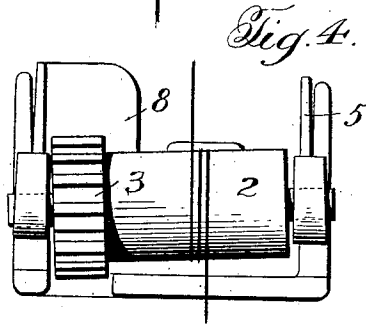
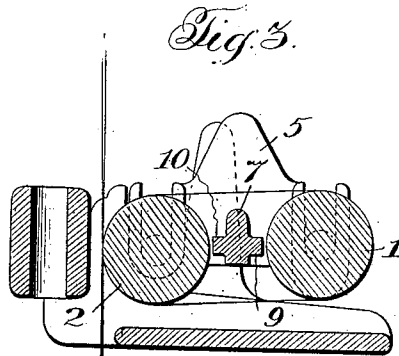
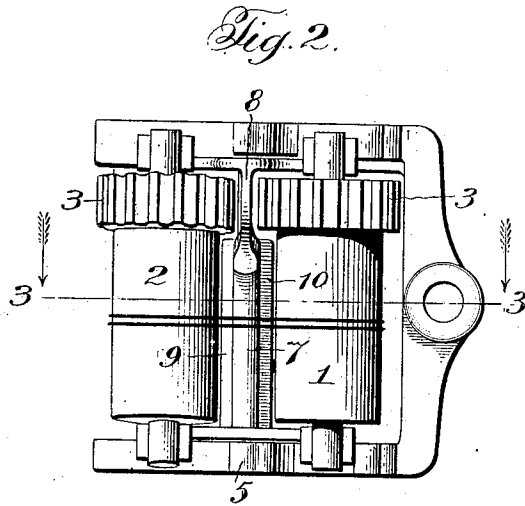
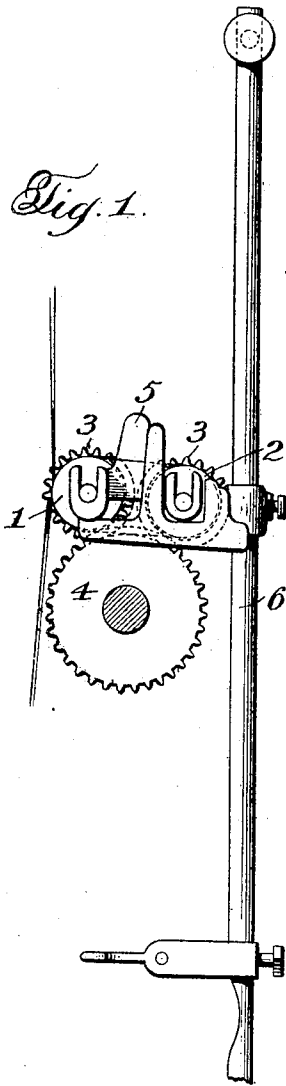


G. F. MACFARLANE.
 THREAD DOUBLING AND TWISTING MACHINE.
 APPLICATION FILED MAR. 24, 1911.

1,056,193.

Patented Mar. 18, 1913.



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UNITED STATES PATENT OFFICE.

GEORGE F. MACFARLANE, OF WILKES-BARRE, PENNSYLVANIA.

THREAD DOUBLING AND TWISTING MACHINE.

1,056,193.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed March 24, 1911. Serial No. 616,598.

To all whom it may concern:

Be it known that I, GEORGE F. MACFARLANE, a citizen of the United States, and residing at Wilkes-Barre, Luzerne county, State of Pennsylvania, have invented certain new and useful Improvements in Thread Doubling and Twisting Machines, of which the following is a specification.

The present invention relates to improvements in thread doubling and twisting machines and particularly is an improvement upon the mounting or support for the thread feed rolls of such a machine which is described and illustrated in Patent No. 864,548, granted to myself and Carl Ferenbach, August 27, 1907.

In the operation of machines for doubling and twisting thread, especially when the material being treated is silk, it frequently happens that a thread or threads break close to one of the feed rolls and become engaged with such roll, without affecting the stop motion mechanism which is commonly located above such rolls. This results in winding the thread upon the roll until the accident is observed by the machine operative and often the accumulation from such a cause is sufficient to absolutely prevent rotation of the roll.

To prevent such a waste of thread, as well as the consequent interference with the operation of the machine, and obtain better results than has been possible with the constructions of rolls and supports therefor heretofore employed, is the object of the present invention.

