

C. H. OSLUND.
CLAMP FOR DRILLS AND THE LIKE.
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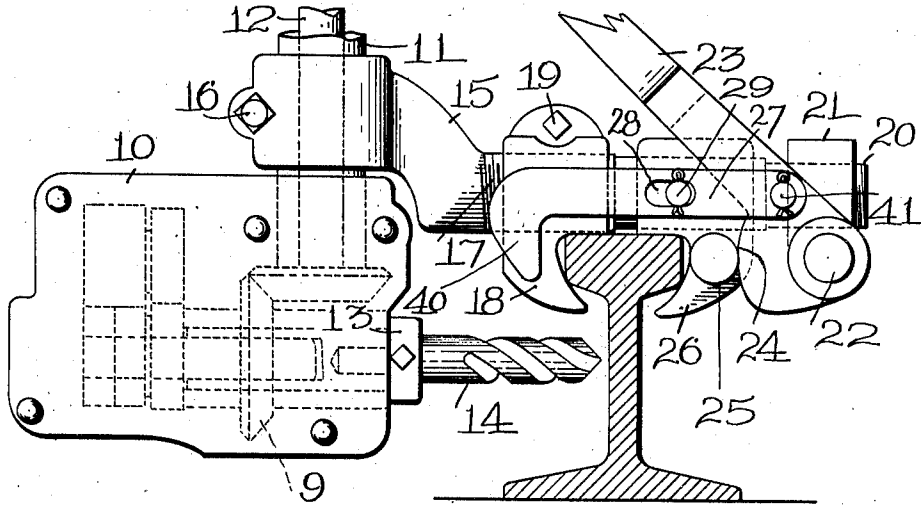


Fig. 1.

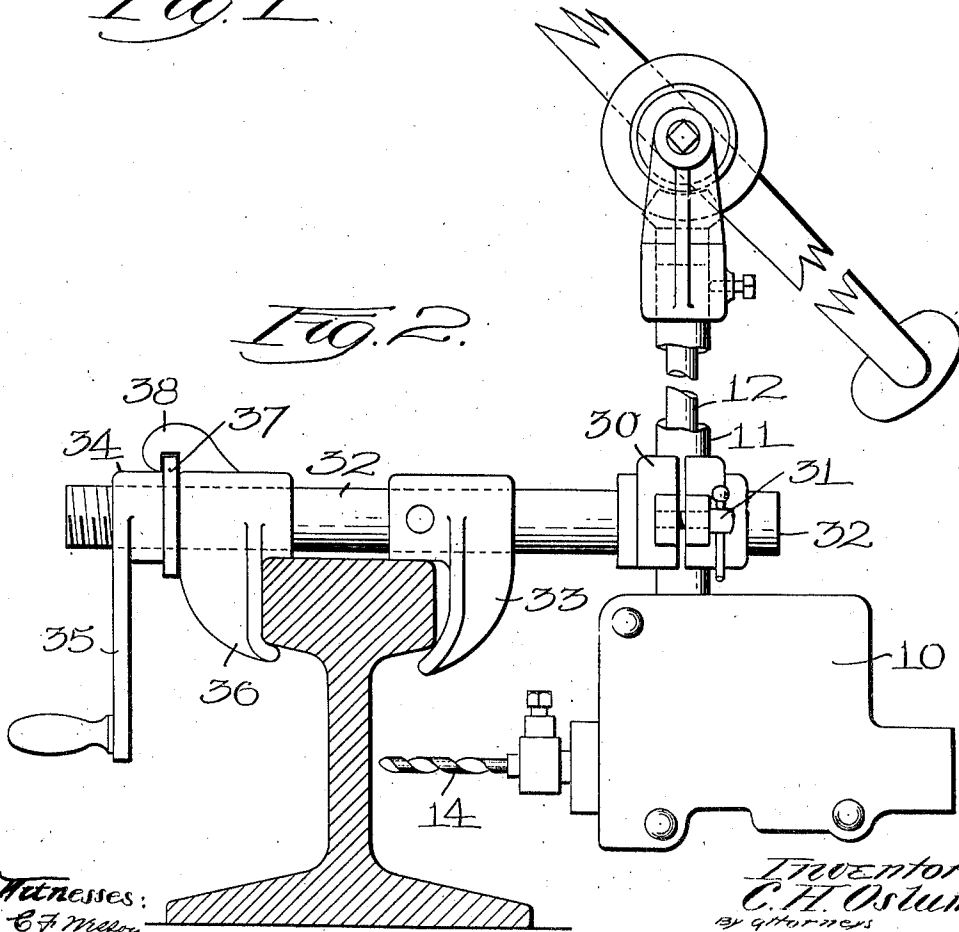


Fig. 2.

