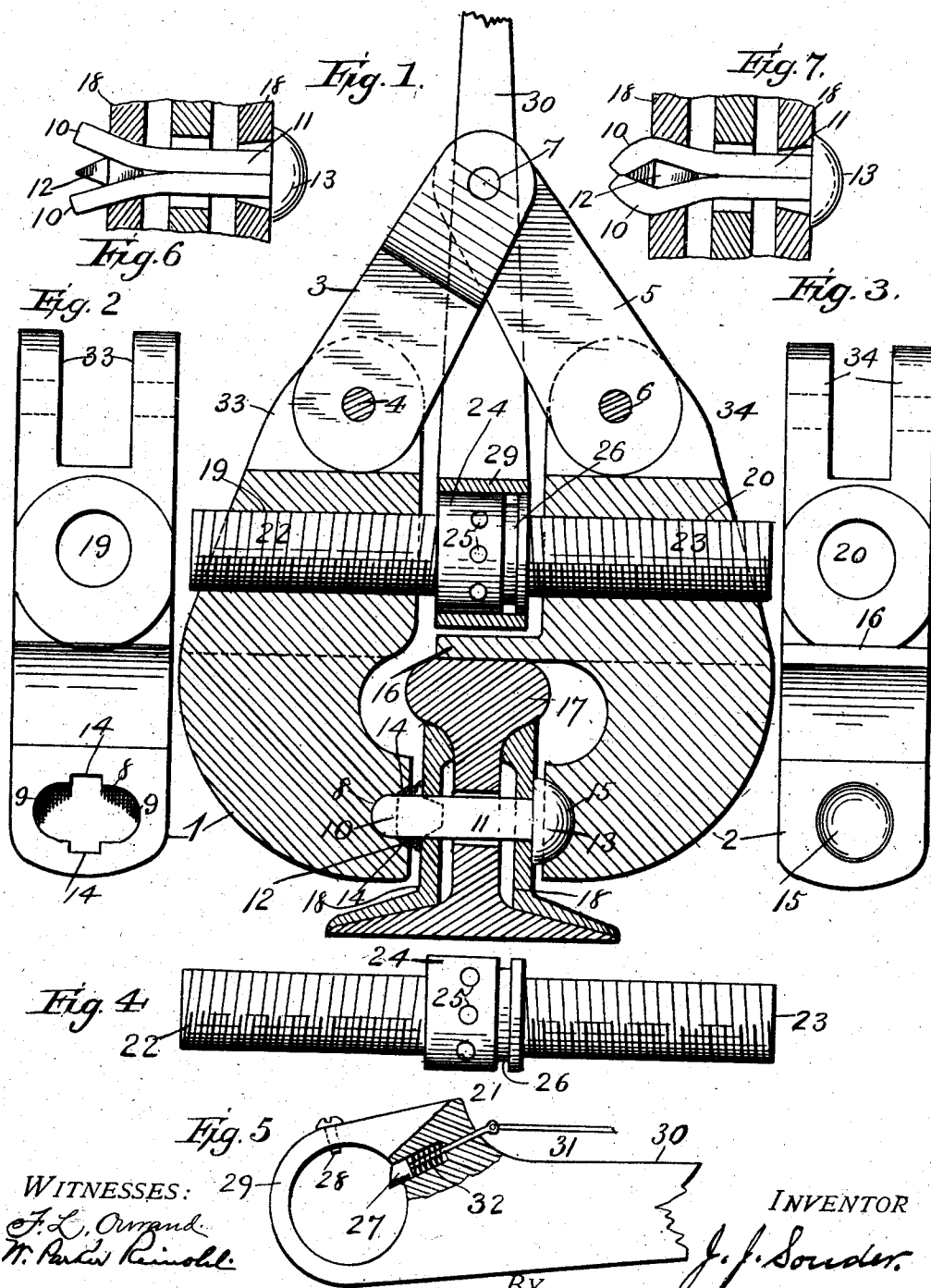


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J. J. SOUDER.  
 DEVICE FOR SECURING SPLIT BOLTS.  
 APPLICATION FILED JUNE 27, 1907.



