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PATENTED NOV. 19, 1907.

J. W. MORAN.  
ELECTRIC WARP STOP MOTION FOR LOOMS.

APPLICATION FILED MAR. 29, 1907.

Fig. 1.

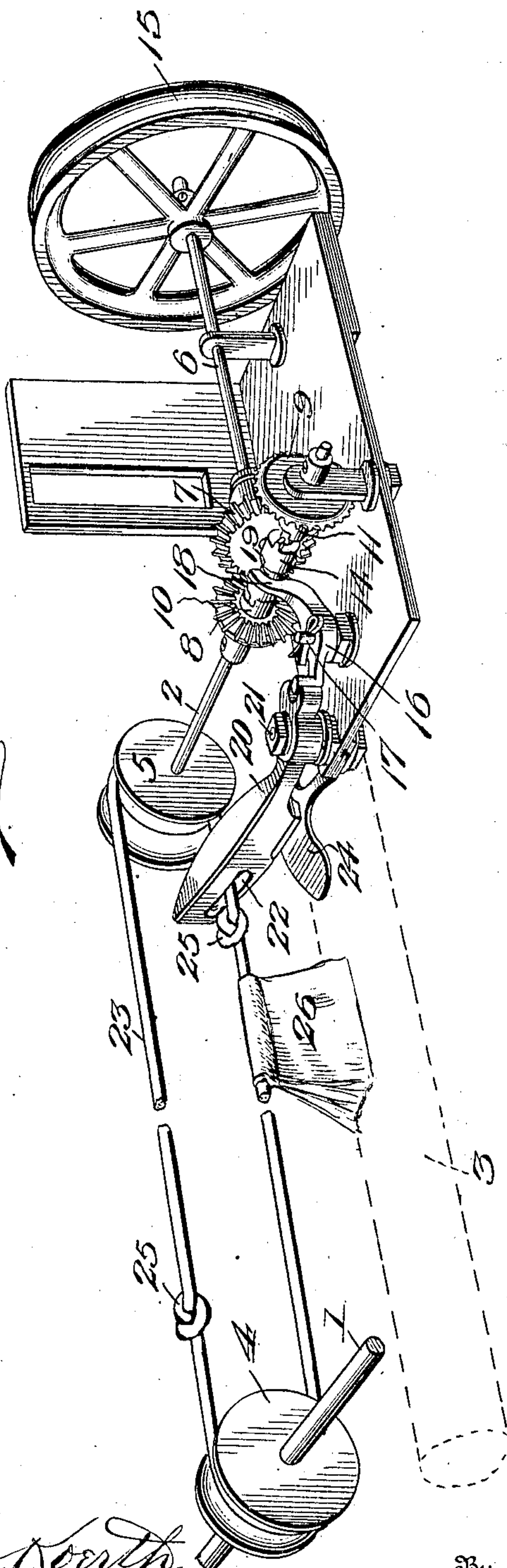
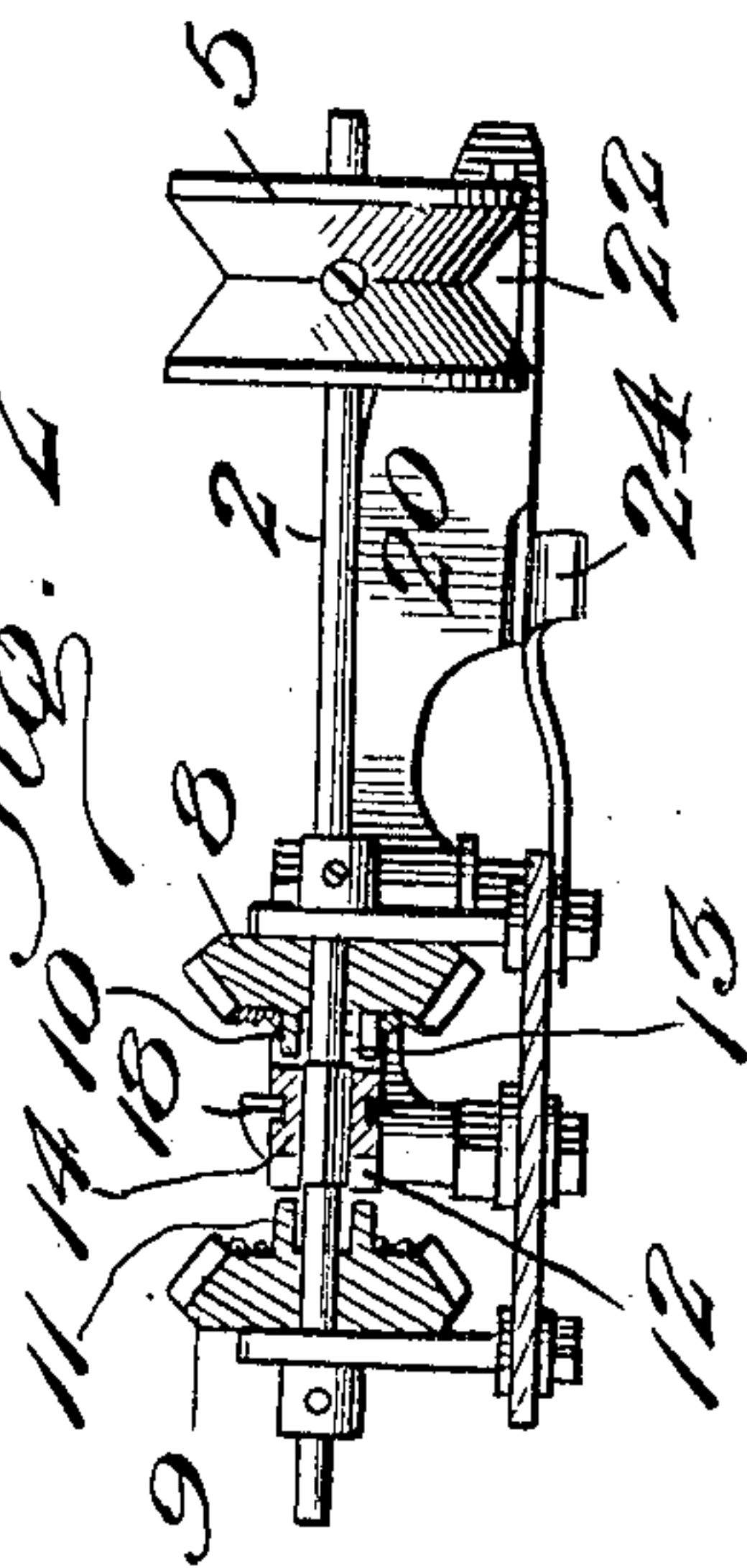


