

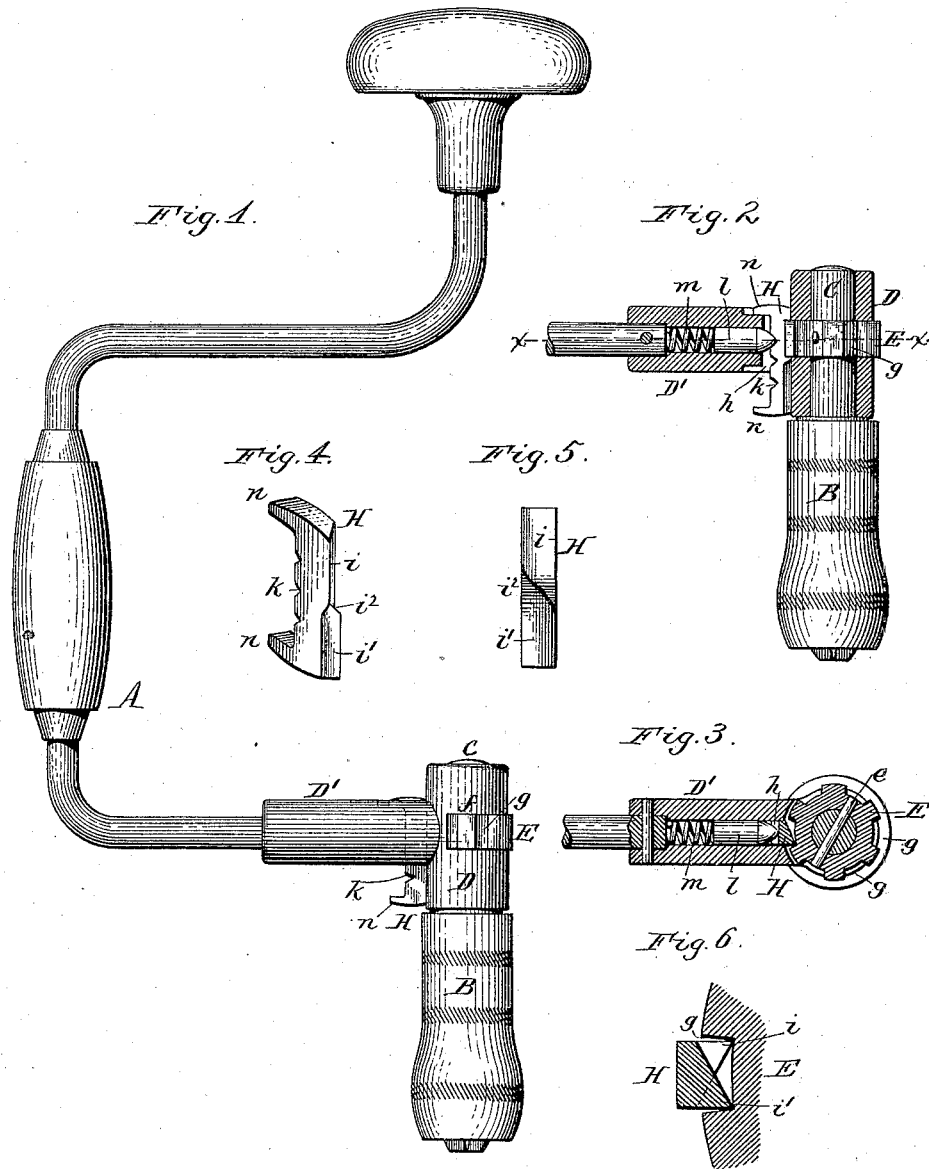
(No Model.)

J. L. OSGOOD.

BIT BRACE.

No. 344,130.

Patented June 22, 1886.



Witnesses:

Theodore S. Popp.  
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# UNITED STATES PATENT OFFICE.

J. LESTER OSGOOD, OF BUFFALO, NEW YORK, ASSIGNOR TO SAXTON & OSGOOD, OF SAME PLACE.

## BIT-BRACE.

SPECIFICATION forming part of Letters Patent No. 344,130, dated June 22, 1886.

Application filed March 15, 1886. Serial No. 195,245. (No model.)

To all whom it may concern:

Be it known that I, J. LESTER OSGOOD, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful  
5 Improvements in Bit-Braces, of which the following is a specification.

This invention relates to an improvement in that class of bit-braces which are provided with ratchet mechanism, whereby the brace  
10 can be readily adapted for use either as a right-hand brace or left-hand brace or as an ordinary brace at the desire of the operator by a simple adjustment of its parts.

The object of my invention is to construct a  
15 brace of this character which will be simple and durable and which can be produced at comparatively small expense; and the invention consists of the improvements which will be hereinafter fully set forth, and pointed out  
20 in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of a bit-brace provided with my improvement. Fig. 2 is a sectional elevation of the lower part of the brace.  
25 Fig. 3 is a horizontal section in line *x x*, Fig. 2. Fig. 4 is a perspective view of the sliding pawl. Fig. 5 is a front elevation of the same. Fig. 6 is a section of the pawl and ratchet-wheel on an enlarged scale.

