(No Model.)

W. K. HANCE.

ATTACHMENT FOR LATHES.

No. 512,372. Patented Jan. 9, 1894.

Fig. 1.

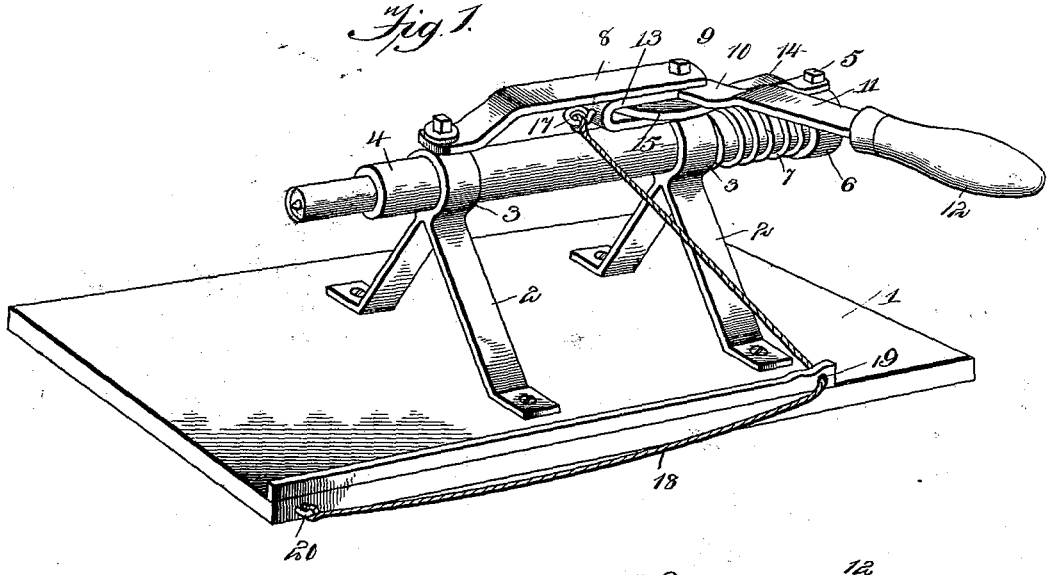


Fig. 2.

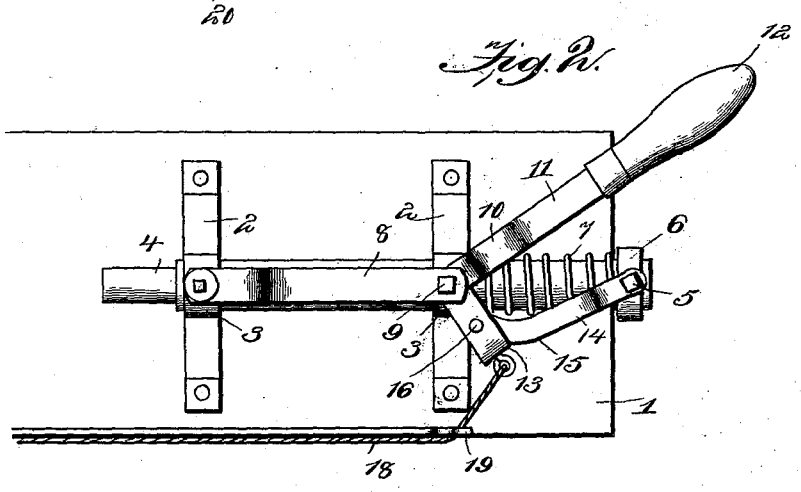
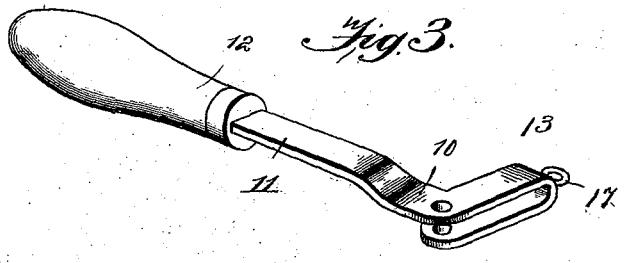


Fig. 3.



Witnesses

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ATTACHMENT FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 512,372, dated January 9, 1894.

Application filed August 23, 1893. Serial No. 483,797. (No model.)

To all whom it may concern:

Be it known that I, WILKERSON K. HANCE, a citizen of the United States, residing at Spencerville, in the county of Allen and State of Ohio, have invented a new and useful Attachment for Lathes, of which the following is a specification.

