

(No Model.)

J. H. NORTHROP.
SPINDLE RETAINING DEVICE.

No. 505,174.

Patented Sept. 19, 1893.

Fig. 1.

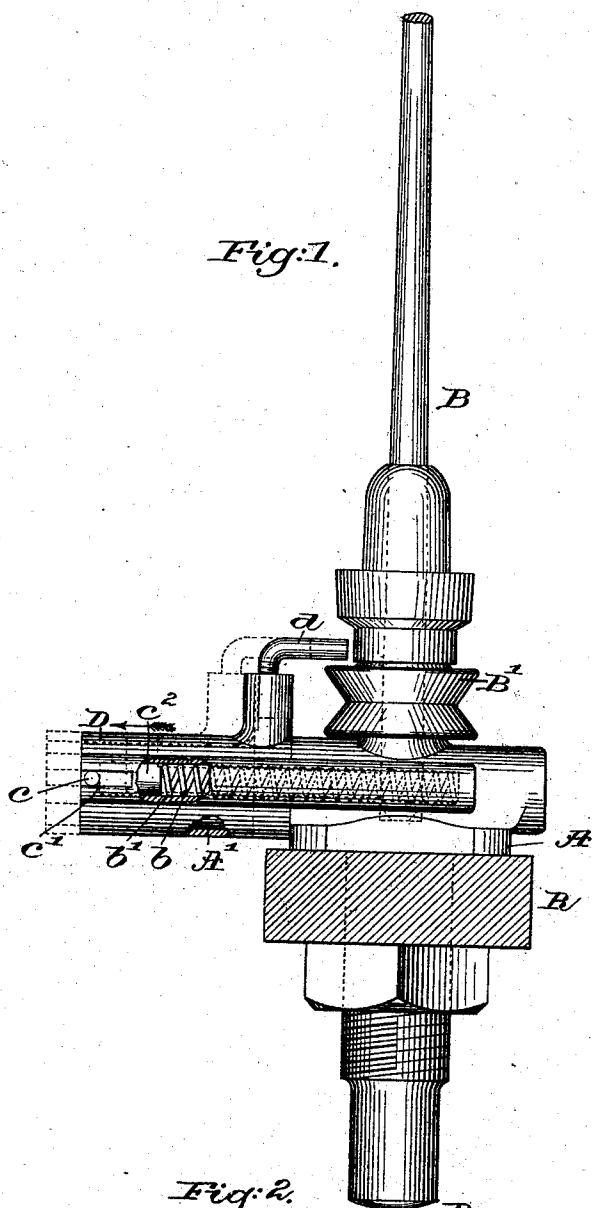


Fig. 3.

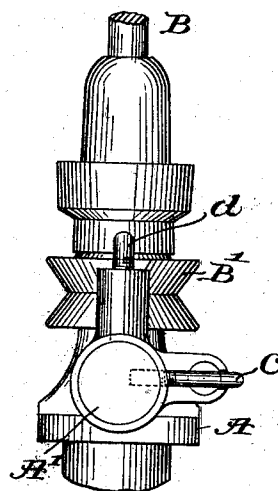
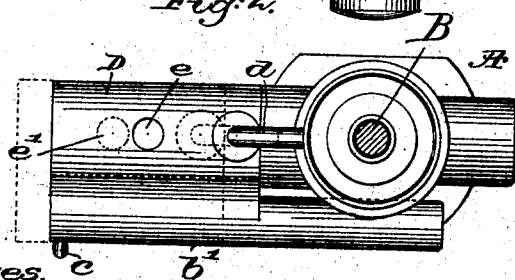


Fig. 2.



witnesses.
Louis N. Howell
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UNITED STATES PATENT OFFICE.

JAMES H. NORTHROP, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO
GEORGE DRAPER & SONS, OF SAME PLACE.

SPINDLE-RETAINING DEVICE.

SPECIFICATION forming part of Letters Patent No. 505,174, dated September 19, 1893.

