

R. K. LE BLOND & W. F. GROENE.
LATHE.

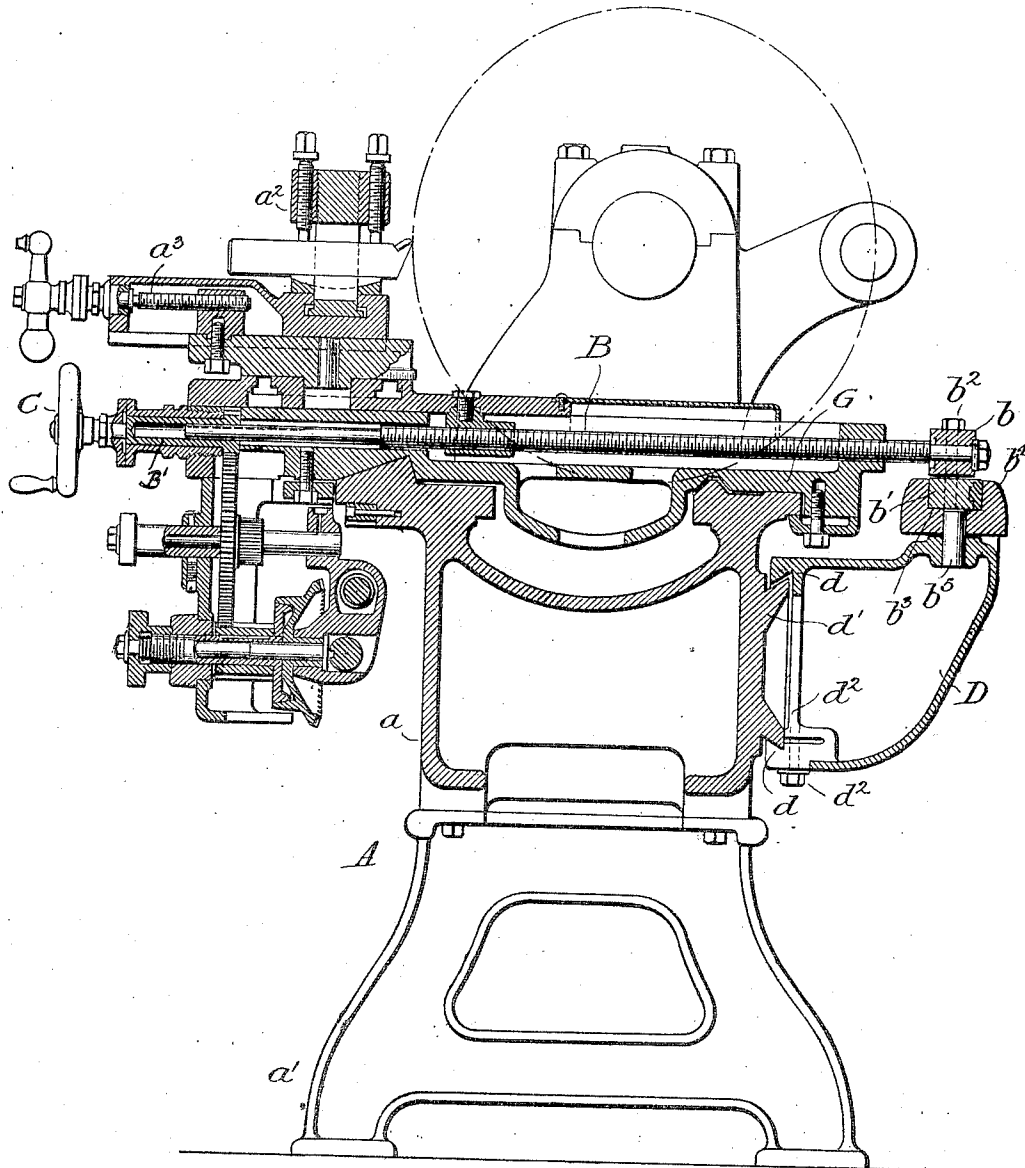
APPLICATION FILED JUNE 1, 1909.

1,044,544.

