

(No Model.)

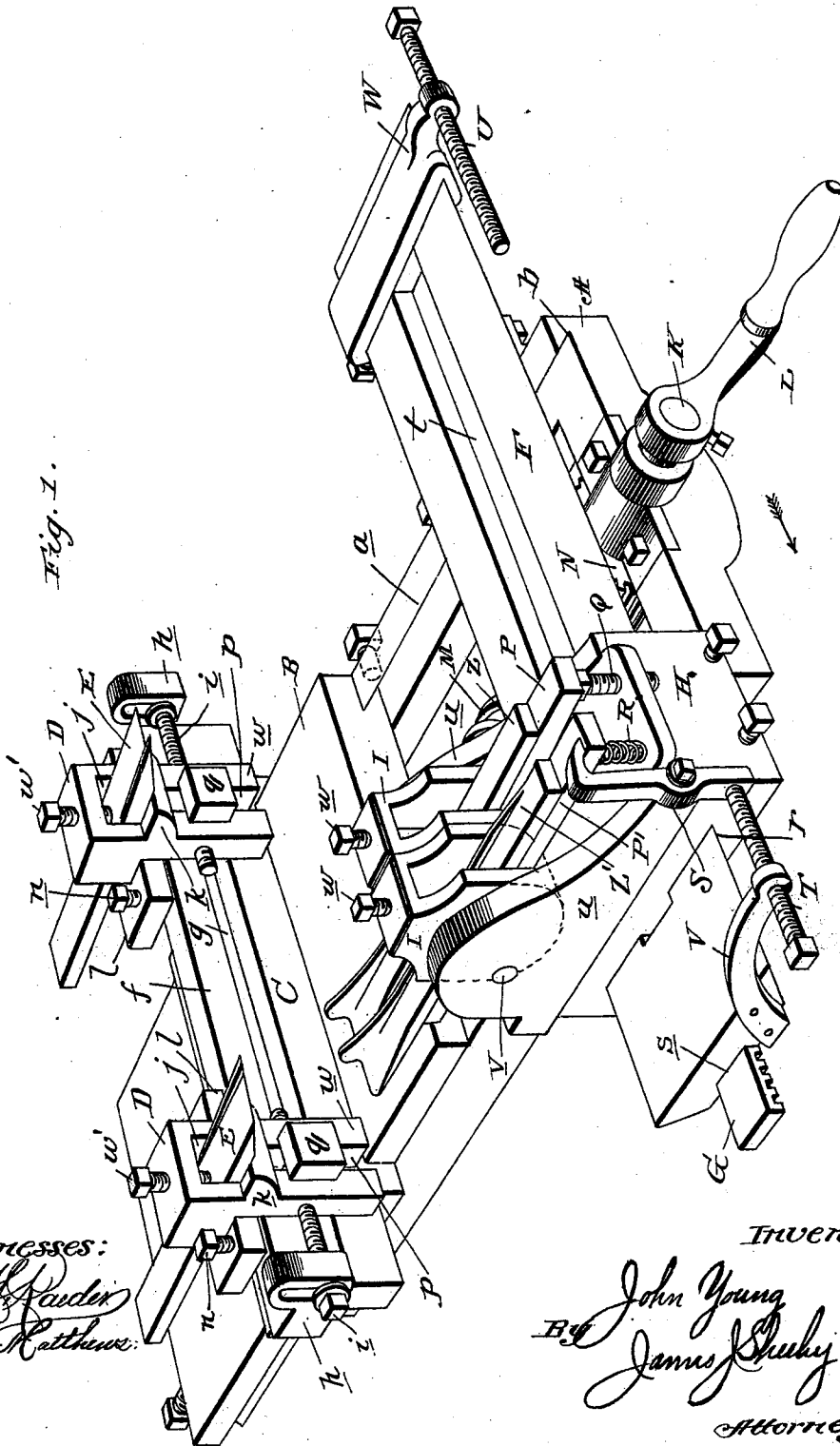
4 Sheets—Sheet 1.

J. YOUNG.
LATHE CARRIAGE.

No. 516,622.

Patented Mar. 13, 1894.

Fig. 1.