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# UNITED STATES PATENT OFFICE.

JACOB J. SOUDER, OF WASHINGTON, DISTRICT OF COLUMBIA.

## DEVICE FOR SECURING SPLIT BOLTS.

No. 878,570.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed June 27, 1907. Serial No. 381,050.

*To all whom it may concern:*

Be it known that I, JACOB J. SOUDER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Devices for Securing Split Bolts; and I 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.

My invention relates primarily to threadless or split bolts, such as shown and described in Letters - Patent of the United States, #836,786 granted to me on the 27th day of November, 1906, and in my application for a patent for metal joints, Serial Number 361,850, filed March 11th, 1907, has especial reference to means for bending the ends of the bolt over the key or wedge in a nut or other member provided with an opening or seat to receive the bolt and a key, and to swage the ends of the split bolt over the key, to effectually secure the bolt in position.

The invention has for its object efficiency, speed and economy in the bending and swaging of the ends of such bolts, and consists in certain features of construction, which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification:—Figure 1 represents a vertical section partly in side elevation of a device embodying my invention. Fig. 2 an elevation of one of the jaws of the device. Fig. 3 a like view of the opposite jaw. Fig. 4 a side view of the threaded bolt detached. Fig. 5 a like view of the ratchet lever for operating the bolt. Fig. 6 a horizontal transverse section showing a bolt before the ends are bent and swaged, and Fig. 7 a like view of the same after the ends of the bolt have been bent and swaged.

Reference being had to the drawings and the designating characters thereon, the numeral 1 indicates what may be termed a swaging-jaw or member, 2 a jam-jaw, 3 a link to which the jaw 1 is pivotally connected by a pin 4, 5 a like link to which the jaw 2 is pivotally connected by a pin 6, and the links 3 and 5 are pivotally connected by a pin 7. The jaw 1 is provided with an elongated swaging-cavity 8 whose end walls 9, 9 are converging to engage the separated ends 10,

10 of the bolt 11, and bend them inward toward each other and over the key 12, and swage the ends and draw the bolt tight against its head 13.

14, 14 are slots or grooves in the side walls of the cavity 8 to engage the edges of the key 12 and hold it while being inserted and forced between the ends 10 of the bolt 11.

The jaw 2 is provided with a circular cavity 15 to engage the head 13 of the bolt while the ends 10 of the bolt are being bent inward and swaged, and with a laterally projecting flange 16, which forms a support for the device, and rests upon the top of the head 17 of a rail-road rail while in operation to secure the fish-plates 18, 18 to the rail. In the jaw 1 is a left-hand screw-threaded opening 19, and in the jaw 2 is a like right-hand screw-threaded opening 20.

21 is a bolt having left screw-threads 22 to engage the opening 19, and right screw-threads 23 to engage the opening 20, and between the oppositely screw-threaded members is a cylindrical head 24, in which are openings or recesses 25, and a concentric groove 26, engaged respectively by a retractable pin 27 and a screw 28 in the head 29 of a lever 30, the former serving as a lock to engage the lever with the head 24 of the bolt, and the latter as means to prevent the lever moving laterally on the head. The pin 27 is drawn out of the recess 25 by a rod 31, and automatically pressed into the recess by a spring 32, when it is desired to change the position of the lever 30 on the head 24 of the bolt. At the upper end of the jaw 1 are lugs 33 engaged by link 3 and pin 4, and on the jaw 2 are like lugs 34 engaged by the link 5 and pin 6.

In the operation of the device, the jaws 1, 2 are drawn toward each other and separated by the bolt 21, and through their jointed connection with the links 3 and 5 and the jointed connection between the links move laterally in the same horizontal plane, to engage and disengage opposite ends of the bolt, and the jaw 1 is drawn up against the ends 10 of the bolt 11 with such force as to first insert the key 12, bend the ends 10 and then effectually swage them and draw the head of the bolt tight to its seat on the fish-plate.

