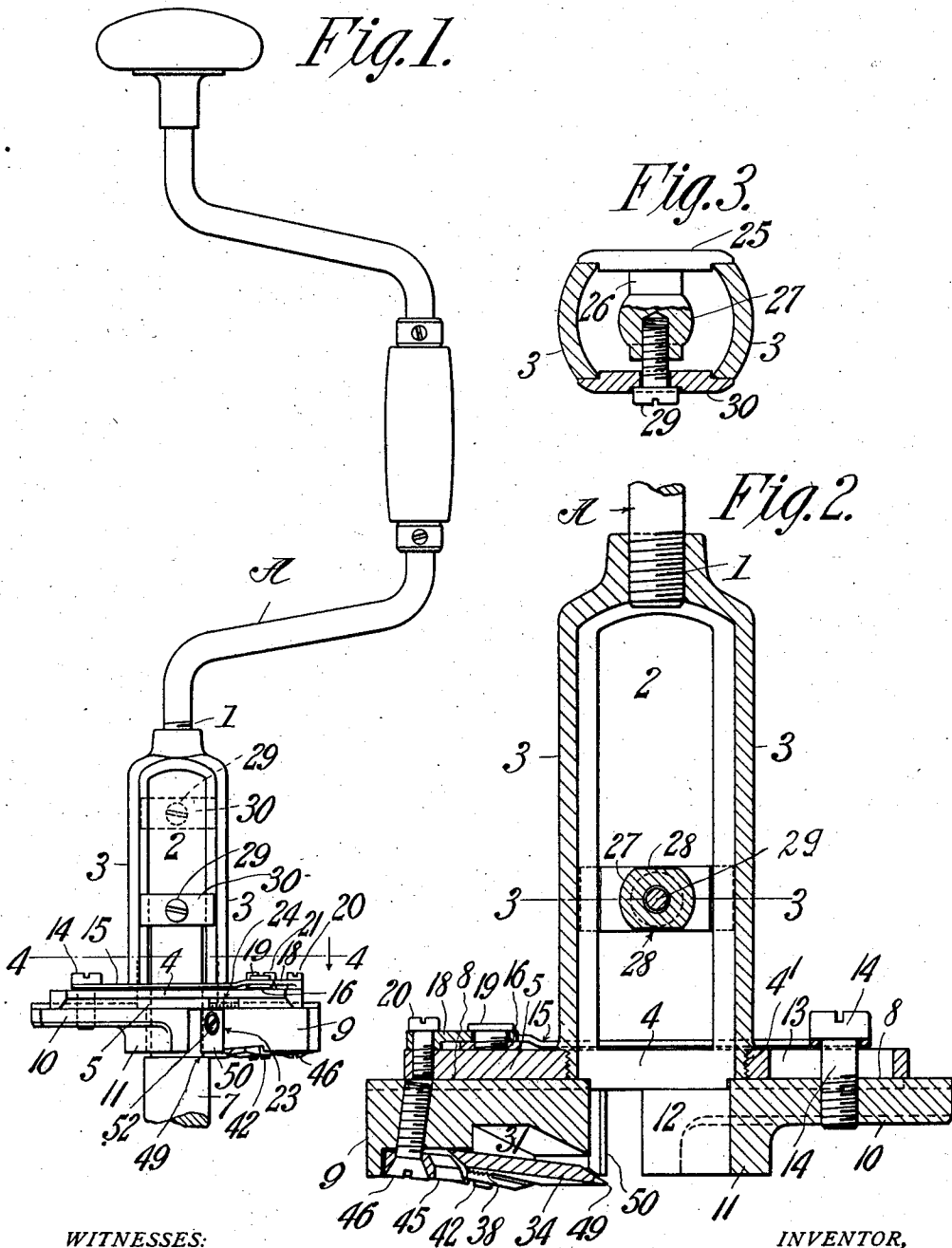


A. D. GOODELL.
 DEVICE FOR TURNING SHOULDERS ON WOODEN SPOKES.
 APPLICATION FILED NOV. 14, 1910.

1,010,894.

Patented Dec. 5, 1911.