Witnesses:

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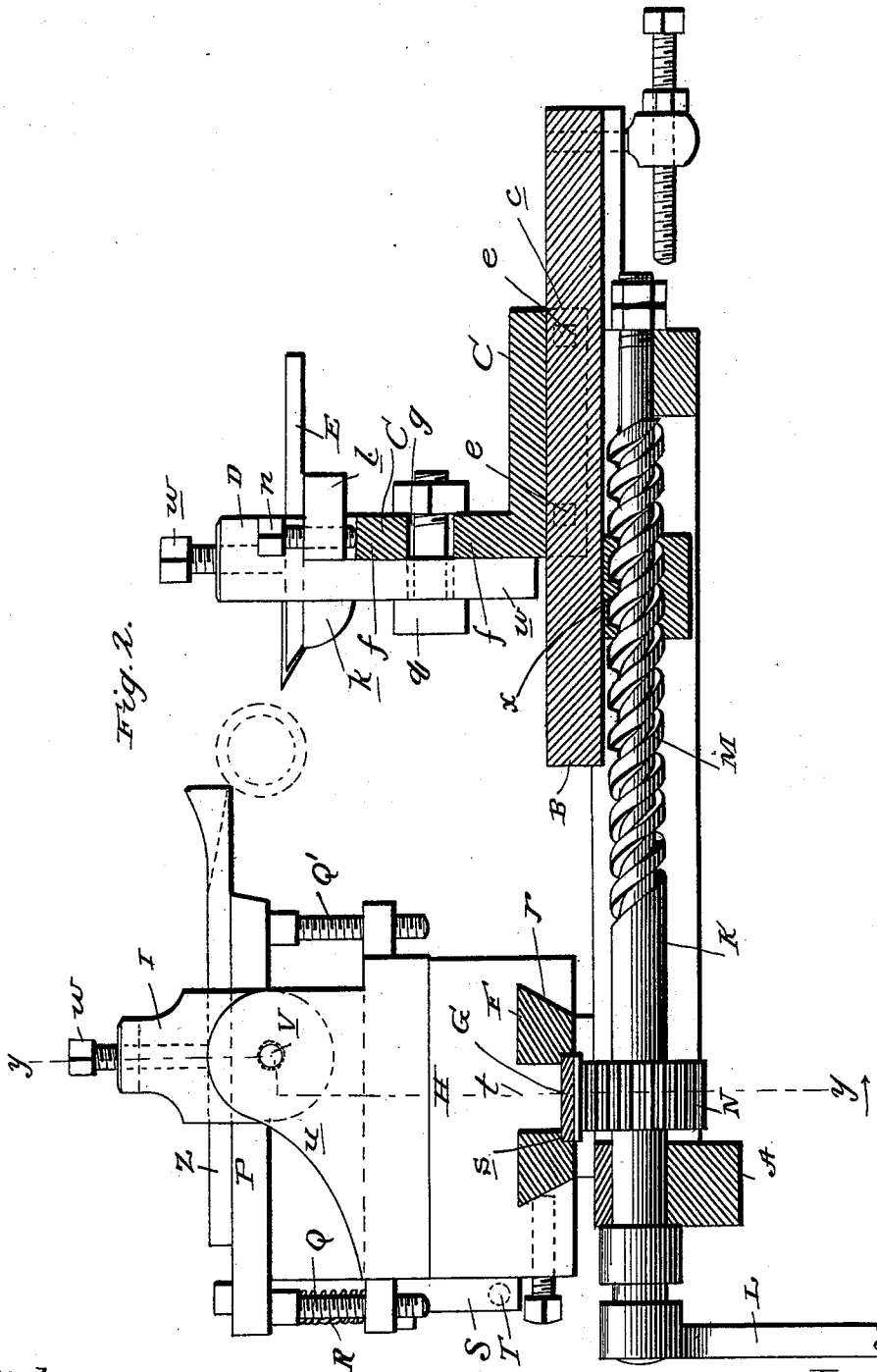
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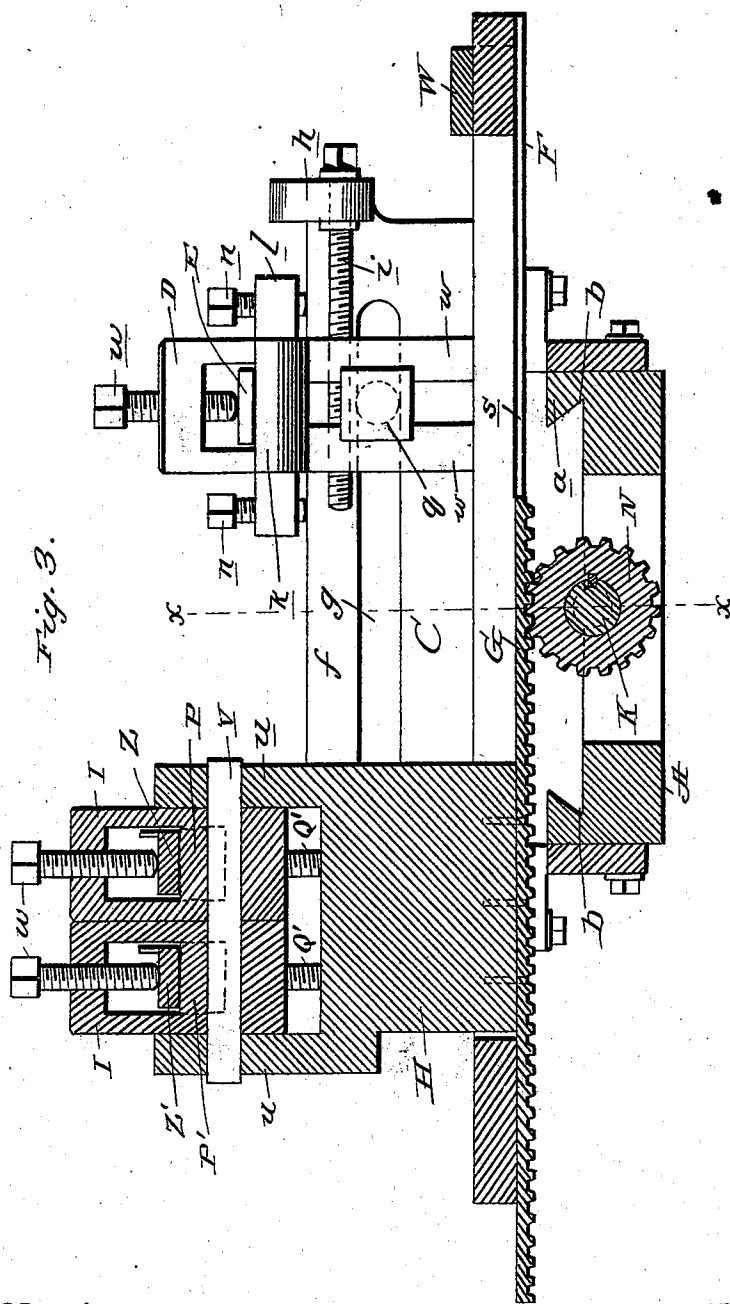
