

(No Model.)

2 Sheets—Sheet 1.

C. KREWSON. BUTTON TURNING LATHE.

No. 566,327.

Patented Aug. 25, 1896.

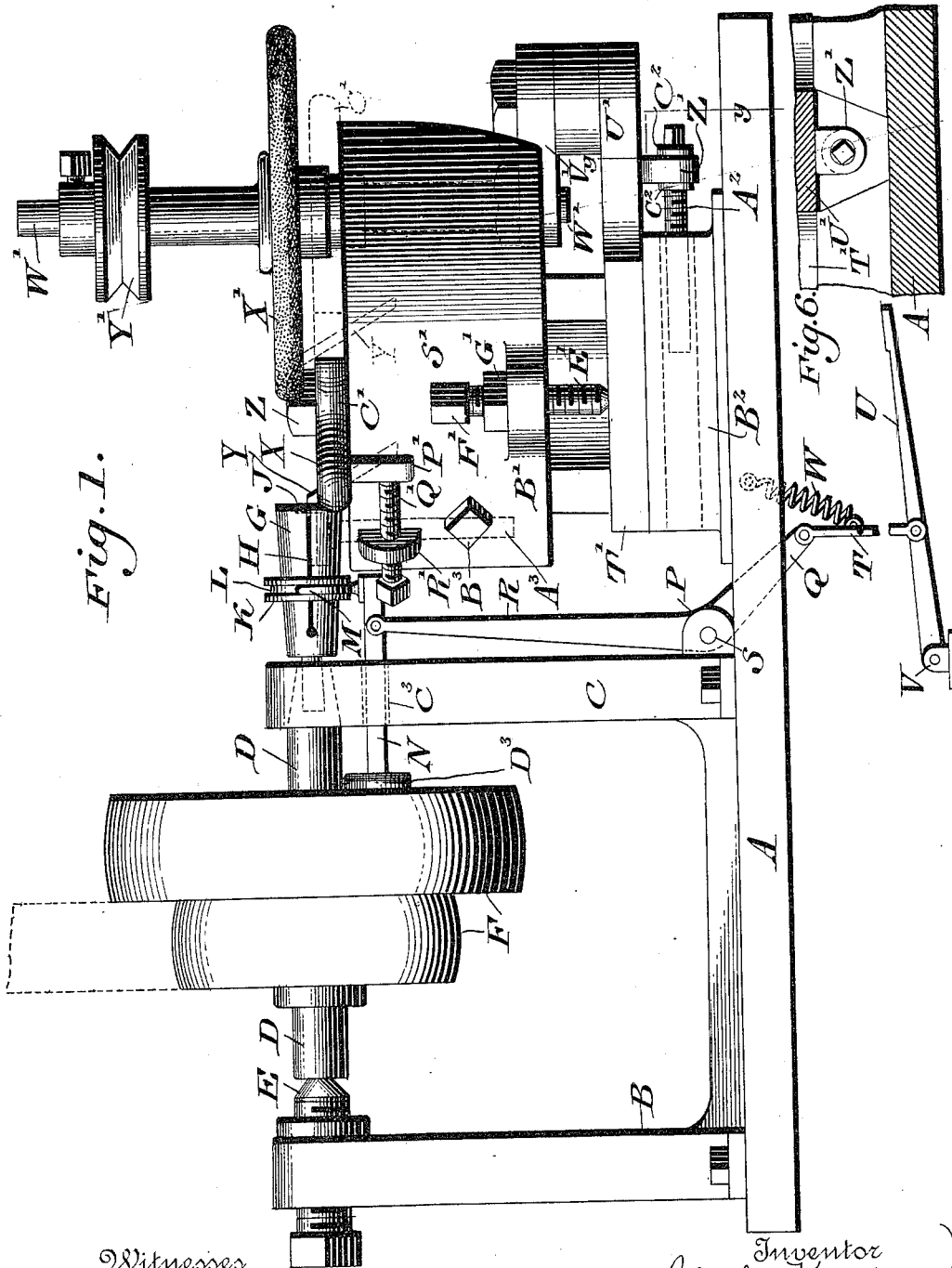


Fig. 1.

