(No Model.)

P. LESH.

AUTOMATIC SETTING MECHANISM FOR SPOKE LATHES.

No. 389,157. Patented Sept. 4, 1888.

Fig. 1.

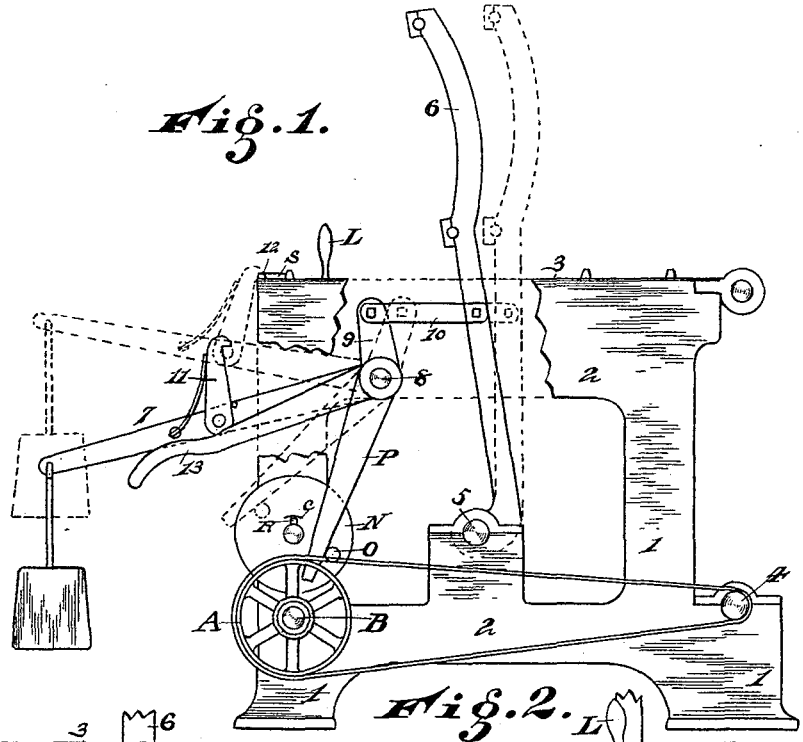


Fig. 2.

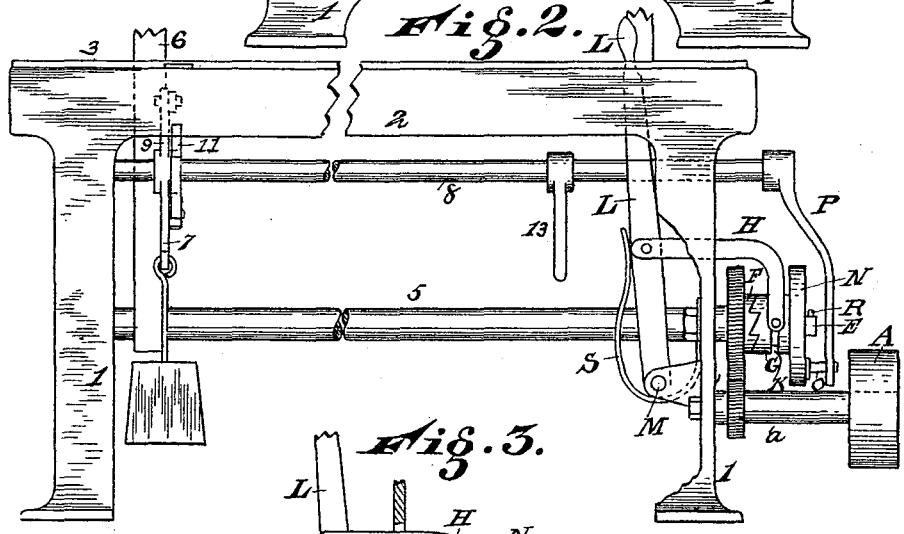
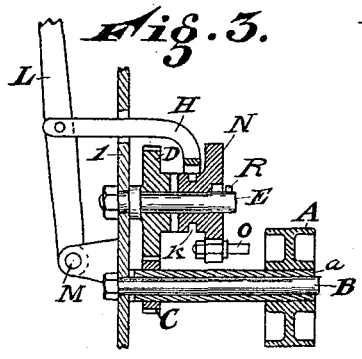


Fig. 3.



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AUTOMATIC SETTING MECHANISM FOR SPOKE-LATHES.

SPECIFICATION forming part of Letters Patent No. 389,157, dated September 4, 1888.

Application filed May 3, 1888. Serial No. 272,712. (No model.)

To all whom it may concern:

Be it known that I, PETER LESH, of Union City, in the county of Obion and State of Tennessee, have invented certain new and useful Improvements in Automatic Setting Mechanism for Spoke-Lathes, of which the following is a specification.

My invention is an attachment to an ordinary Blanchard spoke-lathe, the object of which is to automatically, by the power of the machine, reset the vibratory frame in position for work after the spoke has been inserted. In the operation of spoke-lathes hitherto manufactured the operator, by a lever, lifts by manual power the weight, which rocks the frame forward in order to carry it back and set it in position for operation. My invention overcomes this difficulty and provides means for setting the rocker-frame by operating a clutch to put in motion the mechanism provided for this purpose, which automatically resets the frame, all of which will be set forth in the description of the accompanying drawings, making a part of this specification, of which—

Figure 1 is an end elevation of the Blanchard lathe with my improvement attached. Fig. 2 is a side elevation of the same with the rocker-frame removed. Fig. 3 is a central vertical section of a clutch and lever mechanism.