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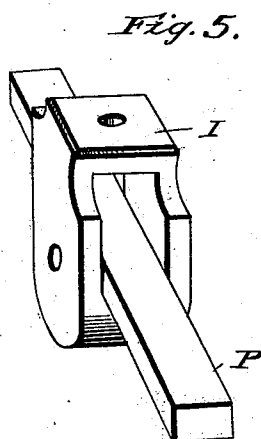
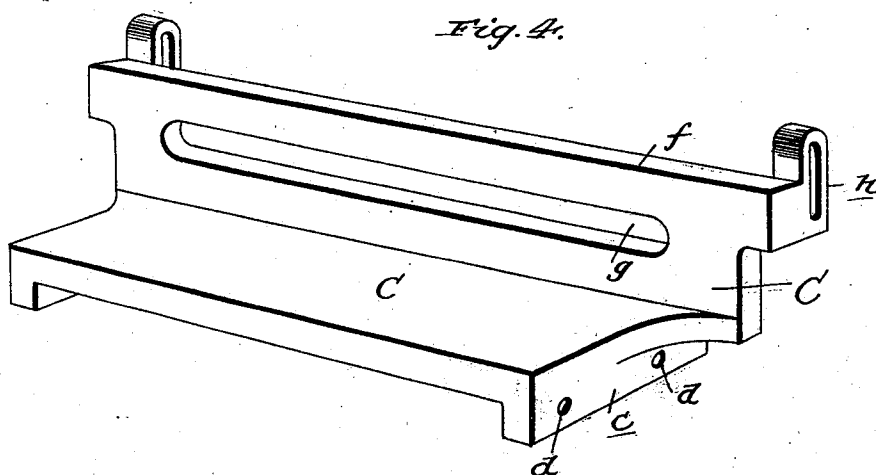
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4 Sheets—Sheet 4.