Fig. 6.

Witnesses
P. F. Hagle
L. Douville.

Inventor
Charles Krewson.
 By *John A. Diederheim*
 Attorney

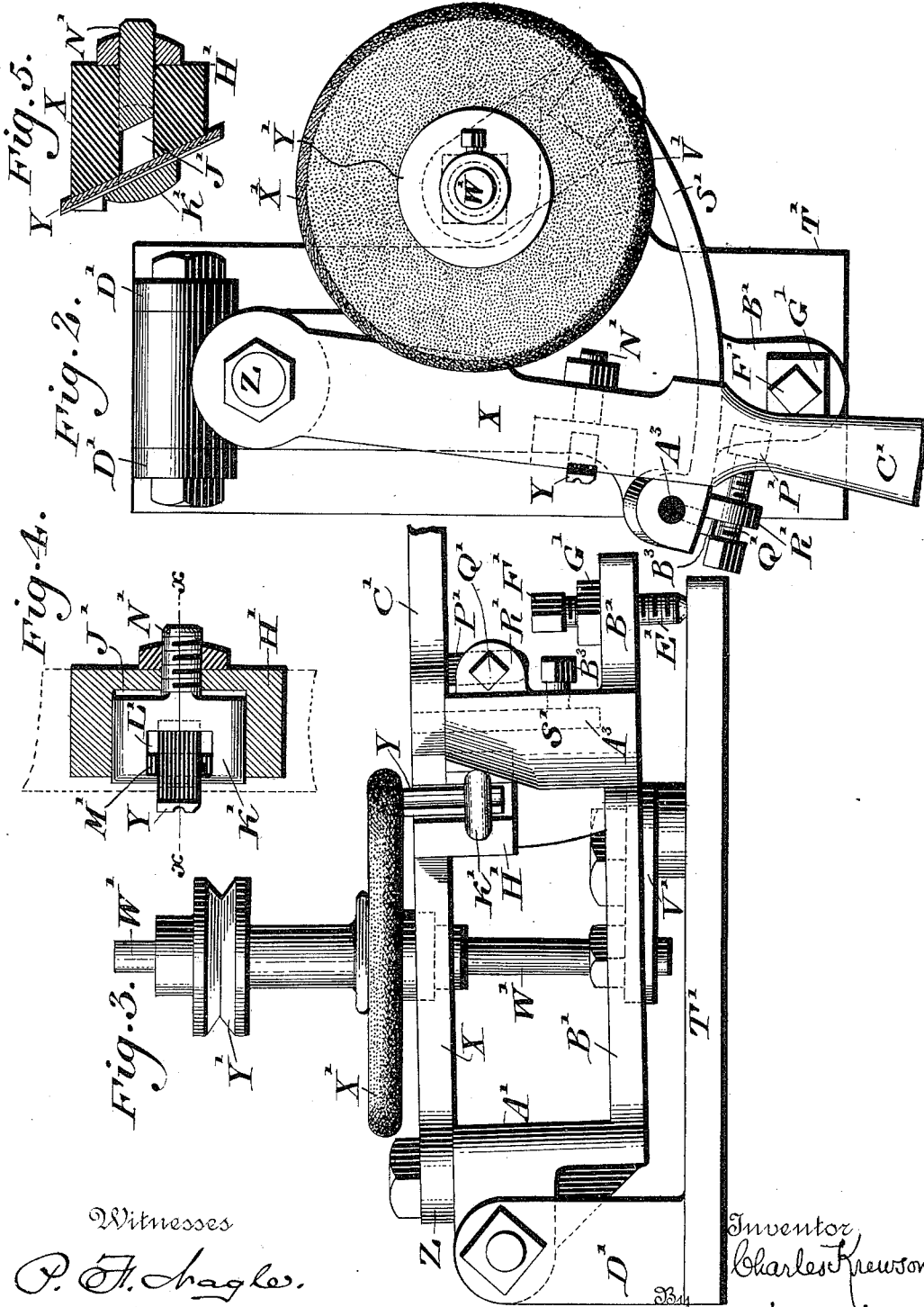
(No Model.)