2 SHEETS—SHEET 1.



WITNESSES:

H. L. Sprague
R. M. Mowry

INVENTOR,

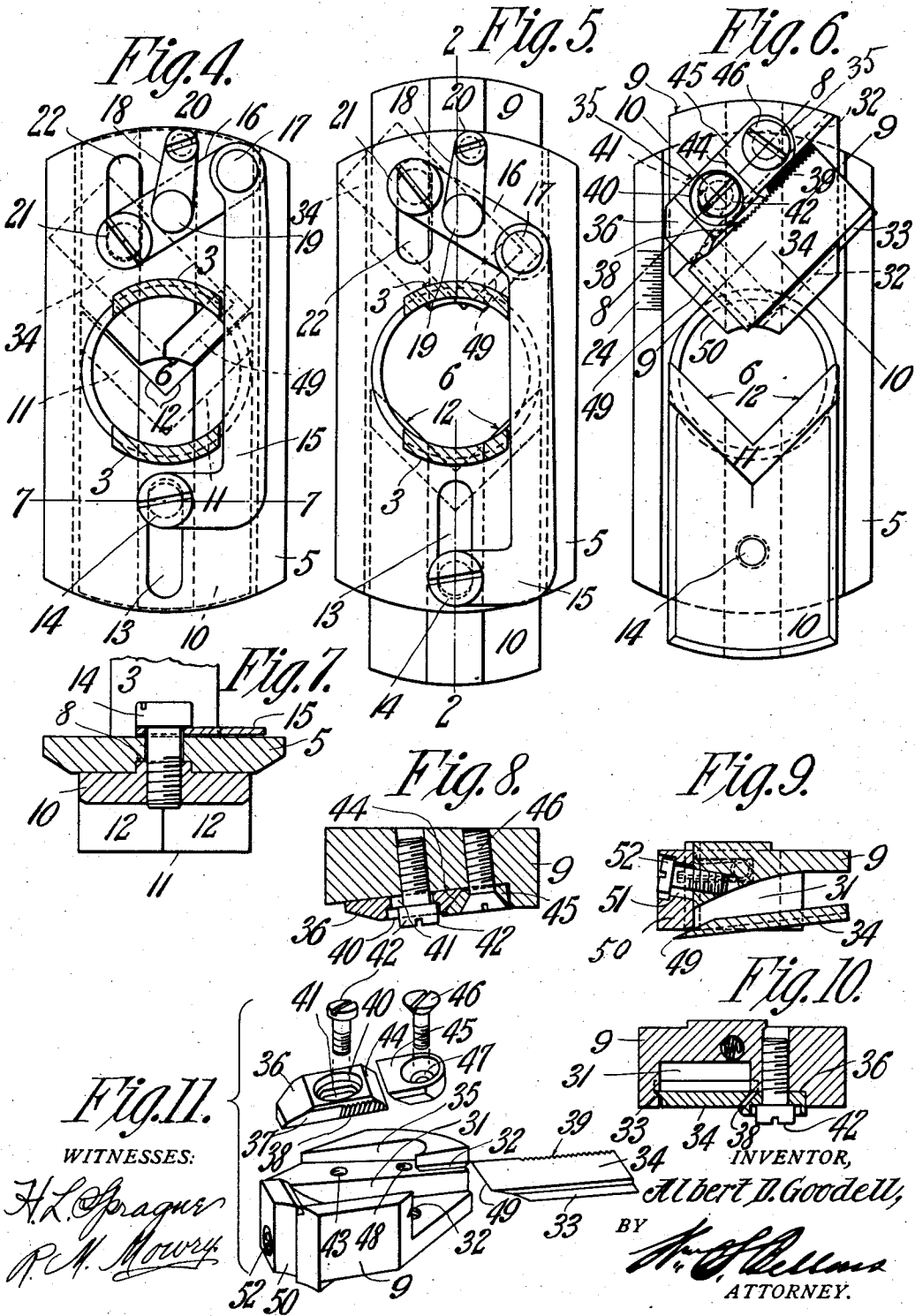
Albert D. Goodell,
 BY *H. L. Sprague,*
 ATTORNEY.

A. D. GOODELL.
 DEVICE FOR TURNING SHOULDERS ON WOODEN SPOKES.
 APPLICATION FILED NOV. 14, 1910.

1,010,894.

Patented Dec. 5, 1911.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

ALBERT D. GOODELL, OF SHELBURNE FALLS, MASSACHUSETTS, ASSIGNOR TO GOODELL TOOL COMPANY, OF SHELBURNE FALLS, MASSACHUSETTS, A CORPORATION.

DEVICE FOR TURNING SHOULDERS ON WOODEN SPOKES.

1,010,894.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed November 14, 1910. Serial No. 592,145.

To all whom it may concern:

Be it known that I, ALBERT D. GOODELL, a citizen of the United States of America, and resident of Shelburne Falls, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Devices for Turning Shoulders on Wooden Spokes, of which the following is a full, clear, and exact description.