In the accompanying drawings, Figure 1 is an end elevation of a pair of thread feed rolls of a twisting and doubling machine and their immediate supporting means having an embodiment of the present invention applied thereto; Fig. 2 is a plan view, on a somewhat enlarged scale, of the parts shown in Fig. 1; Fig. 3 is a sectional view on the line 3—3 of Fig. 2 looking in the direction of the arrow; Fig. 4 is a face view or front elevation.

It is customary in machines of the character to which the present invention relates to arrange the thread feed rolls in pairs, the desired number of threads being conducted to each pair or group of rolls from supplying spindles or spools arranged above the rolls and after passing the composite thread about such rolls one or more times, it is connected to a lower winding spool or spindle.

The number of pairs or groups of feed rolls as well as the means for feeding thread thereto and receiving thread therefrom form no part of the present invention, and therefore I have illustrated but a single pair of such rolls and the parts immediately associated therewith and embodying the improvement hereinafter more particularly described.

As shown each of the rolls 1, 2 is provided at one end with a pinion 3 adapted to mesh with a driving gear 4. The rolls illustrated are of the type or character described in the aforesaid patent, having smooth surfaced body portions which are slightly smaller in diameter than the pinions 3. Said rolls are provided at their ends with reduced trunnions which fit loosely in bearings, open at the top, formed in the end walls of a frame 5 which is supported by a bracket member suitably connected with an upright or standard 6. The ends of the roll supporting frame, in which are formed the bearings for the roll trunnions, are connected by a member 7 extending between the rolls and having at one end an upwardly extending ear 8 which lies between the pinions 3.

It will be seen that rolls supported in the manner described are readily removed from the frame 5 and as shown such rolls are arranged in the manner described in the aforesaid patent, one being substantially horizontal while the other is held in a slightly inclined position.

The construction thus far described is substantially the same as that of the prior Patent 864,548; and the present improvement relates particularly to the form of the member 7 of the roll supporting frame which extends between the rolls 1, 2. As illustrated in said patent this connecting member has commonly been made relatively narrow in cross section and separated from both rolls by a space of considerable width and therefore when a thread breaks while passing over the rolls, the broken end frequently falls into such space and becomes engaged with the roll, unobserved by the machine attendant. As a result of such an accident the thread is wound upon the roll and in a short time the accumulation on the roll is such that it completely fills the space between the roll and frame member 7, and positively prevents rotation of the roll. This involves a great waste in material as well as loss of time in clearing and replacing the roll which has been rendered useless.

To avoid such a result and positively prevent a thread from being wound upon either roll 1, 2, the frame member 7 according to the present invention is provided with lateral webs or fins 9, 10, which extend into such close proximity to the rolls that the space separating their free edges from the roll bodies do not exceed in width the diameter of a thread. Therefore if a thread breaks in passing over the rolls the end thereof is positively prevented from being carried past the guards or stops 9, 10, and winding of thread about either roll is impossible.

It will be seen that by providing the roll mountings with such a guard or means preventing winding of thread thereon, I am enabled to materially reduce the amount of waste silk, and consequently produce better work and increase the production of the machine.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent, is:

1. In a thread doubling and twisting machine, the combination with a pair of thread feed rolls, and means for rotating said rolls, of a guard extending longitudinally of the space between the rolls and in such close proximity to the surface of one roll as to prevent winding of thread upon the latter without interfering with the passage of thread across and about both rolls at any point in the length thereof.

2. In a thread doubling and twisting machine, the combination with a pair of thread feed rolls, and means for rotating said rolls, of means within the space between said rolls, and out of the path of thread properly passing about such rolls, adapted to prevent

thread being wound upon either roll independent of any variation in the relative positions of the rolls and the driving means therefor.

3. In a thread doubling and twisting machine, the combination with a pair of thread feed rolls, and a supporting frame therefor, of a guard member extending longitudinally of the space separating the rolls and provided with oppositely projecting lateral extensions adapted to prevent thread being wound upon either roll.

4. In a thread doubling and twisting machine, the combination with a pair of thread feed rolls, and a supporting frame therefor, of a guard supported by said frame and extending longitudinally of the space between and in such close proximity to the surfaces of the rolls as to prevent thread being wound upon either roll without interfering with the passage of thread across and about both rolls throughout the length thereof.

5. In a thread doubling and twisting machine, the combination with a driving means, and a pair of thread feed rolls, of a frame supporting said rolls in position to be rotated by the driving means and including a member extending longitudinally of the space between the rolls and provided substantially in the plane of the axes of the rolls with integral laterally projecting guards adapted to prevent a broken thread from being wound upon either roll.

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

GEORGE F. MACFARLANE.

Witnesses:

JOHN P. POLLOCK,

J. CLAIRE JOHNSTON.