J. YOUNG.
LATHE CARRIAGE.

No. 516,622.

Patented Mar. 13, 1894.



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UNITED STATES PATENT OFFICE.

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TO DAVID BASS, OF SAME PLACE.

LATHE-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 516,622, dated March 13, 1894.

Application filed October 16, 1893. Serial No. 488,307. (No model.)

To all whom it may concern:

Be it known that I, JOHN YOUNG, a subject of the Queen of England, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Lathe-Carriages; and I do 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 improvements in lathes; and it has for its general object to provide a lathe designed more especially for turning regular forms such as spool barrels, bobbins, and the like, embodying a construction whereby the body or intermediate portion of the spool or bobbin and the reduced ends thereof may be turned in one operation.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a perspective view of a lathe carriage embodying my invention. Fig. 2, is a longitudinal sectional view of the same with parts in section; the said view being taken in the plane indicated by the line *x, x*, of Fig. 3. Fig. 3, is a transverse section taken in the plane indicated by the line *y, y*, of Fig. 2, and Figs. 4 and 5, are perspective views of detail parts.

In the said drawings similar letters designate corresponding parts throughout the several views, referring to which—

A, indicates a lathe carriage which may be mounted upon the ways of a lathe in the usual or any approved manner; and B, indicates the longitudinally-movable slide-rest which has a dovetail projection *a*, upon the lower side designed and adapted to engage the dovetail grooves or ways *b*, in the side bars of the carriage as better illustrated in Fig. 3. The rest B, preferably extends the entire width of the carriage A, as illustrated and it carries a bracket C, which is preferably of a general right angular form in cross section and is provided at the ends of its horizontal portion with depending flanges *c*, having apertures *d*, for the passage of binding screws *e*, through the medium of which the bracket is fixed upon the rest. This

bracket C, is also provided in its vertical portion *f*, with a longitudinal slot *g*, and at the ends of the said vertical or upright portion it is provided with the upwardly extended slotted ears *h*, for the passage of the transversely-disposed adjusting screws *i*, presently to be described.

D, indicates the rear tool holders or posts of the lathe which are mounted upon the bracket C, as better shown in Fig. 1. These holders or posts D, are provided with openings *j*, to receive the tools E, and with ledges as *k*, to support the forward portions of the same; and the said holders or posts are also provided with the lateral, horizontal flanges *l*, and the reduced depending portions *w*, which take downwardly in front of the bracket, as illustrated. The flanges *l*, are provided with apertures for the passage of the screws *n*, which engage the upper edge of the bracket C, and serve to adjust the tool holders or posts vertically, and the depending portions *w*, are provided with vertical slots *p*, which are preferably open at their lower ends and are designed for the passage of bolts as *q*, which take through the slot *g*, of the bracket and serve to fix the holders or posts with respect to the said bracket when they have been properly adjusted vertically by the screws *n*, and horizontally and transverse of the machine by the screws *i*.

F, indicates a fixed slide or bed, which extends transverse of the carriage at the forward portion thereof and occupies the dovetail groove *r*. This slide or bed F, is of a dovetail form in cross section for the purpose just stated, and it is provided in its under side with a groove *s*, to receive the rack bar G, and is also provided with a slot *t*, for the passage of a reduced portion of the transversely-movable slide-rest H, to which the rack bar is connected in any approved manner.

The slide rest H, is provided upon its upper side with standards as *u*, which may be integral if desired, and these standards serve to afford bearings for the transverse shaft *v*, upon which the rocking tool holders or posts I, are mounted. These holders or posts are preferably of the form illustrated in Fig. 5, and their tools Z, Z', are preferably secured in position in the same manner as the tools

of the holders or posts D, that is by suitable binding screws as *w*'.

K, indicates the shaft for imparting movement to the slide rests B, and H. This shaft 5 K, which is journaled in the carriage A, and may be rotated through the medium of a crank as L, or any other suitable means, is provided with a screw as M, and with a pinion N. The screw M, engages a nut as *x*, 10 upon the slide rest B, and the pinion N, engages the rack bar G, of the slide rest H, as better shown in Fig. 2. Consequently it will be readily perceived that when the crank L, is rotated in the direction of the arrow (see 15 Fig. 1), the slide rest B, will be moved transversely from left to right so as to carry the tools Z, Z', along the body or intermediate portion of the spool barrel or bobbin, and at the same time the slide rest B, will be moved 20 forward in a longitudinal direction so as to bring the tools E, into contact with the stock and form the reduced ends of the article being made.