It is obvious that changes in details of construction of the device, may be made without departing from the spirit of my invention,

so long as the swaging-jaw 1 is laterally movable and pressure applied thereto to bend the ends of the bolt and swage them.

Having thus fully described my invention,  
5 what I claim is

1. A device of the class described, comprising a pair of jaws, one of which is laterally movable and provided with a swaging-cavity, and a right and left screw-threaded  
10 member engaging both jaws.

2. A device of the class described, comprising a pair of jaws, one of which is pivotally supported and laterally movable and provided with a swaging-cavity and means for  
15 engaging a key, and a right and left screw-threaded member engaging both jaws.

3. A device of the class described, comprising a pair of jaws, one of which is pivotally supported and laterally movable and provided with a swaging-cavity having converging  
20 walls and means for engaging a key, and a right and left screw-threaded member engaging both jaws for applying pressure to the swaging-jaw.

4. A device of the class described, comprising a pair of jaws, one of which is pivotally supported and laterally movable and provided with an elongated swaging-cavity  
25 having converging walls and means in the side walls of the cavity for engaging a key, and means for applying pressure to the swaging-jaw.

5. A device of the class described, comprising a pair of jaws, one of which is pivotally supported and laterally movable and provided with a swaging-cavity and grooves  
30 in the wall of the cavity for engaging a key, and means engaging the jaws between their ends for applying pressure thereto.

6. A device of the class described, comprising a pair of jaws, one of which is laterally movable and provided with a swaging-cavity  
35 and means in the wall of the cavity for engaging a key, and one of which jaws is provided with a support for the device, and means engaging both jaws for applying pressure to the swaging-jaw.

7. A device of the class described, comprising a pair of jaws, one of which is pivotally supported and laterally movable and provided with an elongated swaging-cavity  
40 and opposite grooves in the wall of the cavity for engaging a key, a support for the device, and means for applying pressure to the swaging-jaw.

8. A device of the class described, comprising a pair of laterally movable jaws pivotally connected at one end and laterally  
45 movable in the same horizontal plane, one of said jaws having a swaging-cavity in its face provided with opposite grooves in its wall,

and means for applying pressure to the swaging-jaw.

9. A device of the class described, comprising a pair of laterally movable jaws  
50 pivotally connected at one end, and one of said jaws having an elongated and converging swaging-cavity in its face having opposite grooves in the wall thereof, and means for applying pressure to the swaging-jaw.

10. A device of the class described, comprising a pair of jaws, a pair of links pivotally connected, and pivotally secured to said  
55 jaws, one of said jaws having a swaging-cavity in its face provided with grooves for engaging a key, and means for applying pressure to the swaging-jaw.

11. A device of the class described, comprising a pair of laterally movable jaws pivotally connected, one of said jaws having  
60 a swaging-cavity in its face provided with grooves for engaging a key, and the opposite jaw having a cavity in its face, and means engaging both jaws for applying pressure to the swaging-jaw.

12. In a device of the class described, a pair of laterally movable jaws, links pivotally connected to the upper ends of said jaws,  
65 one of said jaws having a lateral projection forming a support for the device, a swaging-cavity in one of the jaws provided with grooves for engaging a key, and means engaging both of said jaws between their ends  
70 for applying pressure to the swaging-jaw.

13. A device of the class described, comprising a pair of laterally movable jaws  
75 pivotally connected to move in the same horizontal plane, one of said jaws having a swaging-cavity in its face provided with means for engaging a key, and a right and left screw-threaded member engaging both of  
80 said jaws for applying pressure to the swaging-jaw.

14. In a device of the class described, a pair of laterally movable jaws pivotally connected at one end and one of said jaws having  
85 a swaging-cavity in its face, a transverse member engaging said jaws to apply pressure to the swaging-jaw, and a lever engaging said member between the jaws.

15. In a device of the class described, a pair of jaws, one of which is laterally movable and provided with a swaging-cavity,  
90 means for applying pressure to the latter jaw, and a lever engaging said means between said jaws.

In testimony whereof I affix my signature, in presence of two witnesses.

JACOB J. SOUDER.

Witnesses:

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