled in the frame, rack pinions on the last mentioned shaft meshing with the rack bars, and a pair of packer rollers; comprising a guard

revolvable about the axis of one of the rollers, an arm extending from the guard, an endless member mounted to travel in a predetermined orbit and operatively associated with the shaft having thereon the rack pinions, said endless member being connected with said arm whereby as the winder shaft moves away from the packer rollers, said guard will be revolved.

2. An apparatus for operating a safety guard on a roll winder; wherein the roll winder includes among other elements a frame, a winder shaft, bearings for the winder shaft slidable in the frame, rack bars leading from the bearings, a shaft journaled in the frame, rack pinions on the last mentioned shaft meshing with the rack bars, and a pair of packer rollers; comprising a guard revolvable about the axis of one of the rollers, an arm extending from the guard, a pair of sprockets mounted on the frame, a sprocket mounted on the second mentioned shaft, a chain trained over said sprockets and connected with said arm.

In testimony whereof we affix our signatures.

EDWARD BOURGORD.
ALVIN LEITL.