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CLAMP FOR DRILLS AND THE LIKE.

1,034,288.

Specification of Letters Patent.

Patented July 30, 1912.

Original applications filed December 4, 1908, Serial No. 465,969, and February 21, 1910, Serial No. 544,989.

Divided and this application filed October 31, 1910. Serial No. 589,905.

To all whom it may concern:

Be it known that I, CHARLES H. OSLUND, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Clamp for Drills and the Like, of which the following is a specification.

This case contains matter divided out of, and to that extent is a division of my Patents Nos. 963,317 and 981,791 granted respectively, July 5, 1910 and Jan. 17 1911.

This invention relates to clamps or supports particularly adapted for holding drills and the like and especially for holding track drills.

The principal objects of the invention are to provide a simple and practicable means adapted to be clamped to a rail or the like and suitable for supporting a drill in position to drill into the shank of the rail; to provide a construction thereof in which the jaws shall be readily adjustable and the clamping jaw can be rapidly and efficiently forced up into clamping position in a very simple manner; and to provide a construction having a horizontal bar adapted to project laterally from the top of the rail or other device on which the clamp is placed and support the drill either in a fixed or adjusted position near the end thereof.

The invention also involves improvements in details of construction as will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation of a preferred embodiment of the invention showing it applied to a rail, and Fig. 2 is a similar view showing a modification.

The form shown in Fig. 1 is divided out of my Patent No. 963,317 and the form shown in Fig. 2 from the other patent above mentioned. In Fig. 1 the invention is shown as applied to a drill casing 10 having a sleeve 11 projecting therefrom at the top in which rotates the driving shaft 12. This driving shaft extends through the sleeve into the casing and connections 9 inside, illustrated in dotted lines, operate a longitudinally movable member 13 for holding

the drill 14. It will be understood, of course, that as the power is transmitted from the shaft 12 to the member 13, the latter is not only rotated but fed forward either in the form shown in my above mentioned Patent No. 963,317 or in any other desired way. The sleeve 11 which projects from the casing and which is supported thereby, or by which the casing can be supported, is employed for the connection of the casing with the clamp. For this purpose a cylindrical bar 15 is secured to the sleeve by means of a bolt 16 or the like. This bar is provided with a screw-thread 17 on which an adjustable clamping jaw 18 is mounted and adapted to be secured by a bolt 19 or the like. On the opposite end this bar is turned down and provided with a screw-thread 20 on which a nut 21 is adjustably mounted. This nut has a pivot 22 for a lever 23 which is provided with a cam surface 24 engaging a projecting bearing surface 25 on a sliding jaw 26. It will be seen that when this lever is brought down the cam surface 24 will exert a powerful force upon it to clamp the work between the two jaws. It will be seen also that the jaw 18 can be adjusted by turning it on its screw-threads, and that the nut 21 also can be adjusted forward and back. When the lever 23 is lifted to bring it back to inoperative position the sliding jaw 26 is brought back with it by means of a link 27 thereon having a slot 28 through which a pin 29 on the jaw 26 passes.

As so far described the parts are the same as in the original Patent No. 963,317, except that the pin 29 is there shown on the lever. The construction shown herein is equivalent to that as far as the function of the link is concerned as the link serves to hold these two parts together, but in addition I now provide a new function. I do this with the present construction by simply adding a hook 40 to each link 27, one of these being located on each side. These hooks are shown integral with the links and as extending out beyond the top of the rail in position to engage the rail when the lever 23 is drawn back. The operation and function of these hooks are as follows:—The hooks are en-

tirely idle when the drill is in operation but when it is desired to unclamp it, the lever 23 being raised until the cam 24 leaves the bearing surface 25, the hooks 40 will be drawn to the right in Fig. 1. During this time the pivot 41 by which the links are connected with the lever 23 swings about the pivot 22 as a center, until the hooks 40 come into contact with the edge of the rail. From this point on of course the hooks cannot move farther to the right, and neither can the pivot 41. Consequently the pivot 41 becomes the center about which the links swing, and the pivot 22 moves inwardly toward the rail. This necessarily carries the whole clamp with it and results in withdrawing the drill from the hole in the rail. This is an important function and is secured in an extremely simple and convenient manner.