Fig. 2.



Witnesses

*Wm. North.*  
*Wm. Bagger.*

Inventor

*John W. Moran,*

By

*Victor J. Evans*

Attorney



# UNITED STATES PATENT OFFICE.

JOHN W. MORAN, OF ADAMS, MASSACHUSETTS.

## ELECTRIC WARP STOP-MOTION FOR LOOMS.

No. 871,724.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 29, 1907. Serial No. 365,379.

*To all whom it may concern:*

Be it known that I, JOHN W. MORAN, a citizen of the United States, residing at Adams, in the county of Berkshire and State of Massachusetts, have invented new and useful Improvements in Electrical Warp Stop-Motions for Looms, of which the following is a specification.

This invention relates to an improved attachment for looms, the said attachment being specially applicable to looms that are equipped with electric stop motions.

Looms that are equipped with electric motions are constantly exposed to a serious danger in that, when a warp thread breaks or slackens, the wire loop through which the thread is guided will drop by gravity upon the casing tube of the stop motion, causing the formation of a spark. During the process of weaving, lint and dust in large quantities will settle upon the parts of the loom, including the casing tube of the stop motion and adjacent parts, and when sparks are formed this lint and dust is apt to become and frequently does become ignited, causing fires whereby the warp and loom harness is destroyed, and the entire vicinity endangered. Heretofore, in mills where electric stop motions are used, it has been customary to employ men to remove the lint and dust from the vicinity of the stop motions, thereby minimizing the danger of fire. This method of prevention, however, is unreliable and inefficient since, in large mills, the lint and dust will be removed only at considerable intervals, such intervals being frequently amply sufficient for lint and dust to accumulate in sufficient quantities to cause danger of ignition.

