(No Model.)

W. B. MIDDLETON.

TURN BUCKLE.

No. 447,077. Patented Feb. 24, 1891.

Fig. 1.

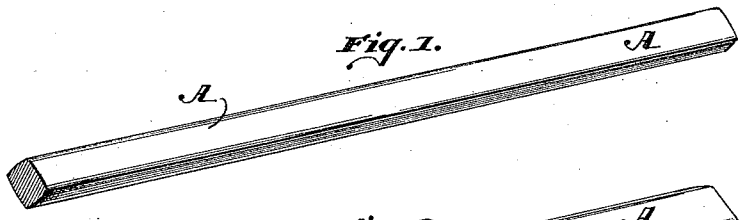


Fig. 2.

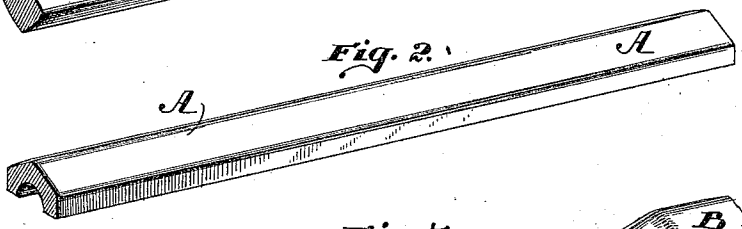


Fig. 3.

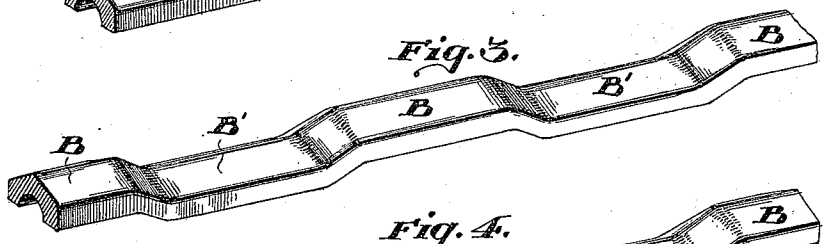


Fig. 4.

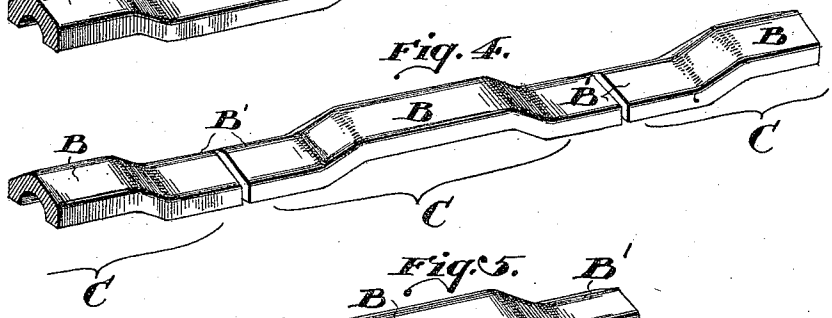


Fig. 5.

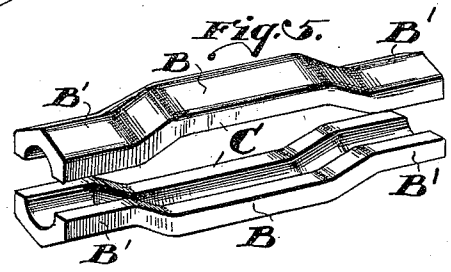
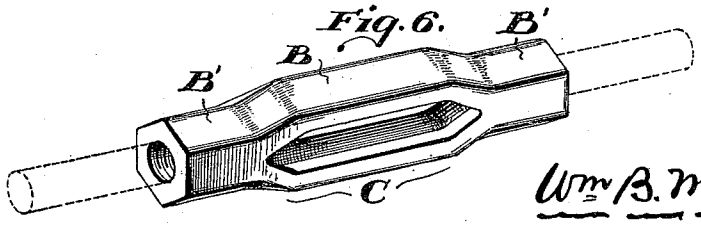


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM B. MIDDLETON, OF LEBANON, PENNSYLVANIA.

TURN-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 447,077, dated February 24, 1891.

Application filed August 21, 1890. Serial No. 362,586. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MIDDLETON, a citizen of the United States, residing at Lebanon, in the county of Lebanon, and State of Pennsylvania, have invented certain new and useful Improvements in the Construction of Turn Buckles, of which the following is a specification.

My invention relates to the class of turn-buckles which, instead of being made seamless and as to their sockets and sight holes punched or die-forged out of solid metal, are made in sections welded together,—and it relates particularly to that subdivision of the class of sectional turn buckles in which the welding of the two sections is only performed as to the head or neck portions of said sections and does not extend through the body portions.