My invention relates to means for operating the tail stocks of lathes and similar turning machines, and it has for its object to provide a construction whereby the tail stocks may be adjusted to engage the article to be turned without resorting to the use of the ordinary tail screw, grip rods, and similar devices; and whereby the tail stock may be released instantly and without returning to that end of the machine.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of an attachment embodying my invention applied in the operative position to a tail stock. Fig. 2 is a plan view showing the positions of the parts when the tail stock is released or retracted. Fig. 3 is a perspective view of the operating lever detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In Figure 1 I have shown a portion of the table of a lathe, which is indicated by the numeral 1, and upon this table are arranged the standards 2, provided at their upper ends with bearings 3, in which is slidably mounted a tail stock 4 of the ordinary construction. Inasmuch as my invention does not relate to the other parts of a lathe, I have not included them in the drawings. Fixed to the rear end of the tail stock, by means of a set-screw 5, is a collar 6, and between this collar and the adjacent or rear standard, and encircling the stock, is a coiled retraction spring 7, which is adapted when the stock is released to return the latter to the position shown in Fig. 2. 8 represents a brace, connected at its front end to the upper end of the front standard, and at its rear end to the upper end of the rear standard, by means of a vertical bolt 9, and between the rear end of said brace and the upper extremity of the rear standard, and mounted pivotally upon said bolt, is an operating lever 10. This lever is provided with a shank 11, to which is fixed a handle 12, the other arm of the lever being made in the form of a loop, as shown at 13, such looped portion being constructed by bending this arm of the lever upon itself and pivoting the extremity upon the bolt 9 beneath the body-portion of the lever. The looped portion of the lever is arranged at an angle to the shank. The looped arm of the operating lever is connected to the collar 6 by means of an interposed link 14, the rear end of which is pivotally connected to the said collar by means of the set-screw 5, and the front end of said link being arranged between the parallel sides of the looped arm. This link is provided near its front end with a curve or bow 15, to pass around the pivot-bolt 9, when the parts are in the position shown in Fig. 1, to enable the pivot 16, whereby the link is connected to the lever, to be arranged in alignment with the bolt 9 and set-screw 5, or to enable the link to be arranged in alignment with the direction of movement of the stock or the strain of the spring. An eye 17 is formed upon the extremity of the looped arm of the lever for the attachment of a flexible trip cord 18, which extends forwardly from such eye and through a guide 19 upon the table, and thence is carried longitudinally at the front edge of the table and is secured at its free end by means of a fastener 20.

This being the construction of my attachment, the operation thereof, briefly stated, is as follows: With the parts in the position shown in Fig. 2, in which the stock is retracted and is so held by the retracting spring, it is only necessary to swing the free arm or handle of the operating lever forwardly to the position shown in Fig. 1 in order to advance the stock and lock the same in such advanced position. As the lever is swung in the manner described, the looped arm thereof passes under and lies parallel with the brace 8, thereby arranging the link 14, which forms the connection between the lever and the stock in alignment with the direction of movement of the stock, said link occupying a position between the horizontal planes of the upper

and lower sides of said looped arm. This forms an automatic lock for the parts and maintains them in their operative positions without supplemental mechanism. When it is desired to release the operating lever to enable the spring to retract the stock, it is accomplished by drawing the trip cord 18, which swings the looped arm of the lever forwardly a sufficient distance to enable the retracting spring to operate. Thus the adjustment of the stock, and the locking of the latter in such adjusted position, are accomplished by a single movement of the operating lever, and the release and retraction of the parts are accomplished by drawing the trip cord which may be manipulated from any part of the table, and without necessitating the return of the operative to that end of the table upon which the tail stock is disposed.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention. It will be understood, furthermore, that the attachment as above described may be applied to any ordinary form of lathe or similar machine requiring the operation which is above described.

Having described my invention, what I claim is—

1. The combination with a tail stock, of an operating lever having a looped arm pivoted to one of the standards of said stock, and a link connecting said looped arm to the stock and curved or bowed in shape to extend around the pivotal point of the lever, when the tail stock is advanced and a retraction spring connected to the stock, substantially as specified.

2. The combination with a spring-actuated tail stock, of an operating lever, a link connecting such lever to the tail stock, and a trip cord 18, connected to the lever to facilitate the release of the latter, substantially as specified.

3. The combination with a spring-actuated tail stock, of an operating lever provided with an angularly-disposed looped arm, 13 and a curved or bowed link 14 pivotally connected to the lever between the sides of its looped arm and also connected to the tail stock, whereby the extremity of the link which is connected to the looped arm is swung beyond the pivotal point of the lever when the tail-stock is advanced substantially as specified.

4. An attachment for lathes, comprising a collar 6 secured to the tail stock of the lathe, a retracting spring 7, a lever 10, provided with a looped arm, 13, a link 14 connecting said looped arm to the collar, and a trip-cord 18 extending laterally from the free end of the looped arm and passing through a stationary guide 19 substantially as specified.

5. The combination with standards provided with registering bearings, and a tail stock suitably mounted in said bearings, of a collar fixed to the rear end of the tail stock, a retracting spring arranged between said collar and the adjacent standard, a brace connecting said standards, a pivot-bolt connecting the rear end of said brace to the adjacent standard, an operating lever pivoted upon said bolt between the brace and the upper end of the standard and having a looped arm, the free end of which is pivoted upon the said bolt below the plane of the body-portion of the lever, a curved or bowed link connecting said lever and collar and arranged at its front end between the sides of the looped arm of the lever, and a trip cord connected to the free end of the looped arm and extending through a fixed guide, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILKERSON K. HANCE.

Witnesses:
G. M. ROGERS,
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