

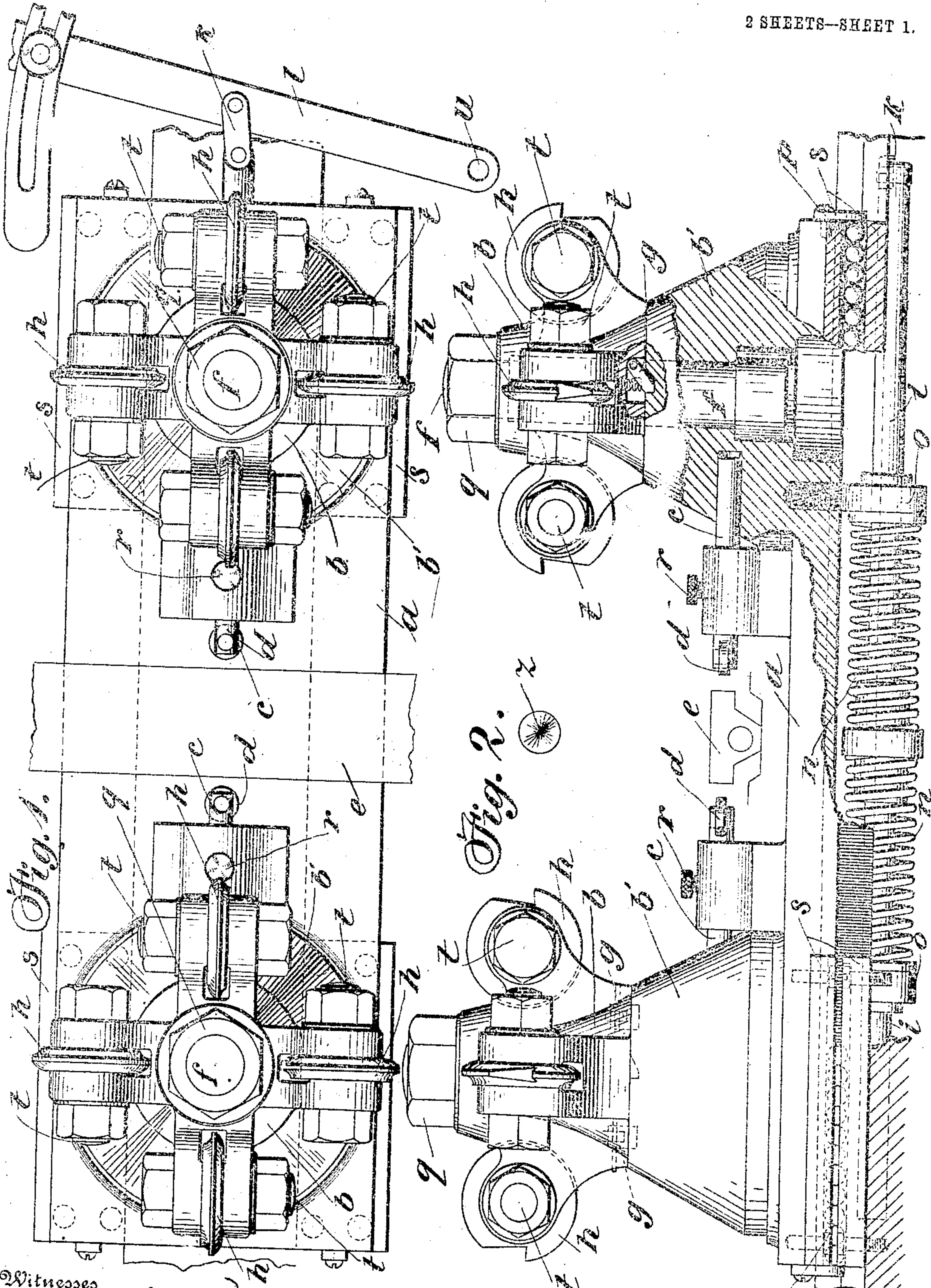
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TOOL HOLDER.

APPLICATION FILED SEPT. 30, 1907.

904,579.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.