This invention relates to improvements in tools for forming the shouldered ends of wagon spokes or the like and has for one of its objects the provision of a bit stock or tool brace together with means comprising easily adjustable tool block and guide block members, either of which when moved will through their connecting means adjust the opposite member correspondingly, both parts being concurrently movable toward and from the axis of rotation of the bit stock or tool brace.

Another object of this invention is to provide an easily adjustable stop member to determine the distance of the shoulder from the end of the spoke.

Another object is to provide a cutting tool with adjusting means secured thereto in such a manner as to render it possible to not only advance and retire the tool relatively to the axial center of the spoke but also to insure that the entire length of the tool may be utilized as it becomes shorter in resharp-ening.

The invention is described in conjunction with the accompanying drawings and set forth in the claims.

In the drawings:—Figure 1 is a side elevation of the assembled tool showing the bit stock portion thereof. Fig. 2 is an enlarged sectional view of the tool portion taken on the line 2—2, Fig. 5. Fig. 3 is a transverse sectional view taken on the line 3—3, Fig. 2, showing the limiting means or depth gaging portion of the tool. Fig. 4 is a cross sectional view taken on the line 4—4, in the direction of the accompanying arrow showing the stock guiding and tool carrying members of the tool in closed relation to each other. Fig. 5 is a view similar to Fig. 4 showing the members and the connecting links in extreme distended position. Fig. 6 is a plan view of the bottom of the device.

Fig. 7 is a cross sectional view taken on the line 7—7, Fig. 4. Fig. 8 is a cross sectional

view taken on the line 8—8, Fig. 6, showing the means whereby the minute substantially longitudinal adjustment of the tool is obtained. Fig. 9 is a cross sectional view taken on the line 9—9, Fig. 6. Fig. 10 is a cross sectional view on the line 10—10, showing the relative position of the tool and the tool adjusting and locking plate. Fig. 11 is a dismembered perspective view of the tool carrying member and its equipments.

Similar characters of reference indicate corresponding parts in all of the views.

To a bit stock or tool brace A of any convenient size or design, on its threaded portion 1, is attached a bifurcated casing 2 having downwardly extending portions 3 upon which, at the lower extremity 4, is formed a cylindrical threaded portion 4' to which is screwed a bed plate 5 having therein an aperture 6 of suitable diameter to receive the end of an unshouldered spoke 7, the latter being represented in Fig. 1.

In the lower surface of the bed plate 5 are provided two longitudinally alined shallow grooves or slideways 8 in which are slidably mounted the tool holder block 9 and opposite thereto the guide block 10. The guide block 10 is provided with a downwardly extending portion 11 angularly formed with the guiding surfaces 12 which serve to maintain the spoke in a centralized relation to the axis of the bit stock during the process of shouldering the spoke.

The bed plate 5 is provided with an elongated opening or slot 13 through which is caused to pass a screw 14 into the guide block 10, thereby maintaining the guide block 10 in sliding relation to the bed plate 5. Beneath the head of the screw 14 is positioned an angularly formed thin L-shaped bar 15 which is connected to a link 16 by the pivot stud 17 having a swinging relation thereto. Coacting with the link 16 is a positioning link 18 which is secured to the link 16 at one end by the pivot stud 19; and at its other extremity is secured to the bed plate 5 by the screw 20 upon which such link may oscillate. Penetrating the opposite end of the link 16 is a screw 21 which passes through a slot 22 in the bed plate 5 thence into the tool holder block 9 in a similar manner to the screw 14 which penetrates the guide block 10.

The several links 15, 16 and 18 are so proportioned that should the tool holder block

9 be moved to or from the axial line of the bit stock, the guide block 10 will be caused to move a like amount in the opposite direction, and vice versa.

5 The screws 14 and 21 not only serve as connecting means for the above described links and blocks, but, furthermore, each serves as a clamping means to maintain the blocks 9 and 10 in a fixed relation to the
10 axial line of the bit stock when a cutting operation is accomplished.

Referring to Fig. 1 it will be perceived that the line formed by the corner 23 of the tool holder block 9 is so positioned relative
15 to a scale 24, indicated on the surface of the bed plate 5, that as the tool holder block 9 is moved to and from the center an accurate reading of the whole or fractions of inches or other dimensional measure
20 may be made.

Upon and within the separated parallel vertical portions 3 of the frame 2 is mounted the "depth gaging" portion of the device, the same consisting of the clamping plate
25 25 which has formed thereon a cylindrical portion 26 adjacent which is a ball shaped portion 27 provided with flat surfaces 28 located at the axis of the tool brace A.

