

(No Model.)

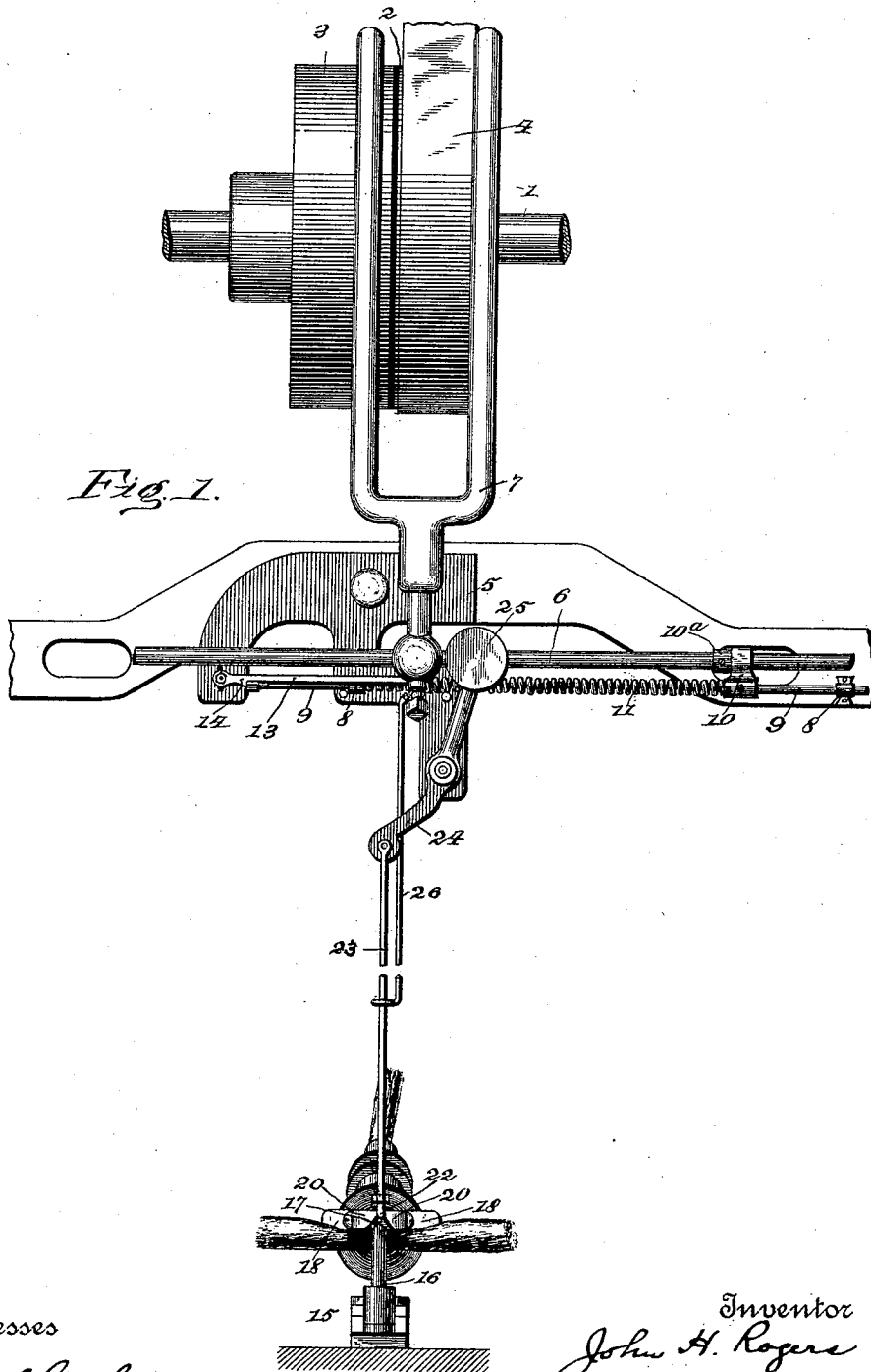
2 Sheets—Sheet 1.

J. H. ROGERS.

AUTOMATIC STOP MECHANISM FOR WOOL COMBING MACHINES.

No. 538,537.

Patented Apr. 30, 1895.



Witnesses

Theo. L. Gatche.

Louis G. Randall.

