

(No Model.)

C. G. DAHLGREN & J. H. SVENSSON.
LATHE.

No. 561,095.

Patented June 2, 1896.

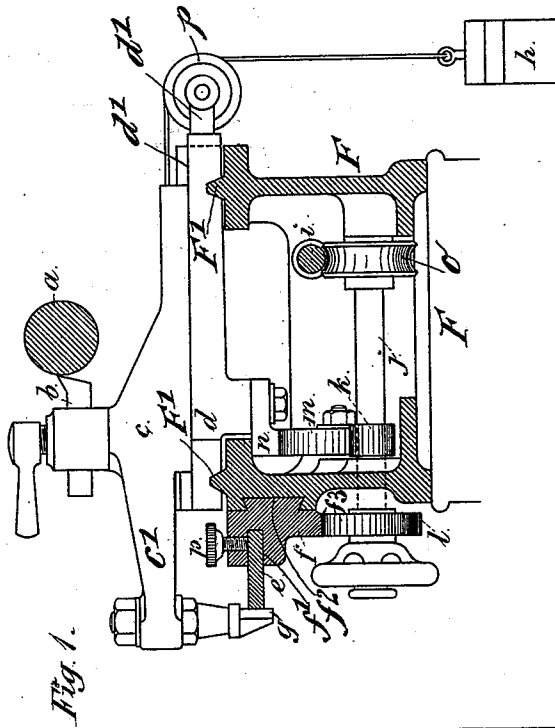


Fig. 1.

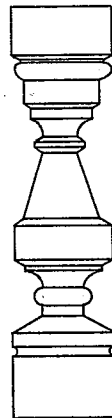


Fig. 2.

Fig. 3.



Witnesses
B. S. Ober
Henry Orth

Inventors,
Carl Georg Dahlgren and
Johan Hugo Svensson.
by *Quincy M. B.* Atty

UNITED STATES PATENT OFFICE.

CARL GEORG DAHLGREN AND JOHN HUGO SVENSSON, OF GOTHENBURG, SWEDEN.

LATHE.

SPECIFICATION forming part of Letters Patent No. 561,095, dated June 2, 1896.

Application filed August 28, 1895. Serial No. 560,751. (No model.)

To all whom it may concern:

Be it known that we, CARL GEORG DAHLGREN and JOHN HUGO SVENSSON, subjects of the King of Sweden and Norway, residing at Gothenburg, Sweden, have invented certain new and useful Improvements in Lathes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention has relation to slide-rests for lathes for turning forms of irregular profile; and it has for its object certain improvements whereby the construction is materially simplified, and whereby the pattern or templet is positively moved in one or the other direction in proportion to the like movement of the cutter, and whereby such templet is readily secured to or removed from said slide, as will now be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional end elevation of a slide-rest for lathes for turning forms of irregular profile embodying our invention. Fig. 2 is an elevation of a body of irregular profile; and Fig. 3, a plan view of the templet by means of which the cutter is guided in turning the said body, the latter and the templet being merely given as an example for the better understanding of our invention.

In the accompanying drawings we have deemed it unnecessary to illustrate those parts of the lathe by means of which the work is supported and revolved, as these may be of any usual or suitable construction.

The tool-rest consists of a suitable frame F, provided with longitudinal track-rails or ribs F', on which the carriage d for the tool-rest c slides, a indicating the work held in the lathe-heads and revolved in the usual manner. The carriage d has a cross rail or rails or track d', on which the slide-rest c has motion at right angles to the motion of the carriage d, to which is secured a bracket-bearing d², in which is journaled a guide-pulley p,

over which runs a cord or the like, one end of which is secured to the slide-rest, and from the other end is suspended a weight h, the function of which is to hold the tool b to the work a. From the off side of the slide-rest c projects an arm c', that has a bearing for the usual tracer g, whose movements are controlled by the templet and control those of the tool to and from the work a in accordance with the irregularities of the profile of the pattern or templet e.

The pattern or templet e is clamped in a longitudinal recess f', formed in the outer face of a slide f, by means of one or more binding-screws p, according to the length of the templet, and said slide has a dovetailed rib f², fitting a like groove in the slide-rest frame F.

In the frame F is mounted a shaft j, that carries a pinion k, meshing with a transmitting-wheel m, revoluble on a stud projecting from the framing F, said wheel m meshing with a rack n on the under side of the carriage d. The said shaft j also carries a gear l, that meshes with a rack f³ on the under side of the slide f, said shaft being driven by worm-gearing o and i from any suitable prime motor. Of course the dimensions of the gearing k m l will determine the feed of the tool b relatively to that of the templet or pattern e and are of such relative proportions as to properly feed the templet relatively to said tool.

It is obvious that in the construction described the templet is readily removed and another as readily substituted, while the construction of the whole of the slide-rest is extremely simple, and consequently not liable to get out of repair or become otherwise inoperative.

Instead of propelling the carriage d by means of rack-and-pinion gear, as described, a feed-screw may be used, working in interiorly-threaded bearings on the carriage, in which case the wheel l may receive motion from the feed-screw through the medium of worm or other gearing.

Instead of controlling the movements of the tool toward and from the work through the medium of the pattern or templet the latter may be caused to move the work-support toward and from the tool, in which case the

tool-rest will have a longitudinal motion only, as will be readily understood, while the work-support or lathe-heads will be constructed to slide toward and from the tool-rest, and this
5 sliding motion may be imparted to the lathe-heads by a suitable lever mechanism or mechanism adapted to automatically move the lathe-heads toward and from the tool-rest.

In view of the above description, and in
10 view of the accompanying drawings, the operation of turning forms of irregular profile will be readily understood by all those conversant with lathe-work of this kind, and will therefore not require a specific description,
15 with the exception that we may here state that the length of the irregular lines of the profile of the pattern or templet are multiples of the length of the corresponding lines in the finished work, so that the speed at which the
20 pattern or templet is moved must be a multiple of the speed at which the tool is moved in a plane parallel with the work and with the said pattern or templet.

Having thus described our invention, what

we claim as new therein, and desire to secure 25 by Letters Patent, is—

The combination with a supporting-frame provided with two longitudinal guide-tracks, a carriage having motion on one of said tracks, said carriage provided with a guide-track at 30 right angles to the one on its supporting-frame, a slide-rest mounted on the carriage-track, and a tracer secured to said slide-rest; of a slide fitted to the other frame-track means for securing a templet to said slide in the path 35 of the aforesaid tracer, and feed mechanisms for imparting motion to the carriage and templet in a plane parallel with, and to the slide-rest in a plane at right angles to the work, substantially as and for the purpose set forth. 40

In testimony whereof we affix our signatures in presence of two witnesses.

CARL GEORG DAHLGREN.
JOHN HUGO SVENSSON.

Witnesses:

CARL UTTERBERG,
E. W. JOSEFSSON.