

(No Model.)

R. J. RISK.

INDICATOR FOR WINDING AND WARPING MACHINES.

No. 586,396.

Patented July 13, 1897.

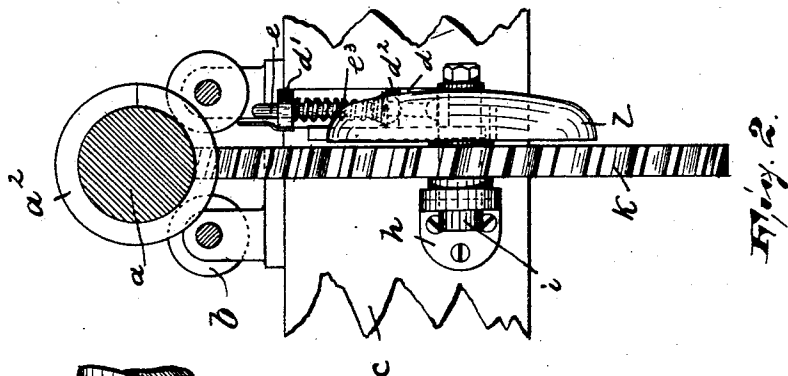


Fig. 2.

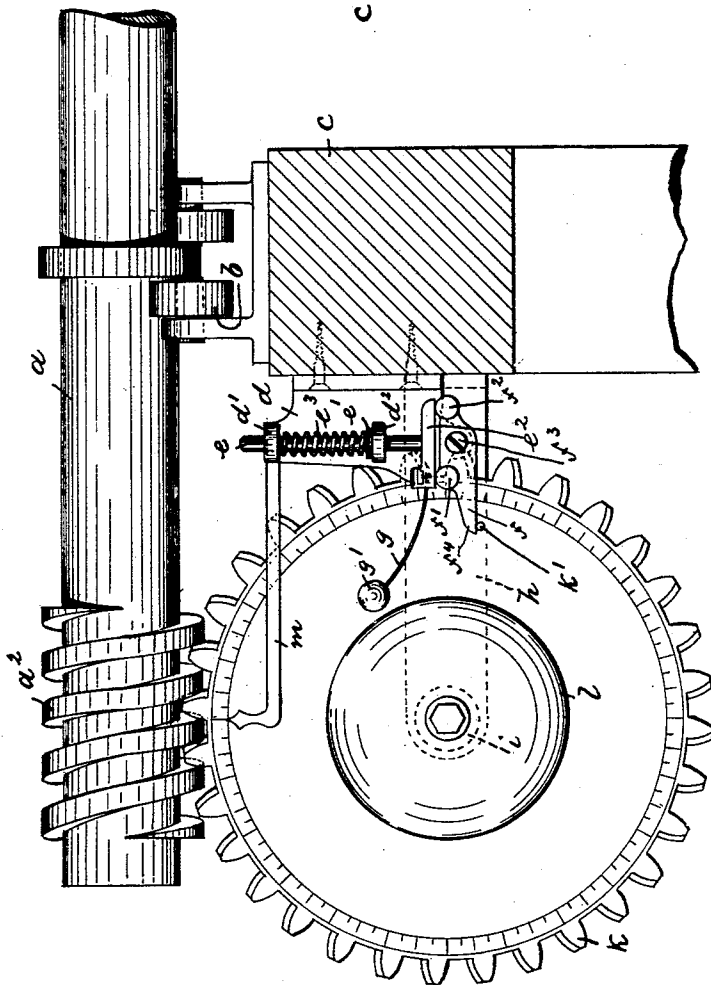


Fig. 1.

WITNESSES:

Wm. J. Zell.

Samuel M. Robertson

INVENTOR:

Robert J. Risk

BY Fartner & Co. ATTY'S.

UNITED STATES PATENT OFFICE.

ROBERT J. RISK, OF PATERSON, NEW JERSEY, ASSIGNOR TO BENJAMIN EASTWOOD, OF SAME PLACE.

INDICATOR FOR WINDING AND WARPING MACHINES.

SPECIFICATION forming part of Letters Patent No. 586,396, dated July 13, 1897.

Application filed March 5, 1897. Serial No. 626,014. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. RISK, a citizen of the United States, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in a Combined Indicator and Alarm for Warpers, &c.; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my present invention is to provide a combined alarm and indicator for winding-machines, and especially applicable to that class known as "warpers," simple and durable in construction and reliable in operation and not liable to get out of order.