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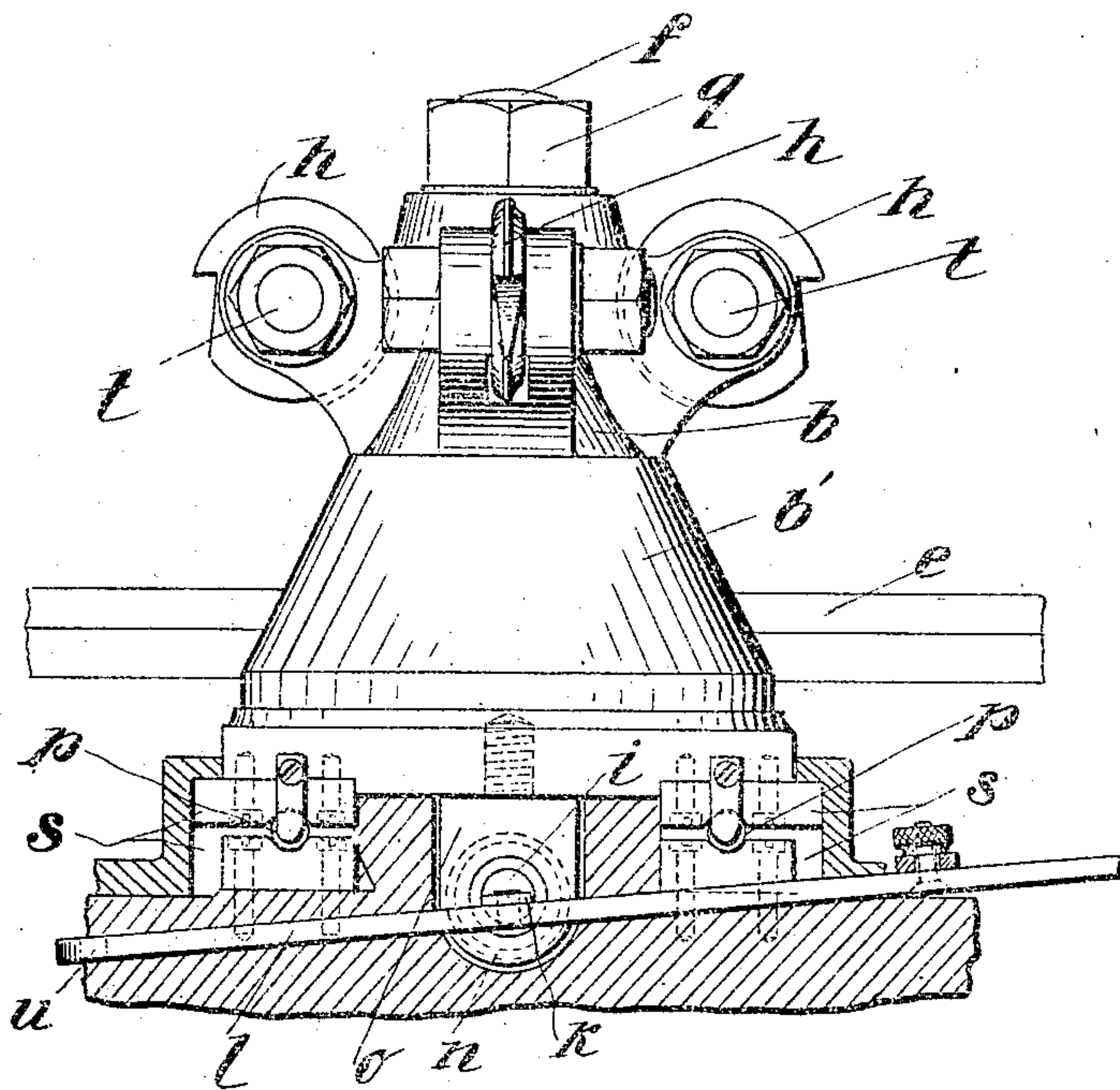
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

HUGO VOGEL, OF OTTAWA, ILLINOIS.

TOOL-HOLDER.

No. 904,579.

Specification of Letters Patent.

Patented Nov. 24, 1908.

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To all whom it may concern:

Be it known that I, HUGO VOGEL, citizen of the United States, residing at Ottawa, in the county of Lasalle and State of Illinois, have invented certain new and useful Improvements in Tool-Holders, of which the following is a specification.

This invention relates to tool-holders or supports for lathes, and particularly to that class thereof having multiple tool-supports, the object of the invention being to provide an improved device of the kind by which the tools can be set according to the work, and by the use of a multiple tool-post or turret on each side of the work, the cutters can be brought successively in contact with the work, so that when one cutter becomes dull another can be brought into operation without stopping the machine. By the use of the opposite posts, one on each side, one set of cutters can be used conveniently for roughing and another set for finishing, the sets being used alternately. This will avoid delays on account of grinding and adjusting the tools.

