

T. BEDDOW & A. T. JACKSON.  
 Dies for Swaging Right and Left Intersecting  
 Screw-Threads.

No. 168,214.

Patented Sept. 28, 1875.

Fig. 1.

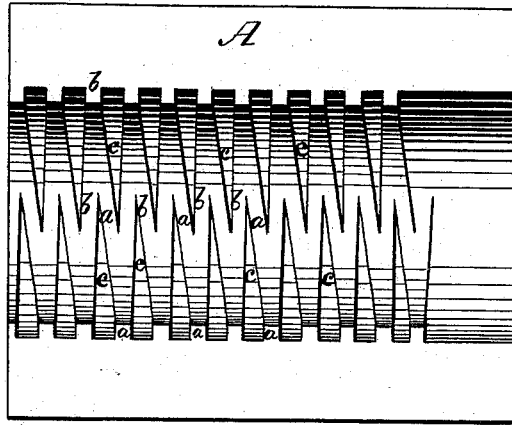


Fig. 2.

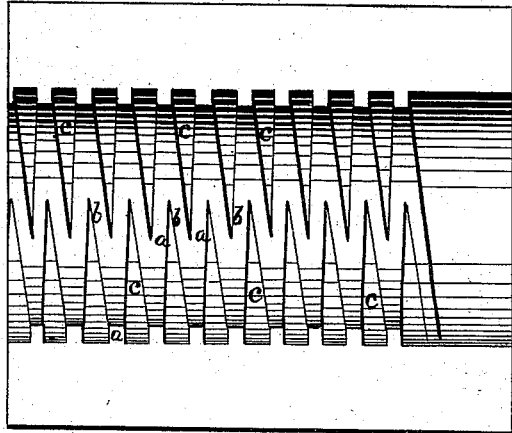


Fig. 3.

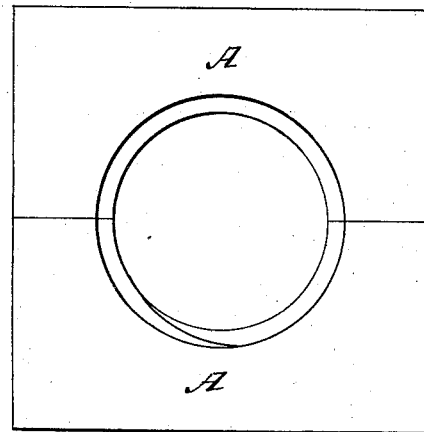
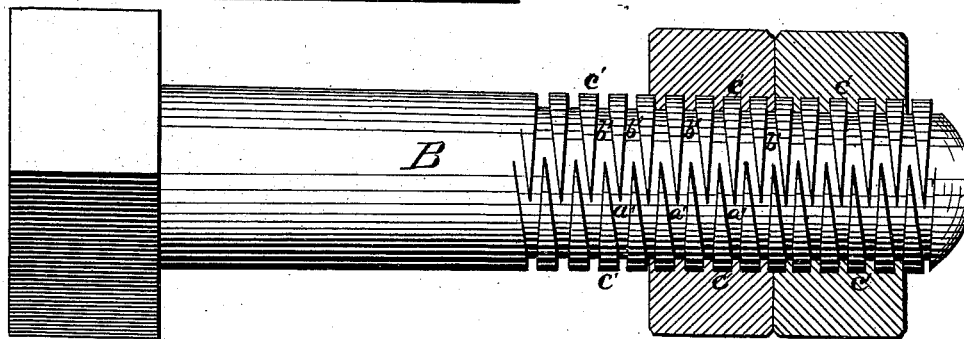


Fig. 4.



WITNESSES  
*E. H. Bates.*  
*George E. Upham.* By

INVENTORS  
*Thomas Beddow*  
*A. T. Jackson*  
*Chapman & Co.*  
 ATTORNEYS.

# UNITED STATES PATENT OFFICE.

THOMAS BEDDOW AND ALEXANDER T. JACKSON, OF NEW ALBANY, IND.,  
ASSIGNORS TO THOMAS BEDDOW; SAID BEDDOW ASSIGNOR OF ONE-  
HALF HIS RIGHT TO GEORGE PHELPS, OF SAME PLACE.

## IMPROVEMENT IN DIES FOR SWAGING RIGHT-AND-LEFT INTERSECTING SCREW-THREADS.

Specification forming part of Letters Patent No. **168,214**, dated September 28, 1875; application filed  
September 11, 1875.

### *To all whom it may concern:*

Be it known that we, THOMAS BEDDOW and ALEXANDER T. JACKSON, of New Albany, in the county of Floyd and State of Indiana, have invented a new and valuable Improvement in Dies for Making Screws; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of plan views of the separate halves of our die. Fig. 3 is an end, and Fig. 4 a sectional, view of the same.

This invention has relation to the manufacture of bolts having right-and-left intersecting threads on them for the purpose of receiving right and left threaded nuts which mutually jam each other. It consists in dies having semicircular concavities formed in them, which are grooved and threaded to correspond to the threads and grooves which it is desired to form on the bolt-blanks, as will be hereinafter explained.

Prior to our invention threads have been formed on bolts by means of dies, but such threads were not of the right-and-left-hand kind; and we are also aware that right-and-left-hand screw-threads have been formed on round bars by means of a cutting-tool applied in a lathe; but this we do not claim.

In the annexed drawings, A A represent two blocks, which are grooved and threaded to correspond to the threads which it is desired to form on the bolt-blanks—that is to say, the rectangular threads *a a* form the

right-hand grooves *a' a'* in the bolt B, and the rectangular threads *b b* form the left-hand grooves *b' b'* in the bolt.

It will be seen that the threads in the dies have an obliquity more or less oblique, according to the pitch required, and that these threads intersect each other on opposite sides of the axis of the die-blocks when brought together, so as to leave between them double V-shaped (wedge-shaped) spaces C, corresponding to the double V-shaped ribs or threads *c'* on the finished screw.

The dies are applied in a suitable power-press, and when the bolt-blanks are heated to a proper temperature they are inserted between the dies and a powerful pressure applied, thus forming threads which have right-and-left intersecting grooves between them, and which possess great durability, owing to the fact that the fibers of the metal are compacted and condensed in the act of producing them.

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

Dies A A, having semicircular concavities in them, which present right-and-left intersecting threads *a b* and intermediate double V-shaped spaces *c'*, as and for the purposes set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

THOMAS BEDDOW.  
ALEXANDER T. JACKSON.

Witnesses:

THOMAS G. JACKSON,  
WM. B. JACKSON.