The invention consists in the combination of the improved alarm and indicator, in the operating and controlling mechanism thereof, and in the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the views, Figure 1 represents a view of my combined alarm and indicator in front elevation and attached to a portion of a warper-frame, and in Fig. 2 is shown an end view of Fig. 1.

In said drawings, *a* represents the reel-carrying shaft of a warper supported in roller-bearings *b*, arranged on frame *c*, all of the usual well-known construction. Secured to the frame *c* in any desired manner is a bracket *d*, provided with horizontally-arranged lugs *d'* and *d''*, arranged in vertical alinement with each other and provided with suitable perforations forming bearings for the spring-controlled rod or spindle *e*, slidably arranged in said bearings and limited in its downward motion by a collar *e'*, secured thereon in any desired manner, coming in contact with the lug *d''*. The spiral spring *e''*, controlling the said rod or spindle *e*, surrounds the same and bears with its lower end against the collar *e'*, while its upper end engages the under sur-

face of the lug *d'*. Said spindle *e* is provided at its lower end with a shoe *e''*, which when in normal position rests upon and engages the projections *f'* and *f''* of the lever *f*, fulcrumed, as at *f'''*, to the lower portion of bracket *d*. To the forward end of shoe *e''* is secured, by means of wire *g*, a hammer *g'* for a purpose hereinafter stated. On the frame *c* is also secured the horizontally-projecting bracket *h*, adapted to receive and support the stub-shaft *i*, upon which is revolubly arranged the graduated gear-wheel *k*, meshing with a worm *a''* on the reel-shaft *a*, all as clearly shown in the drawings. On one end of the stub-shaft *i* and in front of the graduated gear-wheel *k* is arranged the gong *l* in alinement with the hammer *g'*, above mentioned. Projecting from the surface of the graduated gear-wheel *k* and rotating with the same is a pin *k'*, adapted at certain intervals, when said wheel is in rotation, to engage the outwardly-projecting end *f''* of the fulcrumed lever *f*, thereby turning the same upon its fulcrum *f'''* and causing the projection *f'* to raise the shoe *e''* and spindle *e* against the action of the spiral spring *e''*, which, upon the pin *k'* becoming disengaged from the projecting end *f''* of lever *f*, causes said shoe and lever to immediately return to their normal positions. This movement produces a sudden jar and causes the hammer *g'* to strike a sharp blow against the gong *e*, thus sounding the alarm.

The graduations on the gear-wheel *k* may be of any desired denomination and scale, and to assist in the correct reading of the same a pointer or indicator *m* is secured to the upper portion of the bracket *d*, projecting outward across and having its point directly in front of and in a convenient position near the graduation in said wheel.

The relative speed of the gear-wheel *k* to the shaft *a* must be such that one revolution of the said gear-wheel corresponds to the winding on or off of a specified length of warp, but it will be manifest that a shorter length may be indicated by the gong by simply inserting a series of pins at certain specified intervals in the said gear-wheel, and which pins are adapted to operate the striking mechanism in a manner similar to the pin *k'*. It

is also obvious that the gear-wheel k can be rotated in the opposite direction—that is to say, the pin k' will strike against the upper surface of the projection f^4 of the fulcrumed lever f —and in that case its lug f^2 will force the shoe e^2 upward and the hammer will strike the gong l in its return movement.

Heretofore in combined alarm and indicators for warpers the striking mechanism could be operated when the reel-supporting shaft was rotating in one direction only, and breakage very often occurred when the said shaft was rotated in the opposite direction.

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

1. The combination with a frame, of a stub-shaft carried by said frame, a gear-wheel revolubly arranged on said stub-shaft, a pin projecting from said gear-wheel, a gong supported by said stub-shaft, a bracket suitably connected with said frame, a spring-controlled rod or spindle slidingly arranged in said bracket, a shoe on said spindle, a hammer carried by said shoe, and a fulcrumed lever on said bracket and adapted to operate said

shoe, and having its projecting portion in the path of the pin, all said parts, substantially as and for the purposes described.

2. The combination with a revolving shaft, of a wheel operated from said shaft, a gong suitably supported in front of said wheel, a pin projecting horizontally from said wheel, a bracket provided with horizontally-projecting lugs suitably supported below the revolving shaft, a spring-controlled vertical spindle or rod slidingly arranged in the projecting lugs of the bracket, a shoe on one end of said spindle and carrying a hammer, and a fulcrumed lever in engagement with said shoe for operating the same, and provided with a projecting portion adapted to be engaged by the pin, all said parts, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of March, 1897.

ROBERT J. RISK.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.