Application filed April 22, 1893. Serial No. 471,396. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. NORTHROP, a subject of the Queen of Great Britain, residing at Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Spindle-Retaining Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The supporting cases commonly employed to contain the bearings for spinning spindles, especially those in connection with which a sleeve whirl spindle is employed, have commonly extended from them a horizontal hollow arm to lead oil to the bearings of the spindle, and said horizontal arm has had a hollow upward extension provided with a removable cap, the oil to lubricate the spindle being poured into the extension when the cap was removed. This class of supporting case has also usually been provided with an 7-shaped piece of wire screwed into the horizontal arm referred to or some other proper part of the supporting case, the said 7-shaped piece of wire constituting a stop to co-operate with a projection such as the whirl of a spindle to prevent the lifting of the spindle during the operation of doffing. In my efforts to improve this class of supporting-case and enable the spindle to be lifted from its bearings in the supporting case, with the expenditure of less time and trouble than by turning the said pin as heretofore, and also to avoid the loss or misplacement of the usual cap or cover, I have devised a carriage which I have mounted upon the said horizontally extended arm, so that it may slide longitudinally toward and from the spindle, said carriage having a suitable projection which when the carriage is in its normal position overlaps a projection of the spindle to hold it down during the doffing operation, and I have also preferably provided said carriage with an oil hole or mouth, which, when the carriage is in its abnormal position, is brought into line with the receiving mouth of the oil reservoir, but at all other times a solid part of the carriage covers said mouth. I have also combined with said horizontally sliding carriage, a spring which acts normally to keep the projection of the carriage in op-

erative position with relation to the projection of the spindle, or with relation to the whirl during the operation of doffing as well as spinning.

Figure 1, in elevation, represents a supporting-case and sleeve whirl spindle with my improvements added. Fig. 2 is a top or plan view of the parts shown in Fig. 1; Fig. 3, a partial elevation looking from the left in Fig. 1.

The rail R receives within it the shank of the supporting case A, it containing suitable bearings for the spindle B having, as represented, a sleeve whirl B'. This supporting-case has extended from it horizontally at a point below the whirl, a tubular arm or projection A', made hollow to receive oil, and being in open communication with the interior of the supporting case and the bearings therein, the said bearings not being, however, herein shown because they may be of usual construction. The arm A' receives about it the carriage D which, as herein represented, carries a stop d to overlap a projection from the spindle such as the whirl and prevent the lifting of the spindle during the operation of doffing, said carriage being preferably retained in its full line position Figs. 1 and 2, by means of a suitable spring b, best shown in Fig. 1 and located in a tubular extension b' of the said carriage, said tubular extension, as herein represented, being of sufficient length to overlap a portion of the flange of the supporting-case, which flange rests upon the upper portion of the rail R. To prevent rocking motion of the carriage upon the arm A', I have provided said arm with a pin or projection, as c, to enter a slot, as c', in the said tubular projection b'. One end of the spring b rests against the closed end portion b' of the carriage D, the other end of the spring preferably resting against a plug, as c², which in turns bears against the fixed pin c, and consequently, the said spring acts normally to keep the carriage in the full line position.

To withdraw the spindle from its bearings, the operator will move the carriage in the direction of the arrow in Fig. 1 into its dotted line position.

The carriage has an oil hole e which in the normal position of the carriage is out of line with relation to the mouth e' of the oil cham-

ber in the arm A', said mouth being indicated by dotted lines in Fig. 2, so that normally the carriage serves to close the oil hole leading into the oil reservoir, but oil may be readily introduced into said oil hole by sliding the carriage horizontally in the direction of the arrow until the holes *e* and *e'* coincide.

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

1. A spindle-bearing supporting-case, it having a substantially horizontal or lateral extension, combined with a carriage mounted upon said extension and adapted to be slid longitudinally thereon, said carriage being provided with a suitable stop to overlap a projecting portion of a spindle and prevent the lifting of the spindle during the operation of doffing, substantially as described.

2. A spindle-bearing supporting-case, it having a substantially horizontal or lateral hollow extension to constitute an oil reservoir, combined with a carriage mounted upon said extension and adapted to be slid longitudinally thereon, said carriage being provided with a suitable stop to overlap a projecting portion of a spindle and prevent the lifting of the spindle during the operation of doffing, and with a spring to normally move

the said carriage in the direction to put the said projection in operative position, substantially as described.

3. A spindle-bearing supporting-case, it having a laterally extended arm to constitute an oil reservoir, the said oil reservoir having an open mouth, combined with a carriage mounted on said extension and adapted to slide longitudinally thereon, and provided with an oil hole, the oil hole in the carriage in the outermost position of said carriage coinciding with the oil hole in the said arm, but in other positions of the said carriage closing the oil hole in the arm or reservoir, substantially as described.

4. A spindle-bearing supporting-case having a laterally extended hollow arm provided with an open mouth, and a carriage mounted on said arm and provided with a stop and an oil hole; and a guide to control the path of movement of said carriage in one direction, substantially as described.

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

JAMES H. NORTHROP.

Witnesses:

C. E. LONGFELLOW,
S. F. SMITH.