Inventor

John H. Rogers

by John Wedderburn
his Attorney

his Attorney

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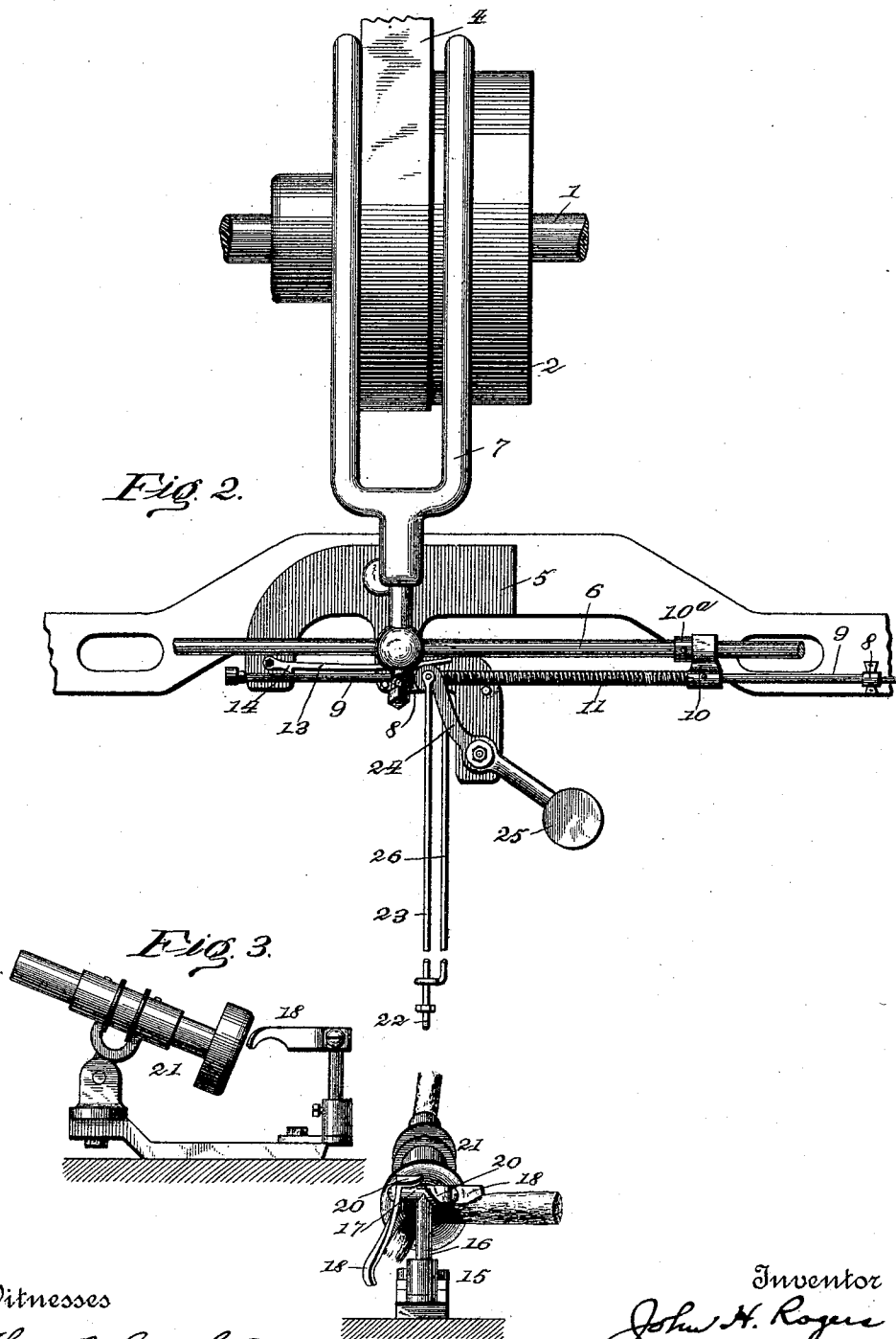
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UNITED STATES PATENT OFFICE.

JOHN H. ROGERS, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMATIC STOP MECHANISM FOR WOOL-COMBING MACHINES.

SPECIFICATION forming part of Letters Patent No. 538,537, dated April 30, 1895.

Application filed February 21, 1895. Serial No. 539,225. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ROGERS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Stop Mechanism for Wool-Combing Machines; 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.

My invention relates to automatic stop mechanism for wool combing machines, the same being especially applicable to those of the Noble type. It is a well known fact that in machines of this kind when the sliver is drawn from the drawing off rolls of the small circles and led thence through the trumpet, the same is apt to break, and if, after breakage, the motion of the machine is continued, the combs of the machine are apt to be broken, the sliver itself will lap and cause waste of material and damage to the machine and cause loss of time in extricating the tangled and gnarled wool from the comb and other parts of the machine. My invention is designed to overcome this by providing automatic means for shifting the belt upon the main shaft of the machine instantaneously upon the breakage of the sliver at any point. The same consists of a plate secured to the upper part of the machine, in which is mounted a laterally disposed rod, carrying an arm, provided with a loop at one end which surrounds the rod carrying the belt-shifting device and adapted to engage a collar on said rod. A spring is employed connected to said movable rod at the point at which said arm is secured and fastened at its other end to one of the bearings of said movable rod. This movable rod is adapted to be held in its adjusted position by means of a notched lever which engages one end thereof. Pivotaly mounted on said plate is a lever, one end of which is weighted and the other end of which has connected thereto a bar, provided with a hook or catch at its lower end leading outwardly and engaging projections on the ends of two arms pivoted in a suitable standard or support. These arms are extended outwardly and beneath them pass the slivers from the two small circles. If one or the other of

the slivers breaks, the arm to which it was attached will fall, thereby releasing said weighted lever secured to the bracket, thus engaging the transversely movable rod which in turn shifts a rod carrying the belt device, thereby stopping the machine.

