

(No Model.)

J. P. KELLY & L. P. SHERMAN.

DRILL REST FOR LATHES.

No. 268,906.

Patented Dec. 12, 1882.

Fig 1

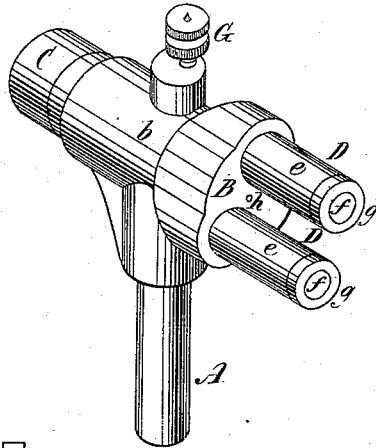


Fig 2

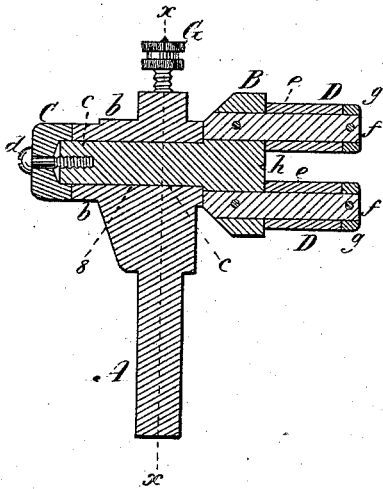


Fig 4

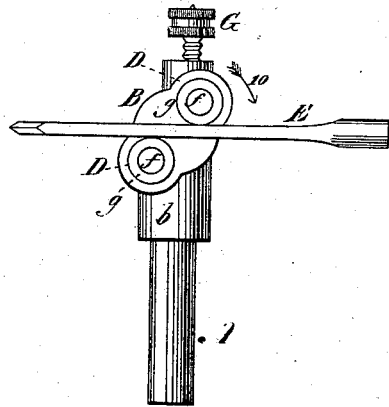
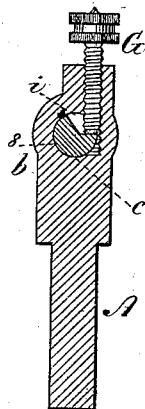


Fig 3



WITNESSES

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DRILL-REST FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 268,906, dated December 12, 1882.

Application filed June 27, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. KELLY, of Saco, in the county of York and State of Maine, and LEWIS P. SHERMAN, of Biddeford, in the county and State aforesaid, citizens of the United States, have invented certain Improvements in Drill-Rests for Chucking Lathes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of our improved drill-rest for chucking lathes. Fig. 2 is a longitudinal vertical section through the same. Fig. 3 is a transverse vertical section on the line *x x* of Fig. 2. Fig. 4 is an end elevation of the rest, illustrating the manner in which the drill is held therein.

The ordinary drill-rest for chucking lathes, which merely consists of an upright post having an arm projecting therefrom at right angles, with an aperture of such form as to allow the drill to pass through it but prevent it from revolving therein, is objectionable, as it has to be changed for each drill of a different size; and it is, moreover, difficult to place the rest in the exact central position required to cause the opposite corners of the shank of the drill to bear equally against the opposite sides of the aperture therein, as is absolutely necessary to produce perfect work. Drill-rests have also been made with two adjustable jaws operated simultaneously by a right and left hand screw, which construction is also objectionable for the reason that one jaw will often move before or in advance of the other, especially after the parts become slightly worn, and the two jaws will not then bear equally upon the drill, as they are not equidistant from the center, resulting in imperfect work, as the drill will be liable to be forced out of its true central position; and, furthermore, this construction is complicated and expensive. Another great objection to all drill-rests as heretofore constructed is that much friction is created between the rest and the drill as the latter is fed forward to the work.

Our invention has for its object to overcome all of these difficulties; and it consists in the combination, with the supporting-post, which enters the hole in the stand of the lathe, of an oscillating or rocking head, which carries the

jaws between which the drill passes and which forms the rest therefor, these jaws being adjusted with the head around a common center and held securely in place by a suitable device, which insures the drill, after the rest has been properly set into the stand, being held in the exact central position required, as the jaws are both brought simultaneously into contact with the opposite sides of the drill and made to bear with equal force thereon, thus preventing the drill from being forced out of center, which would cause a hole to be produced of larger diameter than the drill itself.

Our invention also consists in the combination, with the oscillating head and its drill-holding jaws and the supporting-post, of an adjusting-screw adapted to move the head and bring the jaws into contact with the drill, and also hold the head against its tendency to be moved around the center by the drill.

