A. Belaieff.

Screw Swaging.

No. 92567. FIG: 1. Patented Jul. 13. 1869.

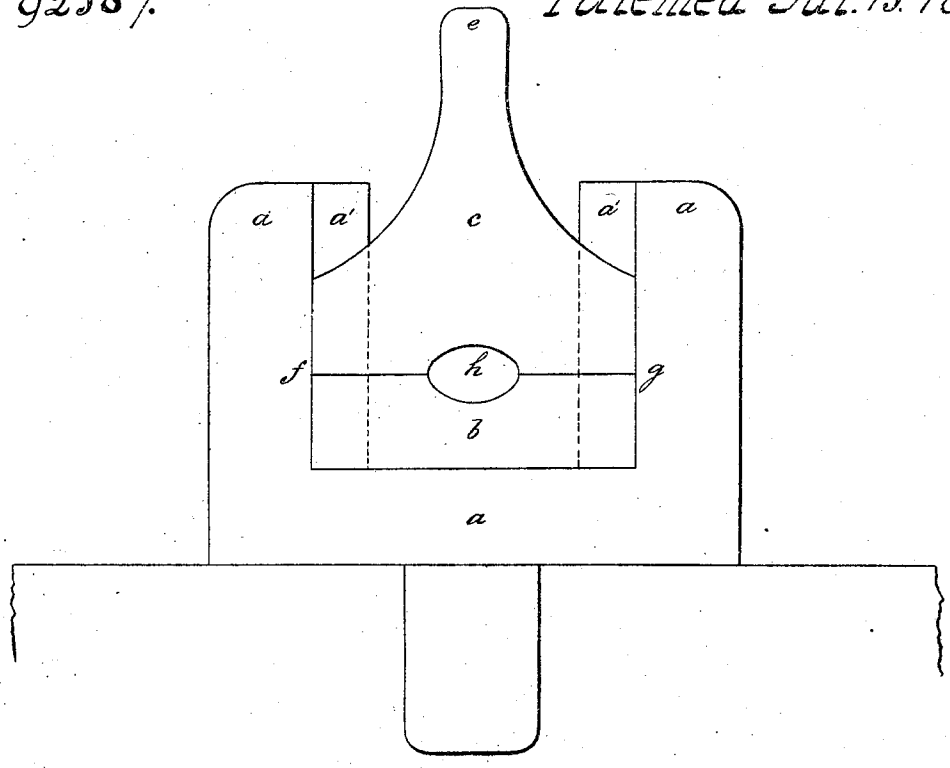
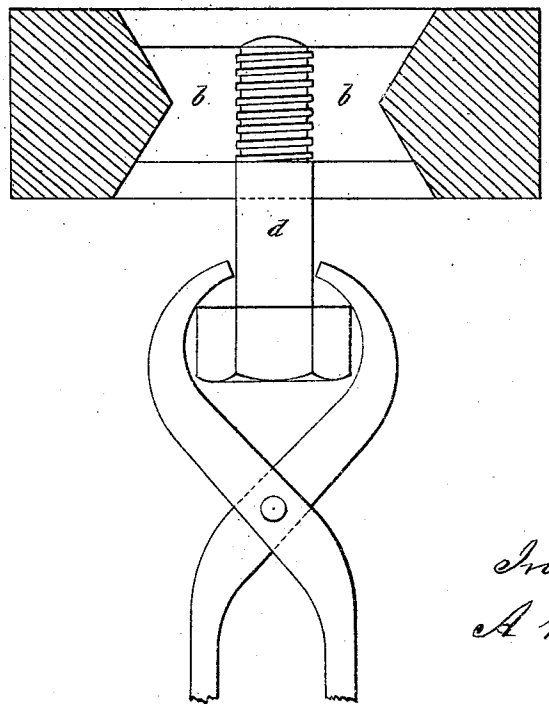


FIG: 2.



Witnesses.
N. Teleschoff,
A. Athensky

Inventor
A. Belaieff.

United States Patent Office.

ALEXIS BELAIEFF, OF ST. PETERSBURG, RUSSIA.

Letters Patent No. 92,567, *dated July* 13, 1869.

IMPROVEMENT IN DIES FOR FORMING THREADS ON BOLTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALEXIS BELAIEFF, of the city of St. Petersburg, in the Empire of Russia, have invented certain new and useful "Improvements in the Mode of and Apparatus for Forming Screw-Threads on Wrought-Iron Bolts;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the figures of the accompanying drawing, making part of this specification; that is to say—

My invention consists in the application, as hereafter described, of a swaging-process, by means of improved apparatus, to the formation of screw-threads on wrought-iron bolts.

Figure 1, of the accompanying drawing, represents in elevation, one of the forms of apparatus by which the invention may be executed.

Figure 2 is a sectional plan of the same, through the line *f g*, fig. 1.

a is a cast or wrought-iron frame, provided with guides *a' a'*, for the vertical motion of the upper swage or die *c*, which may be raised or lowered by the hand, by the end *e*.

b c are the steel dies or swages, one of which, *b*, is set at the bottom of the frame *a*, while the other, *c*, is adjusted to move vertically between the guides *a' a'*.

The hole *h* is pierced, through the centre of the division-line *f g*, to a diameter slightly superior to that of the bolt to be threaded, and is afterwards tapped to the required depth. Thus, for instance, for a bolt of three-quarters of an inch, the hole should have a diameter of about fifteen-sixteenths of an inch. For a one-inch bolt, the hole should be of one and three-eighths of an inch, and so on in proportion, or approximately, for the different dimensions.

The hole being tapped as above, the surfaces of contact of the swages *b c* are filed, or otherwise ground down, until a sharp and deep thread is obtained on a test bolt. The vertical plane formed by a cross-section of the hole at right angles to its axis, is thus reduced to the oval form shown in fig. 1, by aid of which the circularity of the bolt is preserved during the threading-process.

The bolt *d*, fig. 2, being brought to a red heat, is passed into the hole *h* between the swages *b c;* the hammer is applied to the head of the latter, *c*, and at same time, the bolt being turned to the extent of a quarter of a circle at each motion, a clear and sharply-defined thread is produced.

The form, dimensions, and general details of construction of the apparatus, may of course be varied according to circumstances.

Having now described the nature of my said invention, and the manner in which it may be carried into effect,

I declare that what I claim, and desire to protect by Letters Patent, is—

Forming the threading-dies *b c* of an oval shape in cross-section, substantially as shown and described, and for the purpose set forth.

A. BELAIEFF.

Witnesses:

N. TELESCHEFF,

A. ALBINSKY.