The invention is illustrated in the accompanying drawings in which

Figure 1 is a plan view of the support. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is an end elevation.

Referring specifically to the drawings, *a* indicates the slide which is mounted upon the bed and which carries two tool-posts or turrets *b* each of which carries four circular cutters indicated at *h*, which are of the same diameter and are secured by horizontal bolts *t*. The turrets *b* are mounted upon bases *b'* and may be turned thereon, so that the cutters can be brought successively in contact with the work, and in order to fix the turrets at the four different positions each carries the pawls indicated at *g* which drop into recesses in the base when the proper position is reached. One post or turret is preferably used for roughing cutters and the other for finishing cutters. The turrets are fastened by means of vertical bolts *f* and nuts *q*; the bolts extending through the turrets and forming the pivots thereof.

To guide the tools and shape the work a templet or guide *e* is provided, which will be supported in suitable manner, as by being fastened to the head stock and has the shape or outline of the piece to be manufactured. At *d* are guide rollers carried at the ends of adjustable bars *c* which are mounted in suit-

able supports on the slide and which may be fixed at adjustment by set screws *r*.

The slide *a* extends transversely across the bed of the lathe, the tail stock center being indicated at *z*, Fig. 2, and the slide is adjustable laterally so as to operate with the cutter at either end thereof. The lever *l* is fulcrumed on the lathe carriage (not shown) by a stud at *w* and is connected by a link *k* to a long rod *i* which extends crosswise of the lathe under the slide and extends loosely through the supports or hangers *o* depending from the under side of the slide. This rod is enlarged or has a fixed collar at the middle, and springs *n* are coiled around the rod on each side of the collar, between the same and the supports *o*. By means of the lever the slide may be shifted one way or the other and the springs allow a certain amount of play or yield to the slide.

In order to allow the free and easy movement or adjustment of the slide it is provided under each corner with ball-bearings *p* which run in grooves in pieces *s*, and these ball-bearings allow any shift or movement of the slide incident to the forming guide or templet *e*, which action is also permitted by the springs *n*, which also hold the guide roller at either side in contact with the guide so that it will follow the same. Thus when the rod *i* is shifted to the left, to bring the roller *d* at the right against the templet, the spring on the left is compressed, and hence will cause the said roller to bear yieldingly on the templet.

By the means shown the slide as a whole may be shifted from one side to the other by the lever *l*, so as to bring the cutter held by either tool post into operation, and obviously the turrets may be rotated to bring any one of the tools to the work. The springs allow variation of the slide, and the tools carried thereby, according to the shape of the forming guide, and the cutter which at the time being is in use operates on the work which is held between the centers and above the guide *e* in the usual manner. By loosening the nuts *q* the tool turrets can be turned to bring any cutter into operation. In consequence of the speedy adjustment or change from one cutter to another, there is a substantial saving in time, particularly when the device is used in connection with high speed tools.

I claim:

1. A tool support for lathes, comprising a

slide having a tool rest at opposite ends, and means to shift the slide transversely of the lathe to apply either tool to the work, including a shifting rod, and a spring between the rod and the slide to allow yielding thereof in either direction.

2. In a lathe, the combination of a longitudinal pattern guide located under the lathe axis, a transversely movable slide extending across under the axis of the lathe and having tool supports at both ends and also having followers on opposite sides of the guide and adapted to travel along either edge thereof, and means to shift the slide to bring either follower to contact with the guide, including a shifting rod and springs between the rod and slide yieldable to allow the respective followers to follow the guide.

3. In a lathe, the combination of a longitudinal pattern guide, a transversely movable tool support, a shifting rod extending across

under the support, a spring between the rod and the support, and means whereby the rod may be shifted against the tension of the spring.

4. In a lathe, the combination of a longitudinal guide located under the lathe axis, a transversely movable slide extending across under the axis of the lathe and having tool supports at both ends, followers mounted upon the slide on opposite sides of the guide and adapted to travel along either edge thereof, means to shift the slide to bring either follower to contact with the guide, and means to cause the follower to follow the guide.

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

HUGO VOGEL.

Witnesses:

S. B. BRADFORD,
T. W. APPLEBY.