(No Model.)

H. K. JONES.

BOLT OR PIN.

No. 446,740. Patented Feb. 17, 1891.

Fig. 1.

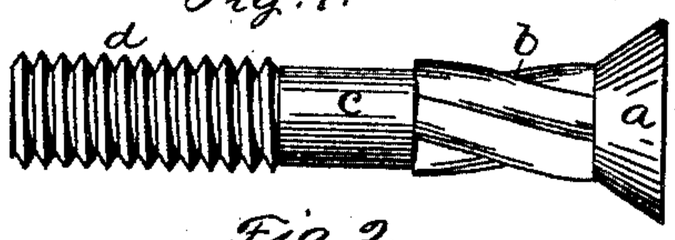


Fig. 2.

Fig. 3.

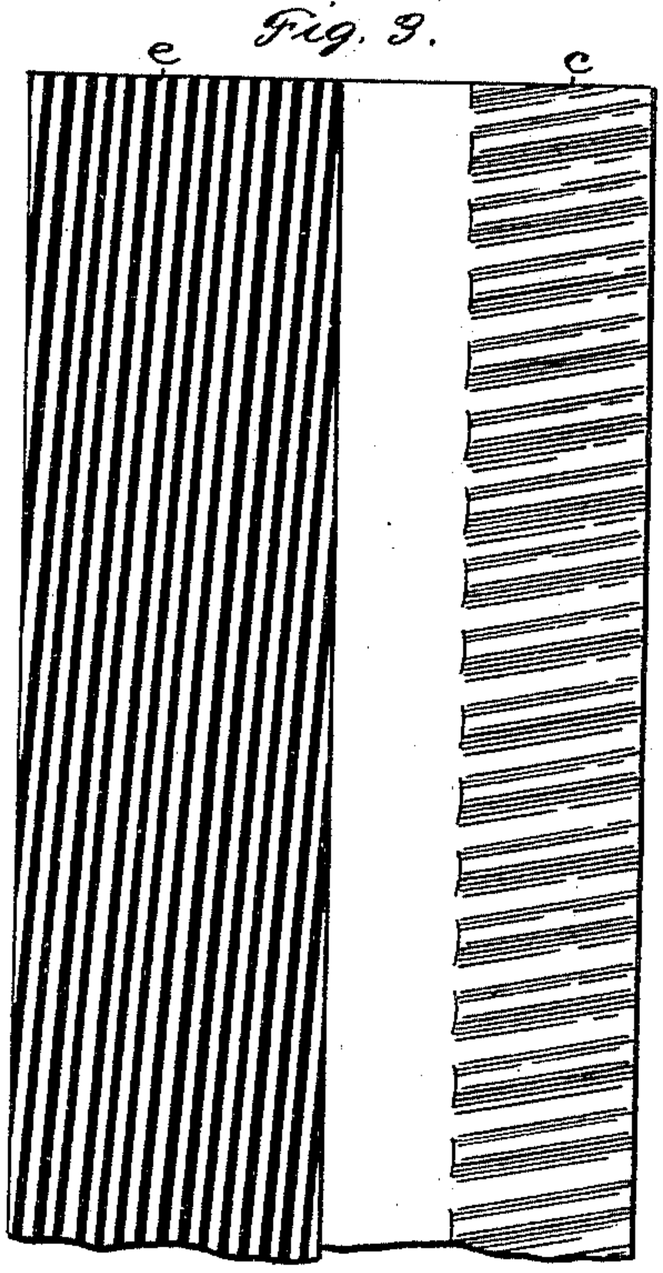


Fig. 4.

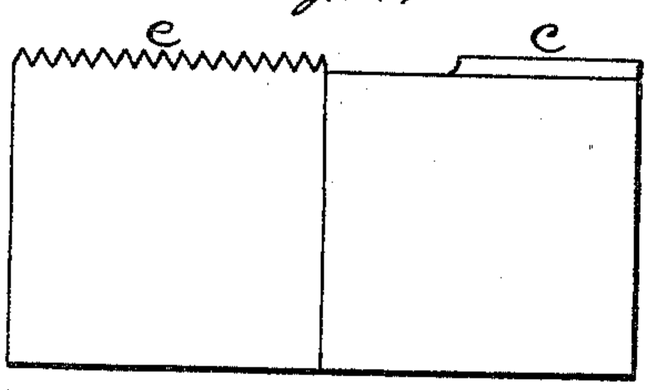


Fig. 5.