Patented Nov. 19, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

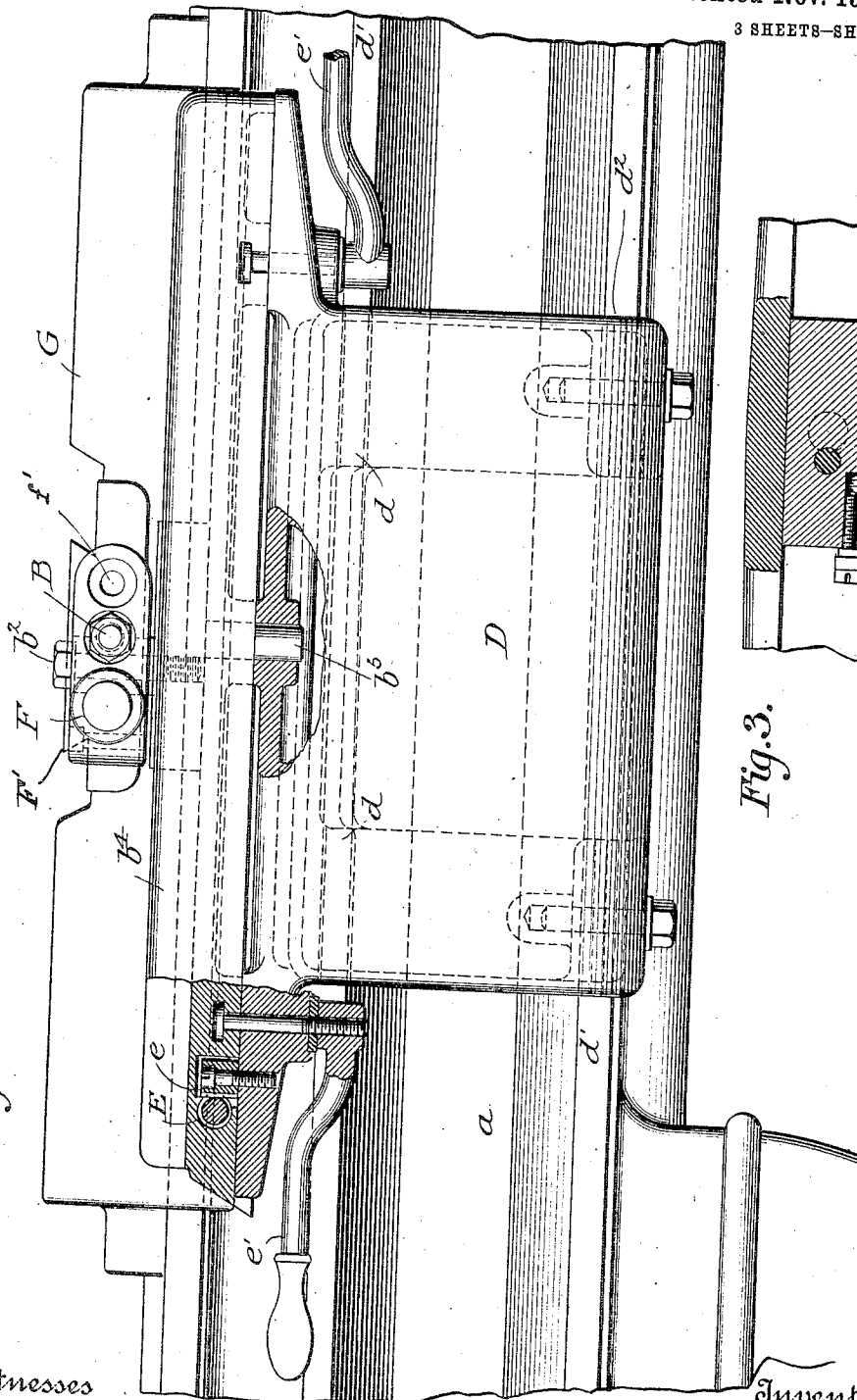
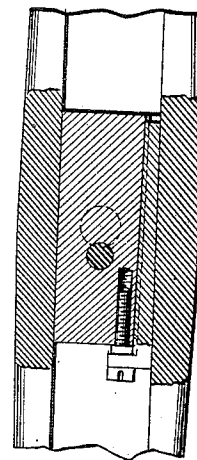


Fig. 3.



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3 SHEETS—SHEET 3.