The invention also consists of other details of construction and combination of parts which will be more fully hereinafter described and claimed.

In the drawings, forming a part of this specification, Figure 1 represents a side elevation of my stop mechanism, showing the belt-shifting device of the combing-machine. Fig. 2 represents a similar view of the same, with the parts in the position they assume when a sliver has been broken and the machine stopped. Fig. 3 is a side elevation of the upright or standard in which the arms supported by the slivers are pivoted.

Like reference-numerals indicate like parts in the various views.

By reference to the drawings it will be seen that 1, represents the main shaft of the combing machine, having thereon the fast pulley 2 and the loose pulley 3, with which the driving belt 4 is adapted to engage.

5 is a plate, bolted or otherwise secured to the frame work of the upper part of the machine, and 6 is a laterally disposed rod, mounted in suitable bearings and carrying the belt shifter 7, as clearly shown. Mounted in suitable bearings 8, 8, is a second rod 9, having secured thereto and adapted to move therewith an arm 10, having bifurcated ends which surround the rod 6 and adapted to engage a fixed collar, 10^a, on said rod. A coiled spring 11 is secured to the rod 9 at the point of connection of the arm 10 and to one of the boxes 8, in which said rod 9 is adapted to move. Pivoted to the plate or bracket 5 is a detent lever 13, having a tooth 14 thereon which is adapted to engage one end of the rod 9 when the latter is in its adjusted or set position. The release of this lever 13 from engagement with the rod 9, will cause the latter to be thrown inwardly under the influence of the coiled spring 11. The release of this lever 13, is caused by the mechanism which will be now described.

An upright or standard 15 is bolted or otherwise secured to the base or bed plate of the

combing machine and in it is secured a bar 16, formed with projections 17 at its upper end. Pivoted to these projections 17, one on each side thereof, are two arms or levers 18, 5 18, having inwardly projecting lugs or fingers 20 at their inner ends. Beneath the outer ends of the arms 18, the slivers leading from the two smaller circles are passed, which are conducted thence through the trumpet 21 of 10 ordinary construction and by these slivers said arms are held in their upper positions, as clearly shown in Fig. 1. Loosely attached to the fingers 20 of the arms 18 is the hooked end 22 of a rod 23 connected at its upper end 15 to one arm of a lever 24 pivoted to the plate or bracket 5, as clearly shown. The other end of said lever 24 is weighted, as shown at 25 and the tendency of this arm is to drop. The other arm of said lever is adapted to en- 20 gage during its upward stroke with the free end of the lever 13 which releases the rod 9. Secured to the plate or bracket 5, and leading downwardly therefrom and formed with a loop at its lower end is a guide rod 26, for the 25 rod 23. By this construction it will be seen that when the lever 9 is adjusted and set, as shown in Fig. 1, the combing machine is in operation, the driving belt 4 being in engagement with the fast pulley 2 on the main shaft 30 1. The slivers from the small circles pass beneath the outer ends of the arms 18, thence through the trumpet 21, and the rod 23 is attached to and held downwardly by the fingers or projections 20 on the inner ends of the 35 arms 18. If by chance one or both of the slivers should break, one or both of the arms 18 will drop into position shown in Fig. 2, the rod 23 will be released and the outer or weighted end 25 of the lever 24 will fall, throwing the 40 inner arm upwardly and releasing the lever 13 from engagement with the inner end of the rod 9. When this takes place, the rod 9, carrying the arm 10 will be thrown to the left through the action of the coiled spring 11, and 45 the arm 10 engaging the collar 10^a on the shaft 6 will throw the latter in the same direction, shifting the belt 4 from the fast pulley 2 to

the loose pulley 3, thereby stopping the operation of the machine and preventing any breakage of the parts or loss of time. 50

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination with a wool combing machine having a main shaft with fast and loose 55 pulleys thereon, of mechanism for automatically stopping the machine by shifting the belt from the fast to the loose pulley, the same consisting of a rod having a belt shifter secured thereto, mounted transversely of the 60 machine, a second rod parallel thereto carrying an arm which is adapted to engage a collar on said belt shifting rod, a spring connected to said second rod, a lever having a tooth thereon against which said rod is adapted 65 to bear and be held in its set position against the force of said spring, a second lever pivoted to suitable support, one arm of which is weighted and the other arm of which is adapted to engage said toothed lever 70 upon its upward movement, a rod having a hook at its lower end, pivotally connected to the inner arm of said weighted lever, an upright mounted upon the base or bed plate of the combing machine, a pair of arms having 75 curved outer ends pivoted in said upright and adapted to be held in their raised positions by means of the slivers passing beneath said outer arms, inwardly projecting fingers or 80 lugs on the inner ends of said arms to which said hooked rod is adapted to be attached, whereby, upon the breakage of one or both of the slivers said arms will fall, releasing said 85 weighted lever and through the toothed lever actuate the belt shifting device, substantially as and for the purposes described.

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

JOHN H. ROGERS.

Witnesses:

WILLIAM H. FISHER,
J. GORDON SHOWAKER.