In the said drawings, A represents the supporting-post of the rest, which is adapted to fit, as usual, into an aperture in the stand of the lathe. The portion *b* of the post A is enlarged, and is bored out horizontally to form a bearing, *B*, for a short rock-shaft, *c*, which carries a head, B, and is held snugly in place in its bearing by means of a screw, *d*, passing centrally through a cap, C, and entering a threaded aperture in the end of the shaft, the cap fitting over the projecting end of the shaft *c*, and resting against the end of the enlarged portion *b* of the post.

D D are the drill-holding jaws, which project out horizontally from the face of the head B, each jaw consisting of a friction-roll, *e*, which is supported upon a pin, *f*, the inner end of which is secured within the head B, the outer end being provided with a head or washer, *g*, for confining the roll upon the pin. The pins *f f* are each placed at exactly the same distance from the center *h*, which is in line with the axis of the shaft *c*, and thus when the head B is oscillated or turned about the axis of the shaft *c* as a center the jaws D D will be moved simultaneously around this center, and be both brought at the same instant into contact with the opposite flat sides of the drill E, as seen in Fig. 4, and thus caused to bear with equal force thereon, which effectually prevents the drill from being forced in the slightest degree out of its true central position.

G is an adjusting-screw, which passes vertically down through the portion *b* of the post in a plane on one side of the center, as seen in Fig. 3, the point of the screw, which is rounded, bearing upon the lower face of a notch or recess, *i*, in the rock-shaft *c*, so that a downward movement of the screw will turn the shaft *c* and head B with a positive motion in the direction of the arrow 10, until both of the jaws D D are brought into contact with the drill previously placed between them, the adjusting-screw, besides bringing the jaws into contact with the drill, serving to securely hold them in place when adjusted and prevent the drill from turning on its axis.

By providing a drill-rest for chucking lathes, with jaws or bearing-surfaces for the drill, composed of friction-rolls adapted to be brought into contact with opposite sides of the drill, as above described, much of the friction heretofore created by the longitudinal movement of the drill in contact with stationary jaws or bearing-surfaces is avoided, and the wear of the surfaces in contact thus materially reduced. The friction-rolls *ee* are preferably composed of hardened steel, and it will be seen that their rotation causes all portions of their surfaces to be exposed to equal wear, thus rendering them exceedingly durable. When, however, they become worn from constant use, it is merely necessary to remove the washers *g* from the pins *f* and replace the rolls by new ones, which can be easily effected at a trifling cost.

Instead of moving the head B positively by means of an adjusting-screw, G, to bring the jaws into contact with the drill, it may be turned or oscillated by hand into the position required, and then secured in place by means of any suitable clamping or holding device.

The above-described rest is of simple construction, exceedingly strong and durable, and not liable to get out of order, while after it has been once properly set into the stand of the lathe, with the center *h* in the same horizontal plane as the center of the face-plate and the point of the dead-spindle of the lathe, all that is necessary is to oscillate the head B in order to adjust the jaws D D for a drill of any size, and as all liability of the drill being forced out of its proper central position is avoided the work is always performed in the most perfect and satisfactory manner. Furthermore, it will be seen that our improved rest is adapt-

ed for use with drills of many different sizes, it being merely necessary to turn the oscillating head B more or less, according to the thickness of the shank of the drill which lies between the jaws.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a drill-rest for chucking lathes, the combination, with the post A, of an oscillating or rocking head, B, provided with a pair of holding-jaws, D D, arranged at equal distances from the center *h*, and adapted to be moved with the head around said center to cause them to be brought simultaneously into contact with the opposite sides of the drill placed between them and bear with equal force thereon, and means for holding the jaws immovably upon the drill when adjusted, substantially as and for the purpose set forth.

2. In a drill-rest for chucking lathes, the combination, with the oscillating head B, of the drill-holding jaws D D, adapted to be moved around a common center, and composed of the friction-rolls *ee*, mounted upon pins *ff*, projecting out horizontally from the face of the head B, substantially as and for the purpose set forth.

3. In a drill-rest for chucking lathes, the combination, with the oscillating head B and its drill-holding jaws D D, and the shaft *c*, with its recess *i*, of the adjusting-screw G, adapted to move the head and bring the jaws into contact with the opposite sides of the drill and hold the head immovably in place when adjusted, substantially as set forth.

4. In a drill-rest for chucking lathes, the combination of the post A, with its horizontal bearing S, the oscillating head B, with its rock-shaft *c*, held in place by the screw *d* and cap C, and the drill-holding jaws D D, composed of friction-rolls *ee*, mounted upon pins *ff*, projecting out horizontally from the face of the head B, all constructed and arranged to operate substantially in the manner and for the purpose described.

Witness our hands this 23d day of June, A. D. 1882.

JOHN P. KELLY.
LEWIS P. SHERMAN.

In presence of—

CHAS. A. MOODY,
J. E. ETCHELLS.