2 Sheets—Sheet 2.

C. KREWSON.
BUTTON TURNING LATHE.

No. 566,327.

Patented Aug. 25, 1896.



Witnesses
P. F. Hagler.
L. Dowville.

Inventor
Charles Krewson
John A. DeWitt
 Attorney

UNITED STATES PATENT OFFICE,

CHARLES KREWSON, OF PHILADELPHIA, PENNSYLVANIA.

BUTTON-TURNING LATHE.

SPECIFICATION forming part of Letters Patent No. 566,327, dated August 25, 1896.

Application filed December 18, 1894. Serial No. 532,278. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KREWSON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Button-Turning Lathes, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of a button-turning lathe in which provision is made for sharpening the cutter thereof without necessitating its removal from the lathe. For this purpose I employ a movable carrier for said cutter, so as to present the latter to either the chuck or the sharpening device, or both, said cutter being located obliquely and adapted to be presented parallel to the sharpening device parallel with the side thereof, so as to be ground in right-lined direction, while the lever or carrier moves in circular direction toward said side.

It also consists of means for vertically adjusting the cutter relatively to said sharpening device and to the lathe-chuck.

It further consists of means for adjusting the cutter and the sharpening device horizontally relative to the lathe-chuck.

It further consists of novel means for opening and closing said chuck and for applying a brake, the above functions being attained by the lateral movement of a single arm in opposite directions.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a side elevation of a button-turning lathe embodying my invention. Fig. 2 represents a plan view of a portion of the same, showing especially the relation of the sharpening device to the other parts. Fig. 3 represents a side view of a portion of the device seen in Fig. 1, viewed from another position. Fig. 4 represents a plan view, partly in section, of the device for holding the cutter in position. Fig. 5 represents a section on line *xx*, Fig. 4. Fig. 6 represents a section on line *yy*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the base of the lathe, to which are attached the standards B and C.

D designates a shaft, one end of which has a suitable bearing in the standard C, while the other end turns on the center E, which is threaded and has a bearing in the standard B, whereby said center can be adjusted according to requirements.

F designates the belt-pulleys to which the power is applied.

G designates a chuck which is attached to the shaft D in any suitable manner, so as to be revolved thereby. The said chuck is provided with a longitudinally-extending split H and a recess J, in which the button to be turned is placed, and the outer surface of said chuck tapers from front to rear, for a purpose to be hereinafter explained.

K designates a sleeve which encircles said chuck, and has a groove L, whose walls are engaged by the tongue M, the latter being attached to an end of the arm N, the other end of said arm carrying a brake-shoe D³.

P designates a lever which is fulcrumed at S, and has the arms Q and R, the latter being pivotally attached to the arm N, while the arm Q is connected to one end of a link T, whose other end is attached to the treadle U, which is pivoted to an ear V. W designates a spring which extends from said link to a fixed point.

The lever X, in which the cutter Y is carried, is mounted at Z on the boss A' of the frame B', and has a handle C', by means of which it can be moved horizontally about the point Z as its axis.