1 represents the posts of the Blanchard lathe; 2, the sills; 3, the table. 4 represents the main shaft, upon which are mounted the usual pulleys (not shown) for driving the lathe. 5 represents the shaft on which the vibratory frame 6 is mounted. 7 represents the weighted lever, which is pivoted upon the center 8. 9 represents a crank-arm, and 10 a link for connecting crank-arm 9 to the rocker-frame 6. 11 represents a catch engaging with the lug 12. These parts are all old and are operated in the well-known manner.

When the vibratory frame 6 is in position shown in dotted lines, Fig. 1, the weighted frame 7 is in position, also shown in dotted lines, with the catch 11 holding the weighted frame. As soon as the carriage which carries the head has reached the outward limit of its movement, a trip, *s*, is provided to throw the catch 11 out of engagement with the lug 12. The weight then draws the vibrating frame 6 forward in position shown in full lines. In the ordinary operation of the machine, in order to reset the vibrating frame, the operator takes hold of the lever 13, which is keyed upon the shaft 8, and rocks said shaft, and thereby lifts the weighted lever 7, and through the crank-arm 9 and link 10 carries the vibratory frame 6 back in position. My invention enables this work to be done by the power of the machine, and the parts are constructed as follows:

A represents a pulley for driving the setting mechanism.

a represents a sleeve attached to the pulley by a screw or other suitable means.

B represents a stud on which said pulley and sleeve journal. Thus pulley A receives the power from a pulley on main shaft 4, and, as it is running at a high speed, I prefer reducing the speed in the setting mechanism, and have provided a gearing, C, which is keyed to said sleeve *a*, and meshes with said pinion D, which is journaled on shaft E, and said shaft is mounted in a bearing connected to the leg 1 of the table. On the face of pinion D are provided clutch-teeth F.

G represents a clutch journaling on shaft E and moving longitudinally thereon. It is provided with teeth engaging with clutch-teeth F.

H represents a yoke, the ends of which engage the groove K, cut in the barrel of the clutch G. The yoke H is pivoted to the lever L. This lever L fulcrums upon stud M. When the lever L is drawn toward the operator, the clutch G is brought into engagement with the clutch-teeth F of the gearing D and disk N is set in motion. This disk is secured to the clutch G.

O represents a pin or stud rigidly attached to the disk N, which revolves therewith whenever the said disk is set in motion by the engagement of the clutch.

P represents a lever keyed to shaft 8. When the disk end is revolved, the pin comes in contact with the lever P and raises it up, thereby vibrating the frame 6 backward by means of the crank-arm 9 and link 10. The catch 11 is provided with a spring, which causes it to automatically engage with lug 12 and hold the vibrating frame 6 in position.

In order that the setting mechanism may be disengaged automatically as soon as the shaft S has been rocked sufficiently to set the mechanism, I have provided the following mechanism:

R represents a pin or lug in the end of shaft E.

c represents a recess cut in the face of disk N. The engagement of the clutch draws the disk N away from said pin and allows the disk to revolve on its shaft E. Spring S presses against the lever L and tends to push it back and disengage the clutch F G; but the pin R will prevent this movement until the disk has revolved around to bring the recess *c* opposite the pin R, when the pressure of the spring will force disk outward and re-engage the pin with said recess. In order to provide an easy engagement and disengagement of the pin R with said recess *c*, the face of the disk is beveled off on each side of the recess. Thus by the mechanism above described the operator is enabled through the means of the lever L and the clutch-connecting mechanism to readily reset the vibratory frame 6 by the power of the machine and to automatically disengage all connection when it has arrived in position for the second operation. The position of pin R in Fig. 1 is at the commencement of the operation of lifting the arm P. The dotted line shows the position of these parts at the end of the lift when the recess *c* passes round until it has arrived opposite the pin R, when the spring S causes the recess *c* to engage the pin R and lock it in position for a second movement.

Having described my invention, what I claim is—

1. The combination, with the rocking frame 6, rock-shaft S, and a weighted lever, 7, connected with the rocking frame, of a lifting-lever, P, on the rock-shaft, a disk, N, having a pin, O, and clutch-teeth G, a power-shaft, a gear, D, having clutch-teeth F, for engaging and disengaging the clutch-teeth of the disk, gearing connecting the power-shaft with the gear having the clutch-teeth, and a lever for moving the clutch-teeth into and out of engagement, substantially as described.

2. The combination, with the rocking frame 6, rock-shaft 8, and weighted lever 7, connected with the rocking frame, of a lifting-lever, P, on the rock shaft, a shaft, E, having the pin or lug R, a disk, N, having a recess, *c*, pin O, and clutch-teeth G, a gear, D, having clutch-teeth F, a power-shaft geared to the gear having the clutch-teeth, a lever, L, for engaging and disengaging the clutch-teeth, and a spring, S, acting on the lever to separate the clutch-teeth, substantially as described.

In testimony whereof I have hereunto set my hand.

PETER LESH.

Witnesses:
G. C. HOLLOWAY,
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