The tool Z, of the slide rest H, is designed 25 and adapted to do the rough cutting while the tool Z', which follows the tool Z, is designed to do the finishing cutting and is consequently extended in advance of the tool Z. Said tools Z, Z', are mounted upon extensions or 30 bars P, P', which preferably extend forwardly and rearwardly from the holders or posts I, and form part of the same as shown; and the bar P, of the tool Z, bears at its rear end upon a screw Q, mounted in the rest H, whereby it 35 will be seen that the forward end of the bar and consequently the cutting end of the tool may be adjusted vertically and adjustably fixed when desired. It will also be seen that by reason of the screw Q, bearing in the rest 40 H, the cutting edge of the tool Z, will be held against upward movement and will consequently be retained in engagement with the stock. The rear end of the bar P', of the tool Z', bears upon a spring as R, mounted on 45 the rest H, which spring serves to hold the tool in place when it is not in engagement with the stock. When the tool Z', is in engagement with the stock its bar P', rests firmly upon a screw as Q', and the bar P, of 50 the tool Z, when at work rests upon a similar screw Q'. The spring R, also permits the bar P', and the tool mounted thereon to rock and enables the catch or trigger S, to engage the bevel surface of said bar so as to hold the 55 cutting end of the tool Z', away from the work during the return movement of the rest H, and thereby prevent the tool from damaging the work. The catch or trigger S, is operated automatically by the stops T, U, which in the 60 present embodiment of my invention are screws, in order that they may be properly adjusted. The screw T, is mounted in an arm as V, fixed upon the fixed slide or bed F, and serves to engage the lower portion of the lever 65 at the completion of the return movement of the slide rest H, so as to permit the cutting end of the tool Z', to resume its oper-

ative position, while the screw U, is mounted in a bracket W, adjustable on the slide or bed F, and is designed to engage the catch or 70 trigger S, at the completion of the left to right movement of the rest so as to cause said catch or trigger to engage the bar P', and raise the forward end of the cutting tool and thereby prevent the same from damaging the 75 stock on the return movement of the slide rest.

In the practical operation of my improved lathe, the piece of stock is held by a chuck or other suitable device and is rapidly rotated 80 in the position illustrated in Fig. 2, and the crank L, is turned in the direction indicated when the slide rest H, will be moved transversely so as to carry the tools Z, Z', along the stock and shape the intermediate portion 85 of the spool barrels and the slide rest B, will be moved forwardly so as to enable the tools E, to shape the ends of the barrel.

It will be noticed from the foregoing description taken in conjunction with the drawings that my improved lathe is very simple, 90 durable, and effective in operation, and it will also be noticed that it does not embody any complicated mechanism or any mechanism liable to get out of order, which is a de- 95 sideratum.

Having described my invention, what I claim is—

1. In a lathe, the combination with a carriage, a longitudinally movable slide rest 100 mounted on the carriage, and a transversely-movable slide rest also mounted on the carriage and having a rack; of a shaft journaled in the carriage and having a screw in engagement with the longitudinally-movable slide 105 rest and a pinion in engagement with the rack of the transversely-movable slide rest, substantially as and for the purpose set forth.

2. In a lathe, the combination with a carriage and stops as T, U, connected with the 110 carriage; of a slide rest, a tool carried by a rocking holder mounted on the slide rest, and a catch or trigger for elevating the cutting end of the tool; the said catch or trigger being adapted to be engaged by the stops T, U, 115 substantially as and for the purpose set forth.

3. In a lathe the combination with a carriage and stops as T, U, connected with the 120 carriage; of a slide rest, a tool carried by a rocking holder mounted on the slide rest, a spring for normally holding the cutting end of the tool against the work, and a catch or trigger for elevating the cutting end of the tool; the said catch or trigger being adapted 125 to be engaged by the stops T, U, substantially as and for the purpose set forth.

4. In a lathe, the combination with a carriage and stops as T, U, connected with the 130 carriage; of a slide rest, a rocking tool holder mounted on the slide rest, a bar or extension carried by the tool holder and having a bevel surface, a tool mounted on said bar, and a catch or trigger having an angular end to engage the bevel surface of the bar; the said

catch or trigger being adapted to be engaged by the stops T, U, substantially as and for the purpose set forth.

5 5. In a lathe, the combination with a carriage, the screw stop T, carried by an arm fixed with respect to the carriage, and the screw stop U, carried by a bracket adjustable on the carriage; of a slide rest, tools carried by rocking holders mounted on the slide rest,
10 and a catch or trigger having an angular end and adapted to elevate the cutting end of one of the tools; the said catch or trigger being also adapted to be engaged by the stops T, U, substantially as specified.

15 6. In a lathe, the combination of a carriage, a slide rest, a tool carried by a rocking holder mounted on the slide rest, a catch or trigger

for elevating the cutting end of the tool, and means for moving the catch or trigger into and out of engagement with the tool holder, 20 substantially as and for the purpose set forth.

7. In a lathe, the combination with two slide rests movable in planes at right angles to each other; one of said slide rests being provided with a rack; of a shaft having a screw in en- 25 gagement with one of the slide rests and a pinion in engagement with the rack of the other slide rest, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN YOUNG.

Witnesses:

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CAROLINE R. MASON.