The boss A' has a projecting portion which is pivotally attached to the ears D' of the bed T', so as to permit an up-and-down movement to be given to the frame B', the lever X, and the cutter Y by means of the threaded pointed bolt E', which passes through the frame B' near its end and is provided with a squared head F' for the application of a wrench, &c., and a lock-nut G', the point of said bolt resting in a suitable depression in the bed T', whereby it will be seen that on rotating said bolt the cutter Y, the lever X, and the frame B' can be adjusted vertically. The said lever X has a slotted portion H', which is cut away at an incline, as seen in Fig. 5, and is provided with a recess J', in which is fitted the holder K', the construction of which is clearly seen in Figs. 4 and 5, the slot L' of

said holder being provided with an inclined wall M' and a threaded shank N', which passes through a hole in the lever X, said shank being engaged by a nut, whereby it will be seen that when the parts are assembled as in Figs. 1, 4, and 5 and the nut is tightened the cutter Y will be rigidly held in oblique position, the end portions of said cutter being drawn tightly against the lever X and the portion H' by the holder K'.

P' designates a lug which depends from the handle C' and is adapted to contact with the end of the threaded bolt Q', which turns freely in the ear R' on the rest S', on the top of which the lever X, which carries the cutter, rides.

A³ designates a hole in the rest S', in which a removable tool-post or tool-rest may be inserted, the same being held in position by a set-screw B³.

The bed T' is provided with the projecting portion U', to which the arm V' is pivotally secured.

W' designates a vertical spindle, which has its lower end journaled in said arm V', while to its upper portion is secured the horizontally-arranged sharpening device X', which may be an emery or other wheel, whose under face when in operative position is on substantially the same level as the top of the cutter Y, as seen in Fig. 3.

Y' designates a belt-pulley attached to the spindle W', at which point power may be applied thereto, the upper end of the spindle W' being also suitably journaled.

The part U' of the bed T' has an ear Z' depending therefrom, through which passes the threaded stem A², which is screwed into the block B², which is attached to the bed A, said stem A² having a squared end and being prevented from moving relatively to the ear Z' by the flanges C², which contact with either side of said ear.

The opposing faces of the bed T' and the block B² are provided with a tongue and groove, or they may be dovetailed into each other in any suitable manner, as seen in Fig. 6, so that the bed T' may be moved along the block B², when desired, by rotating the stem A², and it will also be evident that the position of the spindle W' and of the emery-wheel X' can be adjusted by loosening the connection between the arm V' and the portion U' and then moving said arm.

The operation is as follows, assuming the parts to be in the position seen in Fig. 1: A button-blank having been placed in position in the chuck, the operator depresses the treadle U, which will cause the sleeve K to move to the right by reason of the intermediate connections, and thus draw the jaws of the chuck together because of their tapered surface, thereby holding the button tightly in position. The chuck is now caused to revolve, and the lever X is moved up until the cutter Y contacts with the face of the button, and the device or design in said cutter is cut therein, the movement of the lever X being

positively limited by means of the stop device Q' and P', which can be adjusted according to requirements. When the cutter becomes dull, the operator throws the handle to the right, into the position seen in dotted lines in Fig. 1, and the cutter is brought into contact with the under face of the revolving wheel X', and is readily sharpened, said wheel X' being arranged horizontally, so that the cutter may move sidewise from the chuck directly beneath the under side of said wheel and its upper edge be ground by said wheel between the periphery and mandrel thereof, parallel with said under side of the wheel and thus always in a right-lined direction. The cutter can be removed from the lever X and a new one substituted by loosening the nut on the shank N' of the holder K', as seen in Figs. 4 and 5.

If it is desired to elevate or lower the cutter or to change the angle of the same relatively to the button or to the emery-wheel X', it is only necessary to rotate the threaded bolt E', whereupon the angular position of the cutter-carrier relative to the button can be adjusted.

The position of the bed T' relative to the block B² can be adjusted by rotating the screw A², and the arm V', which carries the spindle of the emery-wheel, can also be adjusted relative to the bed T', as has been explained.

After the button has been shaped and the foot removed from the treadle, the spring W will cause the sleeve K to move toward the left, by reason of the intervening mechanism, and the jaws of the chuck will open and the button can be removed.