Penetrating the ball shaped member 27
30 is a screw 29 which passes through a plate 30 similar to the plate portion 25 and in opposite relation thereto. By slightly loosening the screw 29 the depth gage portion of the device may be easily moved longitudinally on the edges of the vertical members 3 to any desired position, and by tightening the screw 29 the depth gage may be rigidly secured to the frame portion 2, thereby limiting the distance through which the
40 cutting tool may decrease the diameter of the spoke 7.

Upon the lower surface of the tool holder block 9 is a conveniently formed opening 31, and there are further formed adjoining opposite grooves 32, 32, arranged so as to receive the beveled sides 33 of a cutting tool 34. The opposite grooves 32, 32, are so formed as to guide the cutting tool 34 so that the same may be advanced or retired
50 therein to and from the working axis of the device, at the will of the operator. A further supplemental and shallower recess 35 is also formed in the block 9 to form a step shaped seat in which is mounted the locking
55 plate 36, on the inner portion 37 of which is provided a serrated edge 38 which engages the correspondingly serrated edge 39 of the tool 34.

The lock plate 36 is provided with a cylindrical opening 40 and an elongated opening or slot 41 having a step at their junction, through which openings is passed the locking screw 42 into the threaded opening
60 43 formed in the block 9. Upon the rearward portion of the lock plate 36 is formed

an inclined surface or bevel 44 against which the beveled forward end of the adjusting plate 45 is caused to impinge by the clamping force applied thereto through the medium of the screw 46 which penetrates the opening 47 and the threaded opening 48
70 formed in the tool holding block 9.

The elongated opening 41 formed in the plate 36 is of such proportion relative to the screw 42 that such plate 36 may be
75 moved thereon a distance sufficient to move the tool 34 which is locked thereto to adjust the tool an amount equal to the width of one serration.

If the length of the cutting tool 34 is
80 shortened by regrinding the cutting edges 49, the tool may be advanced toward the work bodily in a degree corresponding to one or more serrations by loosening the screw 42 and disengaging the lock block 36 there-
85 from.

Upon the forward end of the tool holding block 9 is adjustably mounted a throat block 50 secured to the tool holding block by the screw 52, passed through an elongated opening 51; and by adjusting the block 50 to
90 and from the cutting edge of the tool 49 a greater or smaller amount of the spoke may be removed therefrom in one revolution of the bit stock A.
95

I claim:—

1. In a device of the character described, a tool carrying body having a recess within its side and leading to its end, the opposite parallel walls of said recess having tool receiving grooves, and the said body at one side of said recess having a shallower supplemental recess, a cutting tool edgewise slidably engaged in said grooves, and adapted to have its working portion projected beyond the end of the body, and having its one edge serrated, a slotted locking plate slidable in the shallower recess having a serrated edge engaging the similarly formed edge of the tool, and having its rear end beveled, an adjusting plate also disposed in the shallower recess to the rear of the locking plate and having its forward end beveled and having a cam like coaction with the bevel ended locking plate, a screw for forcing the adjusting plate toward the base of the shallow recess, and a binding screw for the locking plate.
100
105
110
115

2. In a device of the character described, a tool brace having a bed plate at its lower portion immediately apertured and provided at its under side with alined slide-ways, a block slidable in one of said ways and having at its end an angularly formed guiding portion, another block slidable in the other way having a recess upwardly extending from its under side and leading to the end of the block adjacent said aperture, the opposite parallel walls of said recess having tool receiving grooves and the
120
125
130

said block at one side of said recess having a shallower recess, a cutting tool edgewise slidably engaged in said grooves, and adapted to have its working portion project beyond the end of the block adjacent the bed plate aperture, and having its one edge serrated, a slotted locking plate slidable in the shallower recess having its longitudinal edge serrated and engaging the serrated edge of the tool, and having its rear end beveled, and an adjusting plate also disposed in the shallower recess to the rear of the locking plate, the forward end of which is beveled and adapted to have an endwise forcing coaction against the bevel-ended, serrated, locking plate, a headed screw the shank of which is loosely passed through the adjusting plate and with an engagement into said block, and a binding screw for the locking plate, and means connected with and actuated by one of the slidable blocks, and operative under the movement of such block to cause approaching and separating movements of one block with the other.

Signed by me at Shelburne Falls, Mass., in presence of two subscribing witnesses.

ALBERT D. GOODELL.

Witnesses:

FREDERICK A. GOODELL,
THOMAS O'NEIL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."