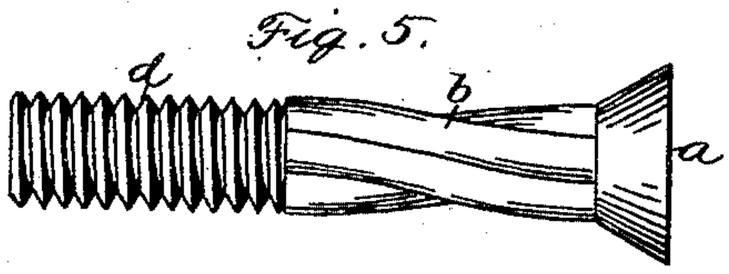


Fig. 6.

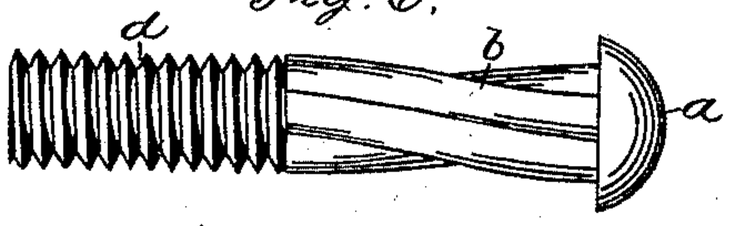


Fig. 7.

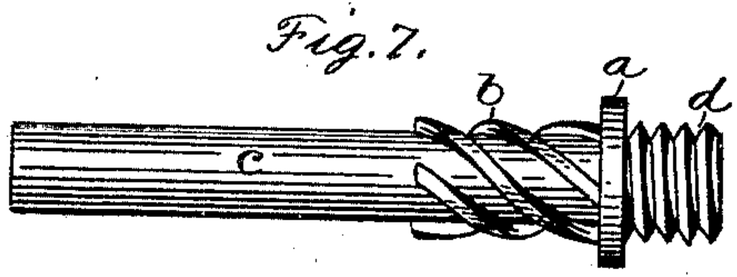
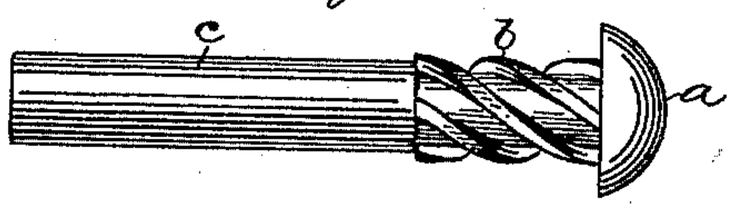


Fig. 8.



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UNITED STATES PATENT OFFICE.

HORACE K. JONES, OF HARTFORD, ASSIGNOR TO THE RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT.

BOLT OR PIN.

SPECIFICATION forming part of Letters Patent No. 446,740, dated February 17, 1891.

Application filed October 30, 1890. Serial No. 369,792. (No model.)

To all whom it may concern:

Be it known that I, HORACE K. JONES, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bolts or Pins, of which the following is a specification.

My invention relates to an improved bolt or pin having enlargement-ribs; and the objects of my improvement are to produce a bolt or pin with rolled circumferential enlargement-ribs, to produce said ribs of any desired length and at any desired point on the bolt or pin.

In the accompanying drawings, Figures 1 and 2 are side elevations of my bolt in two somewhat different forms. Fig. 3 is a face view of a portion of one half of the dies by which the thread and enlargement-ribs of said bolts are raised by rolling. Fig. 4 is an end view of said dies. Figs. 5, 6, 7, and 8 are side elevations of other forms of my bolt or pin.

Screws with a single thread of but little pitch and screws with more than one thread of a greater pitch have been threaded by rolling in dies, and the same are hereby disclaimed.

The principal part of my present improvement relates to circumferential enlargement-ribs on the body of a screw or pin as a separate and distinct thing from any screw thread or threads, and in my screw or pin these enlargement-ribs are raised by rolling in dies.

