

(No Model.)

E. LINDNER.

ATTACHMENT FOR TURNING LATHES.

No. 377,079.

Patented Jan. 31, 1888.

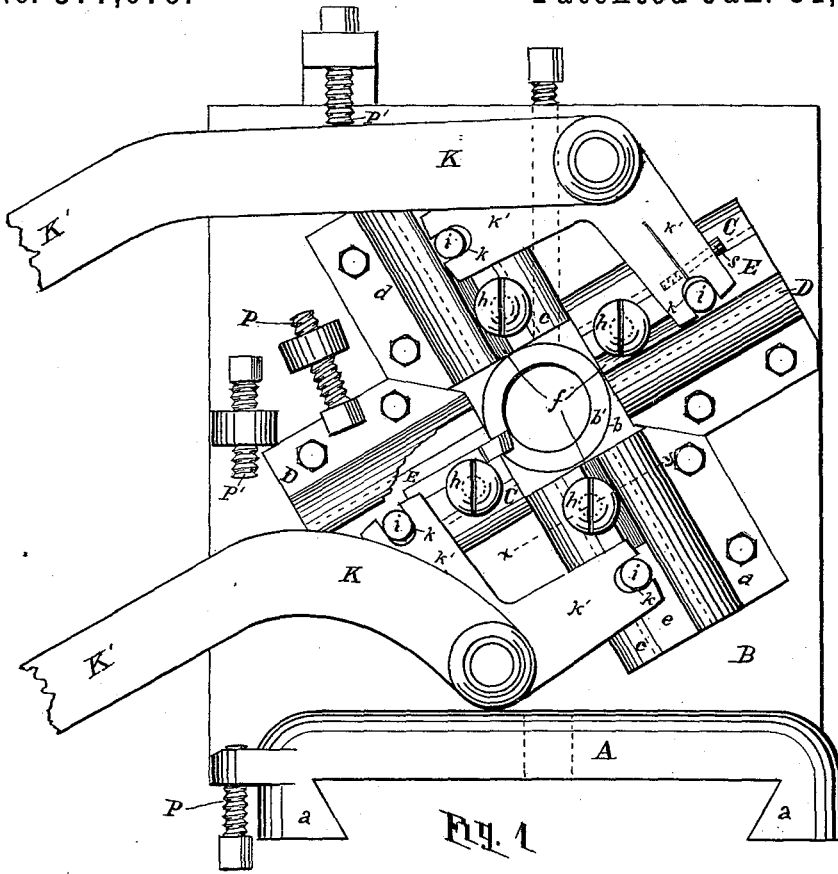


FIG. 1.

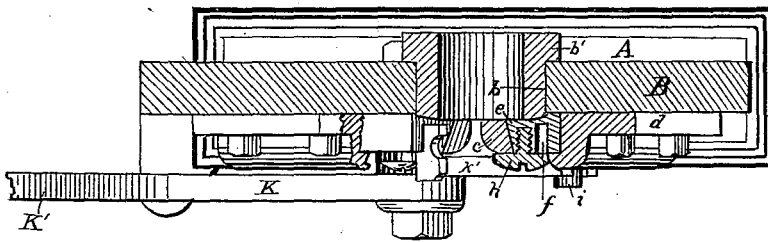


FIG. 2.

WITNESSES:

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ATTACHMENT FOR TURNING-LATHES.

SPECIFICATION forming part of Letters Patent No. 377,079, dated January 31, 1888.

Application filed May 9, 1887. Serial No. 237,661. (No model.)

To all whom it may concern:

Be it known that I, ERNST LINDNER, a citizen of the United States, and a resident of the city of New York, county and State of New York, have invented a new and useful Improvement in Attachments for Turning-Lathes, of which the following is a specification.

My invention appertains to turning-lathes, more especially of that class which are constructed with a hollow spindle in the live-head; but it is applicable to all kinds of lathes, and the object of it is the production of an attachable mechanism which will increase the capacity for mechanical operation or production of the lathe to which it may be attached.

My invention consists in the arrangement of sliding tool-holders on a vertical plate having a guiding center, so that the tool held will maintain the same angle in relation to the center at all points of its advancement thereto; also, the means by which two tools are operated by one lever, together with such new combinations and arrangements of parts as will more fully appear, reference being had to the following specifications, of which the accompanying drawings form a part, in which—

Figure 1 is a vertical face view of the side of the plate toward the sliding head, a part being broken from one of the side flanges to show parts beneath. Fig. 2 is a horizontal central sectional view in which is shown a sectional view cut through on the dotted line *xy* of one of the tool-holders and its guiding-flanges.