In the form shown in Fig. 2, a different form of drill is shown but that is immaterial and the same reference numerals are used. Mounted on the sleeve 11 is a split collar 30 adapted to be fixed in position by a screw 31. This collar has a horizontal passage therein for receiving a bar 32 which is firmly clamped in the same. On this bar is a fixed jaw 33 for gripping one side of the top of a rail or the like. The bar is screw-threaded at the end and provided with a nut 34 having a handle 35 by which the companion jaw 36 can be moved back and forth. This nut has a projecting collar 37 and the jaw 36 has a hook 38 engaging it so that this jaw moves back and forth with the nut.

The operation of both forms of the invention will be obvious from what has been stated concerning the same.

While I have illustrated and described two preferred embodiments of the invention, I am aware that many other modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the features of construction shown, but

What I do claim is:—

1. In a device of the class described, the combination of a casing, a sleeve extending therefrom, a driving shaft journaled in said sleeve, a tool holding member at right angles to the driving shaft, a bar secured to said sleeve and projecting parallel with the tool holding member beyond the end of the casing, a jaw adjustable along said bar, a second jaw freely slidable on the bar and having a projection, an adjustable nut on the bar having a pivot thereon, a lever mounted on said pivot and provided with a cam surface for engaging said projection, and means connected with the lever and second jaw whereby when the lever is

turned into inoperative position the second jaw will be moved with it.

2. In a device of the class described, the combination of a casing, a sleeve extending therefrom, a driving shaft journaled in said sleeve, a tool-holding member at right-angles to the driving shaft, a bar secured to said sleeve and projecting parallel with the tool-holding member, a jaw adjustable along said bar, a second jaw freely slidable on the bar and having a projection, an adjustable nut on the bar having a pivot thereon, and a lever mounted on said pivot and provided with a cam surface for engaging said projection.

3. In a drill, the combination of a casing, a sleeve supported at one end therein, a driving shaft extending through said sleeve into the casing, a screw-threaded cylindrical bar detachably secured to said sleeve independently of the casing, whereby it can be set at any distance therefrom, and projecting away from the casing, a jaw on said bar, an opposite jaw on the bar movable along the screw-threads, a longitudinally movable rotatable member in the casing for holding a drill, and means inclosed in the casing for transmitting power from the driving shaft to said member to rotate and feed it in the direction in which said bar projects.

4. In a device of the class described, the combination of a driving shaft, a tool holding member at right angles to the driving shaft, a bar parallel with the tool holding member, a jaw adjustable along said bar, a second jaw freely slidable on the bar and having a projection, the bar having a pivot thereon, a lever mounted on said pivot and provided with a cam surface for engaging said projection, and means connected with the lever and second jaw whereby when the lever is turned into inoperative position the second jaw will be moved with it.

5. In a device of the character described, the combination of a drilling machine, a work clamp connected therewith comprising a lever adapted to swing on a pivot, a jaw in position to be operated by said lever and to engage one side of a rail or other article to be drilled, and a hook connected with said lever and adapted to be operated thereby to engage the opposite side of the rail or the like when the lever is drawn back to release the jaw.

6. In a work clamp, the combination of a pair of jaws adapted to engage opposite sides of an article to be clamped, a bar to which said jaws are connected, an operating lever pivoted on said bar and adapted to directly operate one of said jaws toward the article to be clamped, a hook pivotally connected with said lever and in position to engage the side of the article to be clamped opposite to that which the jaw operated by the lever engages, whereby when the lever

is drawn back to release the last named jaw
it will draw the hook into engagement with
the rail and cause the first named pivot to
swing about the connection between the
hook and lever so as to force the clamp as a
whole toward the side of the article to be
clamped on which said hook is located.

In testimony whereof I have hereunto set
my hand, in the presence of two subscribing
witnesses.

CHARLES H. OSLUND.

Witnesses:

ALFRED E. RAY,
C. FORREST WESSON.