

M. EBELING, JR.
 DEVICE FOR STOPPING WINDING FRAMES AND DOUBLING FRAMES BY MEANS
 OF A MEASURING CLOCK.

APPLICATION FILED FEB. 16, 1909.

934,053.

Patented Sept. 14, 1909.

Fig. 1

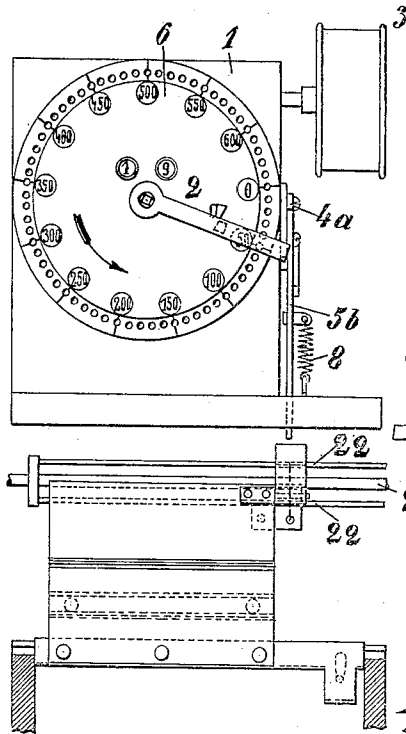


Fig. 2

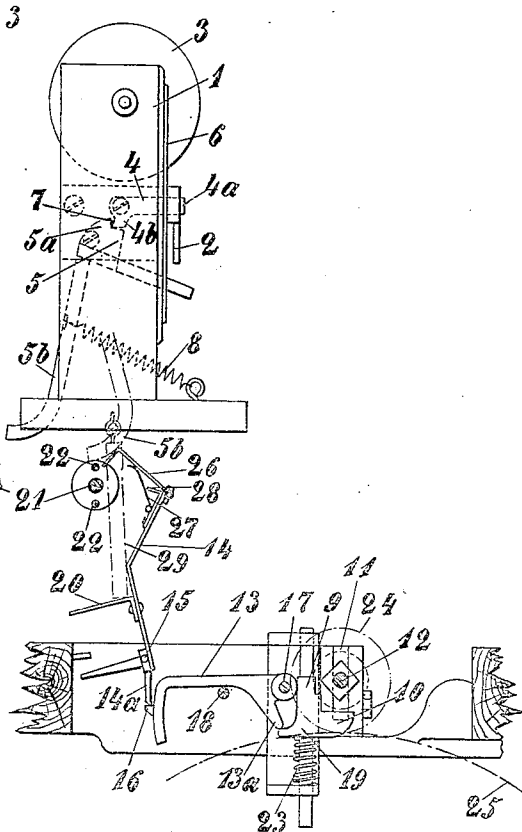
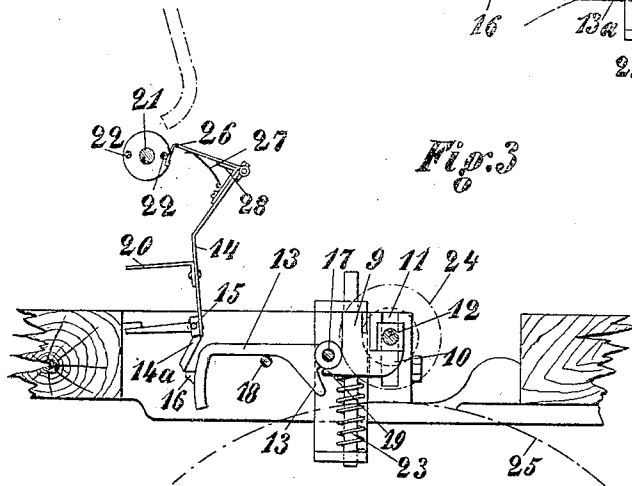


Fig. 3



Witnesses:

Otto König
 Hans Hefelder.

Inventor:

Moritz Ebeling, Jr.

UNITED STATES PATENT OFFICE.

MORITZ EBELING, JR., OF BARMEN, GERMANY.

DEVICE FOR STOPPING WINDING-FRAMES AND DOUBLING-FRAMES BY MEANS OF A MEASURING-CLOCK.

934,053.

Specification of Letters Patent.

Patented Sept. 14, 1909.

Application filed February 16, 1909. Serial No. 478,316.

To all whom it may concern:

Be it known that I, MORITZ EBELING, JR., a citizen of the German Empire, residing at Barmen, in the Province of Rhenish Prussia, and Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Devices for Stopping Winding-Frames and Doubling-Frames by Means of a Measuring-Clock; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The subject-matter of this application is a device for stopping winding-frames and doubling-frames by means of a measuring-clock when the bobbins have been wound with the determined length of thread.