To obviate this danger is the principal object of the present invention; and with these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in improved means whereby accumulations of lint and dust will be constantly removed from the parts of the loom in the vicinity of which sparks are apt to be formed.

The invention further consists in the improved construction and novel arrangement of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the drawing, Figure 1 is a perspective view of a loom attachment embodying the

invention. Fig. 2 is a vertical sectional detail view.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved attachment comprises two shafts 1—2 adapted to be supported for rotation upon the frame of a loom, adjacent to the ends of the casing tube 3 of the electric stop motion which is shown in dotted lines in Fig. 1 of the drawings. The shafts 1—2 are provided with small pulleys or band wheels 4—5, and one of said shafts, 2, is driven by means which has been shown as including a suitably supported shaft 6 having a bevel gear 7 meshing with pinions 8—9 which are loosely mounted upon the shaft 2. The pinions 8—9 are equipped with clutch members 10—11 adapted to be engaged by corresponding clutch members 12—13 upon the ends of a sleeve 14 which is slidably disposed upon the shaft 2, for rotation with the latter, intermediate the pinions 8—9. The shaft 6 has been shown equipped with a band wheel 15 which is adapted to be driven from a live part of the loom; it being understood that any desired means may be utilized for the purpose of imparting motion to the said shaft 6.

For the purpose of shifting the position of the clutch sleeve 14 upon the shaft 2 in order to reverse the rotation of the latter, a shipping lever 16 is employed, said lever being fulcrumed upon a stud 17 and provided with a bifurcated end 18 engaging an annular groove 19 upon the clutch sleeve. The free end of the shipping lever is loosely engaged by one end of a reversing lever 20 which is fulcrumed upon a stud 21 and which is provided with a slot 22 for the passage of the band 23 that is mounted upon the pulleys 4—5. A curved or arcuate spring catch 24 is provided to engage the underside of the reversing lever 20 for the purpose of retaining the latter in position at the ends or limits of its movement. The band 23 is provided with suitably disposed stops, which have been shown as consisting simply of knots formed upon the said band; and the latter carrying adjacent to one of said knots, a wiper 26 which may consist of a piece of flannel or other cloth suitably secured upon the band in such a manner as to engage the upper surface of the casing tube 3 of the stop motion.

When the loom is in operation, motion



will be transmitted to the shaft 2 and to the endless belt or band 23, causing the wiper 26 to traverse the upper surface of the casing tube 3, thus removing lint and dust that may settle upon the latter. When one of the nuts or stops 25 engages the reversing lever 20, the latter is rocked upon the fulcrum, thus rocking the shipping lever and shifting the position of the clutch sleeve 14, thus reversing the movement of the shaft 2 and of the belt or band 23, and causing the wiper to traverse the upper surface of the casing tube in the opposite direction. This operation is constantly repeated while the loom is in motion, and the portion of the surface of the electric stop motion where sparks are liable to be formed will thus be kept constantly and perfectly free from accumulations of readily combustible material, thus avoiding the danger of fire.

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

The herein described improved device for wiping the casing tube of an electrical warp stop motion for looms, the same comprising shafts supported for rotation adjacent to the ends of the casing tube, band pulleys upon

said shafts, an endless band supported upon said band pulleys and carrying a wiper, bevel pinions mounted loosely upon one of the shafts and equipped with clutch members, a clutch sleeve mounted slidably upon and for rotation with said shaft intermediate the bevel pinions and adapted for alternate engagement with the clutch members of the latter, a driven shaft, a bevel pinion upon said shaft constantly engaging the loose bevel pinions, a shipping lever having a bifurcated end engaging the clutch sleeve, a suitably supported reversing lever engaging the shipping lever and having a slot for the passage of the wiper carrying band, lever engaging knots upon the wiper carrying band constituting stops for actuating the reversing lever, and an arcuate spring catch engaging said reversing lever to hold the latter in adjustable position at the ends of its movements in opposite directions.

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

JOHN W. MORAN.

Witnesses:

ALEXANDER BROWN,  
FRANK HANLON.