Heretofore in the manufacture of sectional turn buckles of the character last above referred to, it has been necessary to spread laterally the end portions of the blanks which are formed into the sections, in order that the said extended or spread end portions, when united by welding, may be united by a lap joint.

It is the object of my invention in this particular to construct a turn buckle out of two counterpart sections with the meeting edges of the head portions butt-welded together as opposed to being lap-welded.

It is further the object of my invention to make the sections themselves by an operation of rolling them, as opposed to operations of forging in dies, punches, or kindred treatment,—and in an application executed by me upon the 23d day of July, 1890, and filed in the United States Patent Office upon the 21st day of August, 1890, as Serial No. 362,587, there is shown described and claimed a set of rolls of my invention adapted to roll blanks into the required form. By resort to rolling I cheapen the manufacture of the turn buckle, which, as produced, is at least as strong and merchantable as buckles made by other and more expensive processes.

In the drawings, Figure 1 is a view in perspective of a bar of metal of a form from which the turn buckle blanks may be conveniently rolled. Fig. 2 is a view in perspective of the bar after it has been passed through rolls of such character as to impart to it cross-sectionally a semi-polygonal or semi-cylindric form. Fig. 3 is a view in perspective of the bar after it has been passed through the depression forming rolls. Fig. 4 is a view in perspective of the bar embodying depressions as in Fig. 3, after having been divided transversely at points midway of each undepressed portion. Fig. 5 is a view in perspective of a pair of turn buckle blanks showing their relation to each other before welding. Fig. 6 is a view in perspective of the completed turn buckle.

Similar letters of reference indicate corresponding parts.

In the manufacture of the sections, I take a flat or square blank of suitable dimensions, such as A shown in Fig. 1, and pass it through rolls of such character as to impart to it cross-sectionally a semi-cylindric or semi-polygonal form, as shown in Fig. 2, and then pass it between rolls provided with suitable arc-like plungers, bosses, or elevations, by the action of which, in conjunction with corresponding plunger recesses, there is formed in it at predetermined uniform distances depressions, such as B Fig. 3. I then divide transversely the bar so rolled, preferably at the centers of the undepressed portions B′, which are intermediate between the depressed portions, and which are simply portions of the semi-cylindric blank not encountered by the depression forming dies, with the result that each of the sections, which I designate C in Fig. 4 which represents the bar as divided, constitutes one half or section of the ultimate turn buckle. The sections being all counterparts of each other, two of them, as in Fig. 5, are placed together and by any preferred means the under edges of the undepressed portions B′ which face each other and abut against each other, are butt-welded together to form the turn buckle shown in Fig. 6.

It is obvious of course that instead of rolling these members or halves in a connected series from a single bar, each may be, independently of the others, rolled by itself from a short bar as the connection or separation in rolling of such members forms no element of my invention.

By a reference to the completed turn buckle shown in Fig. 6, it will be obvious that por-

tions of the blank which are depressed by the action of the depression-forming rolls, constitute the side portions of the body of the buckle, or the "arm," as it is sometimes termed, while their edges, which, of course, share with their body substances the depressed form, constitute respectively the edges of the sight holes of the completed turn buckle.

It is apparent that a turn buckle of the foregoing construction manufactured in the manner set forth, possesses the advantages of having the least possible surface areas to be welded, and at the same time can be manufactured very quickly and very cheaply.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. A turn buckle formed of counterpart sections the head portions of which are as to their abutting faces butt-welded together, substantially as set forth.

2. A turn buckle formed of counterpart sections, which sections are manufactured by rolling as opposed to drop forging, and the head portions of which are as to their abutting faces butt-welded together, substantially as set forth.

3. The method of making a turn buckle which consists in rolling a blank of metal to semi-cylindric or semi-polygonal form, in then forming in said semi-cylindric blank one or at stated intervals a series of depressions, in then dividing the blank so provided with a series of depressions intermediately between said depressions, and in then taking two of the divided portions of the blank and placing them together and uniting the abutting edges of the undepressed portions of said divided parts by butt-welding them together, substantially as set forth.

4. The method of making turn buckle blanks in readiness to be united by pairs to form turn buckles, each of which blanks embodies a turn buckle arm and the two semi-cylindric halves of the turn buckle heads—which consists in rolling a series of said completed blanks in or from a single bar, and in dividing said bar at the proper points to sever said blanks, from each other, substantially as set forth.

In testimony that I claim the foregoing as my invention, I have hereunto signed my name this 23d day of July, A. D. 1890.

WILLIAM B. MIDDLETON.

In presence of—
J. BONSALL TAYLOR,
F. NORMAN DIXON.