It will thus be seen that the cutter Y can be readily sharpened without removing it from the lever X, and the position of said cutter relative to the button or the sharpening device can be readily changed according to requirements.

The arm N is supported in a slot C³ in the upper portion of the standard C, passing freely through the latter, and is provided with a shoe D³, which may be of leather or other suitable material, and is adapted to contact with a portion of the adjacent driving mechanism when the foot is removed from the treadle U and thus act as a brake, as is evident.

It will furthermore be noted that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not therefore desire to be restricted to the exact construction I have herein shown and described.

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

1. In a button-turning lathe, a lever adapted to move in circular direction and a cutter mounted obliquely thereon, in combination with a horizontally-arranged sharpening-wheel, whose side is parallel with the edge of said cutter, whereby the cutter may be moved parallel with said side and presented in right-

lined direction to the same, between the periphery and mandrel thereof, substantially as described.

2. In a button-turning lathe, a rotatable holding-chuck, a block with a bed longitudinally adjustable thereon, an arm pivoted on said block, a vertical shaft mounted in said arm and having a sharpening device thereon, a frame secured to said bed, and a lever pivoted to said frame carrying a tool-holder, said parts being combined substantially as described.

3. In a button-turning lathe, a rotatable holding-chuck, a bed, a rising and falling frame pivoted to ears on said bed, a screw working in said frame and bearing against said bed for operating the said frame, a lever pivoted to said frame, and carrying a holder for a tool adapted to contact with a button in said chuck, said parts being combined substantially as described.

4. In a button-turning lathe, a rotatable holding-chuck, the bed T' the frame B' pivoted to ears on said bed, the screw E' controlling the movements of said frame, the lever X pivoted to said frame, and having an opening therein with inclined walls, and a tool-holder in said opening having a threaded shank, said lever having a lug thereon adapted to abut against a screw working in a stationary bearing, said parts being combined substantially as described.

5. In a button-turning lathe, a holding-chuck, a bed, a frame pivoted to said bed, a lever pivoted to said frame, the rest S' secured to said frame and supporting said lever, a screw working in an ear on said rest and a lug on a handle of said lever, said parts being combined substantially as described.

6. In a button-turning lathe, the base A carrying the block B², bed T', the frame B' and boss A', which latter is pivotally attached to said bed, the lever X carrying the cutter Y, the adjusting-screws E', A² and Q', and their adjuncts, the arm V' carrying the spindle W', on which is mounted the sharpening

device, and a chuck, substantially as described.

7. In a button-turning lathe, a button-holding chuck, an arm carrying means for causing the closing of said chuck, and also a brake-shoe which is adapted to engage a suitable portion of the driving mechanism, substantially as described.

8. In a button-turning lathe, an adjustable sharpening device, a horizontally-movable bed, a frame attached thereto, and capable of vertical adjustment, a lever carrying a cutter mounted and supported on said frame, and means for regulating the movement of said lever, substantially as described.

9. In a lathe, a tapered, divided, button-holding chuck, a sleeve moving longitudinally on said chuck, an arm suitably supported, and provided at one end with means for engaging said ring, and at the other end with a brake-shoe adapted to contact with the driving mechanism, and means for imparting lateral motion to said arm, substantially as described.

10. In a button-turning lathe, a stationary block, a bed, adjustable on said block, a frame pivoted to said bed, a lever carrying a tool-holder, and a rest having a shaft with a sharpening device thereon, said parts being combined substantially as described.

11. In a button-turning lathe, a rotatable button-holding chuck, means for operating the same, an adjustable bed, a frame pivoted to said bed, and having a vertical adjustment, a lever pivoted to said frame and carrying a tool-holder for a tool adapted to engage a button in said chuck, and a sharpening device adapted to engage said tool, said parts being combined substantially as described.

CHARLES ^{his} X KREWSON.
mark

Witnesses:

JOHN A. WIEDERSHEIM,
E. H. FAIRBANKS.