Like letters refer to like parts in each figure. A is a base-plate provided with suitable guiding-flanges, *a a*, and other means for securing it in position on the shears or bed of a turning-lathe. Firmly fixed to this base A is a vertical plate, B, of suitable height, width, and thickness. At a central position in this plate B a socket-hole, *b*, is made through it, so as to adapt it to receive and hold one of several interchangeable bushings or hollow guiding-centers *b'*, which are designed to guide the rod of material being operated upon and to serve as a journal-box for it to revolve in. Guide-flanges C C and *c c* are firmly fixed upon the side of the vertical plate B in position longitudinally parallel to a line radial from the

center of the socket-hole *b* and projecting at an inclination which will form an angle of about eighty degrees between their operative sides and the face of the vertical plate B.

It will be observed that the guide-flanges C C are nearer to the radial line from the socket-hole center than are the guide-flanges *c c*, and that one of each joined at their inner ends are next each other, and thus alternate two and two with the guide-flanges D *d* and D *d*, which are bolted to the vertical plate B in position, each one parallel to and opposite to one of the guide-flanges C or *c* at such distance from it as to form suitable sliding channels or spaces adapted for sliding tool-holders E E and *e e*. These guide-flanges D and *d* are formed, as shown, with a rib-flange projecting at a right angle from the top of the operative side, which serves to keep the tool-holders E E and *e e* in their channels.

The sliding tool-holders E E differ from the sliding holders *e e* in that the tool groove or socket *f* is nearer the right-angled edge in the one than it is in the other. This is done so as to bring the forward side of said groove in each exactly on a line radial from the center of the socket-hole *b* of the vertical plate B and have them alternately reversed as to their right-angled edges, so as to adapt them to fit in their respective spaces between the slides and hold the tools employed so their cutting-edges will at all points of their motion be on a line radial from the center of the socket-hole *b* in the vertical plate B, also to secure sufficient room between the groove *f* and the beveled edge of the tool-holders to receive the set-screw *h*, which has a large flat head adapting it as the means of clamping tools in the groove or socket *f*. Projecting from a central part of the outer face of each of these sliding tool-holders E or *e* is a stud, *i*, which is adapted to engage in the slot *k* of one of the forks *k'* of a hand-lever, K, which is fulcrumed to the vertical plate B in suitable position to adapt it for the operation of two of the sliding tool-holders. As is seen, two or more of these levers, K, are used if more than two sliding tool-holders are used. These levers are made as shown, their operative ends being forked, so as to extend to each of two of the sliding tool-holders, where they are pro-

vided with a slot, *k*, adapted to engage with the stud *i*, and, if desirable, they are split some distance toward the fulcrum and provided with a set-screw, *s*, by which the slot *k* may be adjusted to take up lost motion. The hand end *K'* of the lever *K* extends forward and is bent to the most-convenient position.

The operation of the device is as follows: The rod of wood to be worked having been passed through the hollow spindle of the lathe is passed through the bushing *b* in the vertical plate *B*, and is then clamped so as to revolve with the hollow spindle of the lathe, which may then be started. Now, if the hand end of a lever, *K*, be depressed, the tool held by the sliding tool-holder *e* will be advanced against the rod of material being worked until motion is arrested by the lever *K* striking one of the adjustable set-screws *P*, which are secured in a suitable position for that purpose on the vertical plate *B*. If the hand end of the lever *K* be now elevated, the sliding tool-holders *e* will be retracted and the sliding chuck *E* advanced and the tool it carries caused to perform its work on the rod of material until upward motion of the lever *K* is arrested by another of the set-screws, *p'*. Thus each pair of sliding tool-holders may be operated by a single lever, and, if desirable, more than two pairs may be arranged on the one vertical plate. I therefore, do not confine myself to the number of sliding tool-holders which are here shown.

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

1. A compound forming-tool attachment for turning-lathes, consisting of a vertical plate, as

B, adapted by flanges, such as *C* and *c*, for holding and guiding two or more sliding tool-holders, as *E* and *e*, in combination with said tool-holders *E* and *e*, and a three-armed lever, as *K*, fulcrumed to said vertical plate and adapted to operate said sliding tool-holders, in the manner and for the purpose substantially as described.

2. In a compound forming-tool attachment for turning-lathes, a three-armed lever, such as *K*, which is adapted to operate two sliding tool-holders, such as *E* and *e*, in combination with said tool-holders, arranged in the manner and for the purpose substantially as specified.

3. In a compound forming-tool attachment for turning-lathes, the arrangement, as shown and described, of the guiding-flanges *C* and *c* and the sliding tool-holders *E* and *e*, with their grooves *f*, whereby the tool will at all points of its motion be held with its cutting-edge on a radial line from the center of the socket-hole *b*, in the manner and for the purpose substantially as described.

4. In a compound forming-tool attachment for turning-lathes, the combination of the following elements: a vertical plate, as *B*, guide-flanges, as *C* and *c*, sliding tool-holders, as *E* and *e*, three-armed lever, as *K*, with a base-plate, as *A*, and suitable means for securing the same to a lathe-bed.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

ERNST LINDNER.

Witnesses:

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E. F. GENNERT.