30 Like letters of reference refer to like parts in the several figures.

A represents the handle portion or sweep of the brace, and B the socket portion in which the bit is secured and which may be of any  
35 suitable construction.

C represents a cylindrical shank extending upward from the end of the socket portion B, and D is a sleeve or cylindrical bearing turning on the shank C and secured to the lower  
40 arm of the sweep or handle portion A of the brace by a shank, D', formed with the bearing D.

E represents a ratchet-wheel secured to the shank C by a rivet, *e*, or any other suitable means and fitting in a mortise or recess, *f*,  
45 formed in the sleeve D. The wheel E is provided in its periphery with notches *g*, having abrupt sides, as shown.

H represents a sliding pawl arranged loosely  
50 in a mortise or recess, *h*, in the shank D' of the sleeve D with its front or face side bearing

against the sleeve D and engaging in one of the notches *g* of the ratchet-wheel E. The front or face side of the pawl H is provided with two working-faces, *i i'*, each composed  
55 of a square shoulder and an inclined back, said square shoulders facing in opposite directions, so that the face *i* will turn the wheel E in one direction while the face *i'* will turn it in an opposite direction. The shoulder *i* is  
60 formed in the upper half of the pawl and the shoulder *i'* in the lower half thereof. The central portion, *i''*, of the face portion of the pawl is composed of the overlapping inner portions of the faces *i i'*, so that when this  
65 portion of the pawl is engaged in one of the notches or spaces of the wheel E both faces *i i'* will engage in the same notch, as represented in Fig. 6, which prevents the pawl from sliding over the teeth of the wheel in either direction  
70 and compels the wheel to turn with the pawl and brace in both directions, as in an ordinary brace. The inner ends of the inclined backs of the working-faces *i i'* are beveled off, as shown in Figs. 4 and 5, whereby the pawl is  
75 enabled to facilitate the lengthwise movement of the pawl and to enable the latter to pass over the edge of a tooth more easily in entering a notch.

*k* represents notches formed in the back or  
80 rear face of the pawl and in which engage a spring-bolt, *l*, whereby the pawl H is held in position lengthwise with reference to the ratchet-wheel E. A notch, *k*, is formed opposite each of the inclined portions *i i'* and  
85 the center portion, *i''*, and the sides of the notches *k* are beveled or inclined, so that upon sliding the pawl back and forth lengthwise in the mortise of the shank D' the bolt *l* will engage itself with or disengage itself from either  
90 notch *k*, as may be desired. The bolt *l* is seated in the bore of the shank D' and held against the pawl H by a spiral spring, *m*, which is confined in the bore of the shank D' between the rear end of the bolt and the end  
95 of the lower arm of the brace.

*n* represents a rearwardly-projecting shoulder or nose formed on the opposite ends of the pawl H and projecting over the edge of the mortise *h* in the shank D', whereby the pawl  
100 is confined and held in the mortise *h*. Upon sliding the pawl H back and forth lengthwise

in the mortise *h*, either of the inclined faces *i* or *i'* or the center portion, *i''*, of the pawl may be engaged with one of the notches of the ratchet-wheel *E*, thereby adapting the brace to operate as a right-hand or left-hand ratchet-  
5 brace or to operate like an ordinary brace at the desire of the operator.

My improved brace can be cheaply constructed, and forms a strong and convenient  
10 brace.

I claim as my invention—

1. The combination, with the mortised shank *D'* and the bit-socket *B*, provided with a notched wheel, *E*, of a sliding pawl, *H*, arranged in the  
15 mortise of the shank and provided on its front side with two abrupt working-faces, *i i'*, having inclined backs facing in opposite directions and having their inner portions overlapping or extending past each other, whereby  
20 the middle face portion, *i''*, of the pawl is composed of both working-faces, which oppose each other and hold the wheel *E* rigidly, substantially as set forth.

2. The combination, with the bit-socket *B*

and the notched wheel *E*, secured thereto, of  
25 a sliding pawl, *H*, arranged loosely in a mortise in the shank of the brace and provided on its front face with beveled faces *i i'* and on its opposite side with notches *k*, and a spring-bolt, *l*, engaging in the notches *k* and press-  
30 ing the pawl against the wheel, substantially as set forth.

3. The combination, with the bit-socket *B*, and the notched wheel *E*, secured thereto, of  
35 the sleeve *D* and shank *D'*, provided with a mortise, *h*, a pawl, *H*, fitting loosely in the mortise of the shank and having beveled faces *i i'*, notches *k*, formed in the rear side of the pawl opposite the beveled faces *i i'*, a bolt, *l*, seated in the bore of the shank *D'*, and a  
40 spring, *m*, bearing against the bolt *l*, substantially as set forth.

Witness my hand this 6th day of March, 1886.

J. LESTER OSGOOD.

Witnesses:

JNO J. BONNER,  
OSCAR SCHAUB.