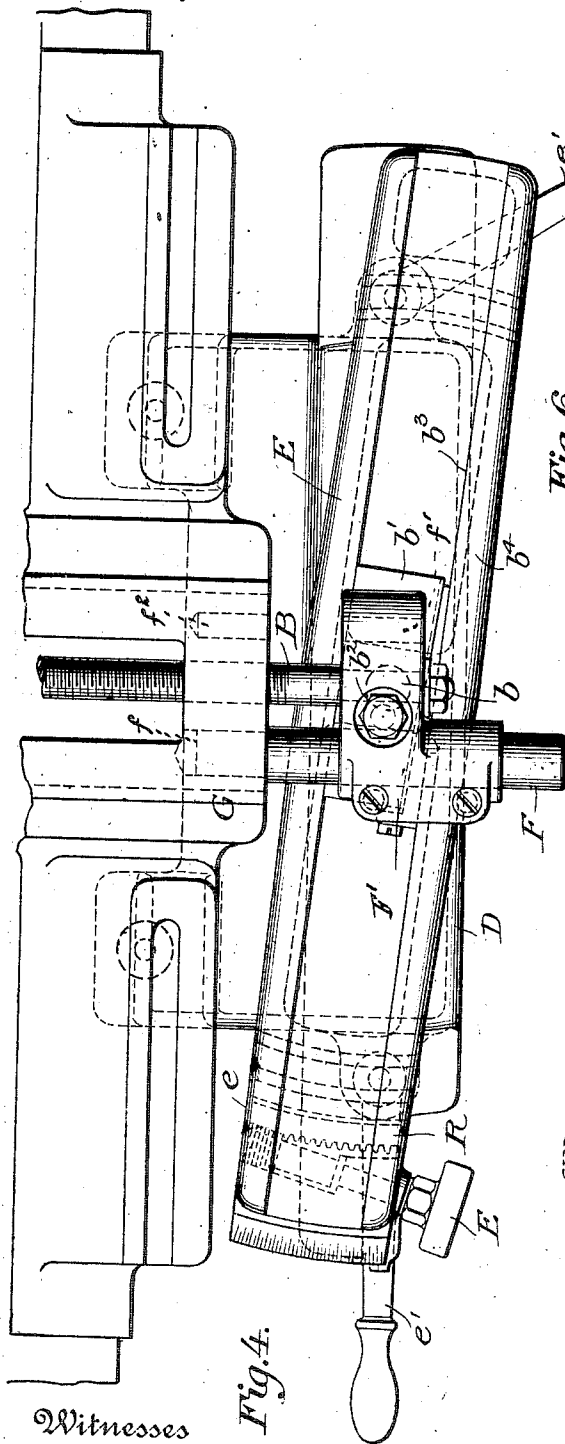


Fig. 4.

Witnesses

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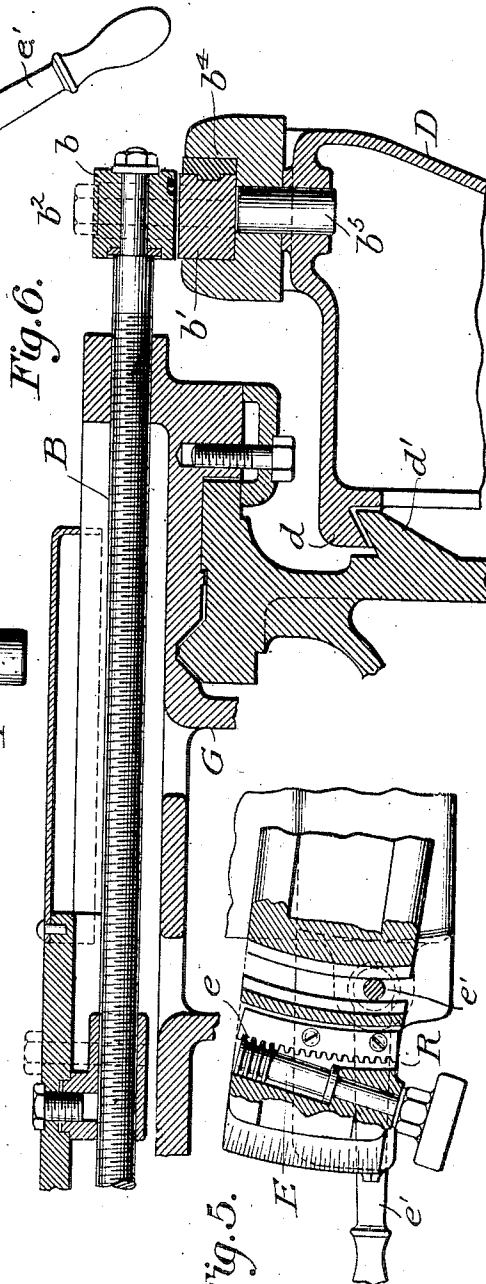


Fig. 6.

Fig. 5.

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UNITED STATES PATENT OFFICE.

RICHARD K. LE BLOND AND WILLIAM F. GROENE, OF CINCINNATI, OHIO, ASSIGNORS
TO R. K. LE BLOND MACHINE TOOL CO., OF CINCINNATI, OHIO, A CORPORATION OF
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LATHE.

1,044,544.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed June 1, 1909. Serial No. 499,542.

To all whom it may concern:

Be it known that we, RICHARD K. LE BLOND and WILLIAM F. GROENE, of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Improvement in Lathes, of which the following is a specification.

This invention pertains to certain new and useful improvements in lathes, and relates more particularly to an attachment for mechanisms of this character particularly adapted for use in connection with turning and boring taper work.

One object of the invention is the production of an improved mechanism for taking the side strain and thrust off the cross feed screw of the lathe.

A further object is to provide an improved guide bar and means for adjusting the same.