The peculiarity of the new device consists in lever-mechanism being arranged on the measuring-clock, said mechanism being normally locked and subjected to the action of a spring and being released by the clock-pointer at the instant at which the determined length of thread has been wound on the bobbins, so that at said instant one of the levers strikes against the already existing stopping device for the machine, which device otherwise comes into action only when the thread is broken, and actuates said device. Consequently in this case it is not necessary to provide a special stopping device and therefore the winding-frame or the like does not require any structural alterations when the new device is applied.

One embodiment of a device according to the present invention is represented by way of example, in the accompanying drawing, in which:—

Figure 1 is a front elevation, Fig. 2 a side elevation, and Fig. 3 a side elevation of the lever mechanism and adjacent parts, the various members being in the positions occupied when the machine is stopped.

1 is a counting-clock, the pointer 2 of which is set in rotation by clock-work which in its turn is driven by a pulley 3 which is set in rotation by the threads being led over it before they pass on to the bobbin. Laterally on the clock-casing two levers 4, 5 are pivoted, of which the lever 4 projects with its long arm 4^a slightly in front of the clock dial 6 and consequently comes within reach of the pointer 2, while its short arm 4^b engages in a recess 7 in the short arm 5^a of

the lever 5. A spring 8 which acts on the long arm 5^b of the lever 5 keeps the two levers under pressure and causes the lever 5 to turn rapidly when the two levers are released by the rotation of the lever 4 effected by the pointer 2. The lever-arm 5^b serves to actuate the stopping-device. The latter consists in the example illustrated, of a body 9 which is subjected to the action of a spring and is displaceable in a vertical direction and which engages with its nose 10 under the bobbin-spindle 12 arranged in a slot 11 and is usually kept locked in its lowest position by means of lever-mechanism 13, 14. This locking is effected by an arm 14^a of the lever 14 which is revoluble about 15. Said arm 14^a rests against a nose 16 on the lever 13. The latter is revoluble about the pivot 17 and normally rests on a stop 18, its other arm 13^a resting against the nose 19 on the body 9. The lever 14 is formed as a wide sheet-metal plate or flap on which a sheet-metal ledge substantially at right angles to said flap is fixed, said ledge serving as a support for the thread-guard (represented in Fig. 2 by lines composed of dots and dashes) which falls down when the thread breaks. In the neighborhood of the lever 14 there is arranged a continuously rotating shaft 21 provided with two rods parallel to said shaft. Said rods press against the thread-guard which has fallen down and force it back against the lever 14 and cause the latter to rotate about the pivots 15, so that the arm 14^a slides off the nose 16 on the lever 13 and the lever-mechanism 13, 14 is released. The body 9 now flies up under the action of the spring 23 and carries with it the bobbin-spindle 12 so that the friction disk 24 on the bobbin-spindle is lifted off the main friction-disk 25 and the bobbin is stopped. The device acts in the same manner on coming into action when a bobbin is completed, but in this case the thread-guard does not initiate the stopping action but the arm 5^b of the lever 5 released by the pointer of the measuring clock. For this purpose a flap 26 is pivoted preferably laterally on the upper end of the lever 14 and said flap is normally held raised by a spring 27 to such an extent that the rods 22 on rotating with the shaft 21 can pass below it (Fig. 2). If however, after the completion of a bobbin the lever 5^b strikes against the flap 26, the latter is depressed and comes

within reach of the rotating rods 22 which turn it or force it back together with the lever 14 and so release the lever-mechanism 13, 14 (Fig. 3). The annular stop 28 on the lever 14 serves as a support for the depressed flap 26.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In combination with means for putting
10 a winding frame out of gear, a lever normally locking the same and provided with a pivoted flap, a rotating shaft provided at opposite sides with two rods parallel to itself, a plurality of normally interlocked spring-in-
15 fluenced levers, comprising a lever having an arm projecting toward said flap and adapted on rotating to move said flap and a thread-measuring device having a pointer which is adapted and arranged to release
20 the said plurality of levers on the winding of a predetermined length of thread and the consequent action of said arm on said flap, moving the latter into the path of rotation of said rods and thereby turning the lever
25 provided with the flap and releasing the means for putting the frame out of gear, substantially as set forth.

2. In combination with means for putting
30 a winding frame out of gear, a device normally locking the same and having an independently movable part, interlocked levers, one of which has an arm arranged to act on

said movable part, a thread-measuring device having a pointer adapted to release said levers on the winding of a predetermined
35 length of thread, and rotating means adapted to act on said movable part when the latter is shifted by said arm into the path of rotation of the same and thereby to operate the lever provided with said movable part,
40 thereby releasing the means for putting the winding frame out of gear, substantially as set forth.

3. In combination with means for putting
45 a winding frame out of gear, a device normally locking the same, interlocked levers, one of which has an arm presented to said device, a rotary device arranged to strike a part of said locking device when thus moved into its path and thereby free said locking
50 device from said winding frame, and a thread measuring device having a pointer or projecting part arranged and adapted to free said levers and thus permit such action
55 of said arm when predetermined length of thread has been wound, substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

MORITZ EBELING, JR. [L. S.]

Witnesses:

OTTO KÖNIG,
HEINR. AHLEFELDER.