Any ordinary machine for rolling screw-threads between reciprocating dies may be employed to roll my enlargement-ribs or said ribs and the screw-thread. An example of a suitable machine for the purpose is shown in my patent, No. 419,777, dated January 21, 1890. The bolts shown in Figs. 1 and 2 are alike, except in the form of the heads *a*, both of which are of an ordinary form. On each of these bolts there is a series of circumferential enlargement-ribs *b* under the head, then a blank portion *c*, and then a rolled screw-thread *d*. I form the enlargement-ribs and thread on said bolts by rolling them in the dies, Figs. 3 and 4, in which *d* designates the grooved face that rolls the enlargement-ribs *b*, and *e* designates the grooved face that rolls the screw-thread *d* by placing the blank between a pair of dies set face to face and reciprocating them relatively to each other, as in ordinary machines for rolling screw-threads, said enlargement-ribs and screw-thread being preferably rolled simultaneously at one operation. I have illustrated only a portion of one half of a pair of dies, the other half being a duplicate of that shown. The dies herein shown and the process of rolling the enlargement-ribs and thread are made the subject of another application of even date herewith.

In Figs. 5 and 6 I have shown the same forms of bolt, excepting there is no blank portion between the enlargement-ribs and screw-thread. Such a bolt is produced by subjecting the blank to dies like that shown in Figs. 3 and 4, excepting that the grooved faces for rolling the enlargement-ribs and screw-threads are set close together without any blank space between. In order to bring the enlargement-ribs and screw-threads at different relation to each other, it is only necessary to set the respective parts of the dies at the proper distance apart for rolling said portions, or else roll the thread at one operation and the enlargement-ribs at another.

In Fig. 7 I have shown a pin for stove-door hinges having a rolled screw-thread *d* and rolled enlargement-ribs *b*, with a shouldered portion or head *a* between them and a blank space *c* on one end of the pin. The bolts in the preceding figures were made from a blank that was before rolling of a uniform diameter from under its head to the end. The blank for the pin, Fig. 7, was, however, enlarged slightly before rolling at the part where the enlargement-ribs are formed, so that the bottom of the spaces between said ribs is substantially flush with the blank portion *c* of the wire. This previous enlargement of a portion of the blank is not necessary, but may be desirable for some purposes, and therefore I give one example of enlargement-ribs rolled on an enlarged portion.

In Fig. 8 I show a pin for stove-door hinges having enlargement-ribs *b* rolled on the portion under the head *a* and with a blank portion *c*, but without any threaded portion.

In the several figures the blank portion *c* represents the original size of the wire from which the bolt or pin is made, and which is somewhat smaller than the greatest diameter of the threaded and ribbed portions. The enlargement-ribs may be made coarse or fine, and of more or less depth. They may, if desired, be raised so high as to make the diameter of the ribbed portion exceed that of the threaded portion. I have shown the enlargement-ribs as extending up to the head; but, if desired, they may be formed farther from the head, so as to leave a blank portion between them and the head. The ribs are inclined so as to extend somewhat transversely to the axis of the pin or bolt, whereby they cover when viewed in end view the entire circumference of the bolt or pin, and are thus better centered when driven into a hole. By reason of covering the entire circumference I call them "circumferential" ribs, and by reason of their shape the swaging-dies work smoothly and evenly.

I am aware that bolts having a screw-threaded end and a longitudinally-fluted shank under the head are old, and I hereby disclaim the same.

I claim as my invention—

1. The herein-described bolt or pin, having the series of rolled circumferential enlargement-ribs *b* extending somewhat transversely to its axis, substantially as described, and for the purpose specified.

2. The herein-described bolt or headed pin, having at a point between the inside of its head and end a series of rolled circumferential enlargement-ribs extending somewhat transversely to its axis, substantially as described, and for the purpose specified.

3. The herein-described bolt or pin, having a series of circumferential enlargement-ribs *b* extending somewhat transversely to its axis at one portion and a rolled screw-thread at another portion, substantially as described, and for the purpose specified.

HORACE K. JONES.

Witnesses:
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W. C. RUSSELL.