Another object is to provide an improved thrust block and means for connecting the same to the carriage of the lathe.

In carrying our invention into effect, we connect the usual cross feed screw of the lathe to the guide shoe through a suitable controlling or thrust block. When the lathe is used for regular work, said block is bolted directly to the carriage. When used for taper work, said block is connected with the guide shoe by a bolt, virtually making the block and shoe one member. Said controlling or thrust block is held in position by a pin arranged exactly parallel with the cross feed screw, said pin being fastened to the carriage, the arrangement being such that when said guide shoe moves in and out from the pressure exerted by the guide bar, it carries the controlling or thrust block in an even and smooth manner, taking most of the thrust off of the cross feed screw and keeping said block exactly square with the line of pressure.

With the above mentioned and other objects in view, the invention will be hereinafter fully set forth and particularly pointed out in the claim.

In the accompanying drawings, wherein similar letters of reference are used to indicate corresponding parts in each of the several views:—Figure 1 is a transverse sectional view of a lathe provided with my improved taper attachment. Fig. 2 is an enlarged detail view of the taper guide bar

and its support and adjuncts, parts being shown in section. Fig. 3 is a detail horizontal sectional view illustrating the relation of the guide shoe and guide bar. Fig. 4 is an enlarged detail plan view illustrating the taper attachment. Fig. 5 is a detail sectional view illustrating the guide bar adjusting mechanism; and Fig. 6 is an enlarged transverse sectional view.

Referring to the drawings, A designates a lathe of any suitable or preferred structure, the same comprising a base or bed *a* supported upon suitable legs or standards *a'*, and provided with the usual tool holder *a''*, the latter being provided with a suitable adjusting screw *a'''*, whereby its position may be varied to conform to the work to be performed.

On the cross feed screw B is mounted a controlling or thrust block *b* which is connected to the guide shoe *b'* by means of a bolt *b''*. A hand wheel C is provided for the purpose of readily operating said cross feed screw. The guide shoe *b'* is adapted to the channel *b'''* of a guide bar *b''''* pivotally mounted at *b'''''* upon a bracket D. Said bracket is provided with dove-tailed flanges *d* engaging a guide *d'* secured to the bed of the lathe, and is held rigidly in any adjusted position by means of a bolt *d''*. The guide bar *b''''* is adjusted by means of a worm screw E engaging a corresponding gear *e* on the end of said bar, and the same is rigidly held in any adjusted position by the clamps *e'*.

The controlling or thrust block *b* is preferably provided with a clamp portion *F* arranged to loosely receive a thrust pin *F* the inner end of said pin *F* being rigidly secured in a socket *f* in the lathe carriage, said pin being provided with a shoulder bearing against the side of said carriage. It will be noted that this pin is arranged exactly parallel to the cross feed screw. The thrust block *b* is also provided with a lateral extension engaging the cross feed screw and having an opening *f'* to receive a suitable bolt (not shown) which bolt is adapted to be secured in socket *f''*, whereby said block may be secured to the carriage when not in use.

To allow for the movement of the cross feed screw B to the left a bearing block *B'* is provided, the same having a fin or pro-

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jection (see dotted lines Fig. 1) adapted to register with a slot or groove in the cross feed screw B.

In practice, when it is desired to use the lathe for ordinary or regular work, the block *b* is bolted direct to the carriage and will not affect the character of the work performed. When used for taper work, however, said block *b* is connected to the guide shoe *b'*, by means of the bolt *b*². The guide bar *b'* is then adjusted to the desired angle and clamped, the bracket D having first been moved along its guide to the desired position and secured against displacement.

The controlling or thrust block *b* is held in position by the pin F. This as above described is a rod pin securely fastened to the carriage and exactly parallel with the cross feed screw, so that when the shoe *b'* moves in and out from the pressure exerted by the guide bar *b'* said pin carries the controlling or thrust block in an even and smooth manner, taking most of the thrust off the cross feed screw, and keeping said thrust block exactly square with the line of pressure.

Having thus fully described our inven-

tion, what we claim as new and desire to secure by Letters Patent of the United States is:—

In a taper attachment for lathes the combination with a lathe carriage and a cross feed screw carried thereby, of a thrust pin secured at one end to said carriage and projecting therefrom, a thrust block formed with a socket portion loosely engaging said pin and having a lateral extension engaging said cross feed screw, the latter being provided with means for preventing movement of said block longitudinally of said cross feed screw said lateral extension being also provided with an opening to receive a securing bolt, whereby said block may be immovably attached to said carriage when not in use.

In testimony whereof we hereunto set our hands this 22 day of May 1909, in the presence of two attesting witnesses.

RICHARD K. LE BLOND.
WILLIAM F. GROENE.

Witnesses:

FRED LE BLOND,
GRACE PUGH.