

No. 631,922.

Patented Aug. 29, 1899.

W. L. BAUMGARDNER.  
BRACE OR BIT STOCK ATTACHMENT.

(Application filed Jan. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.

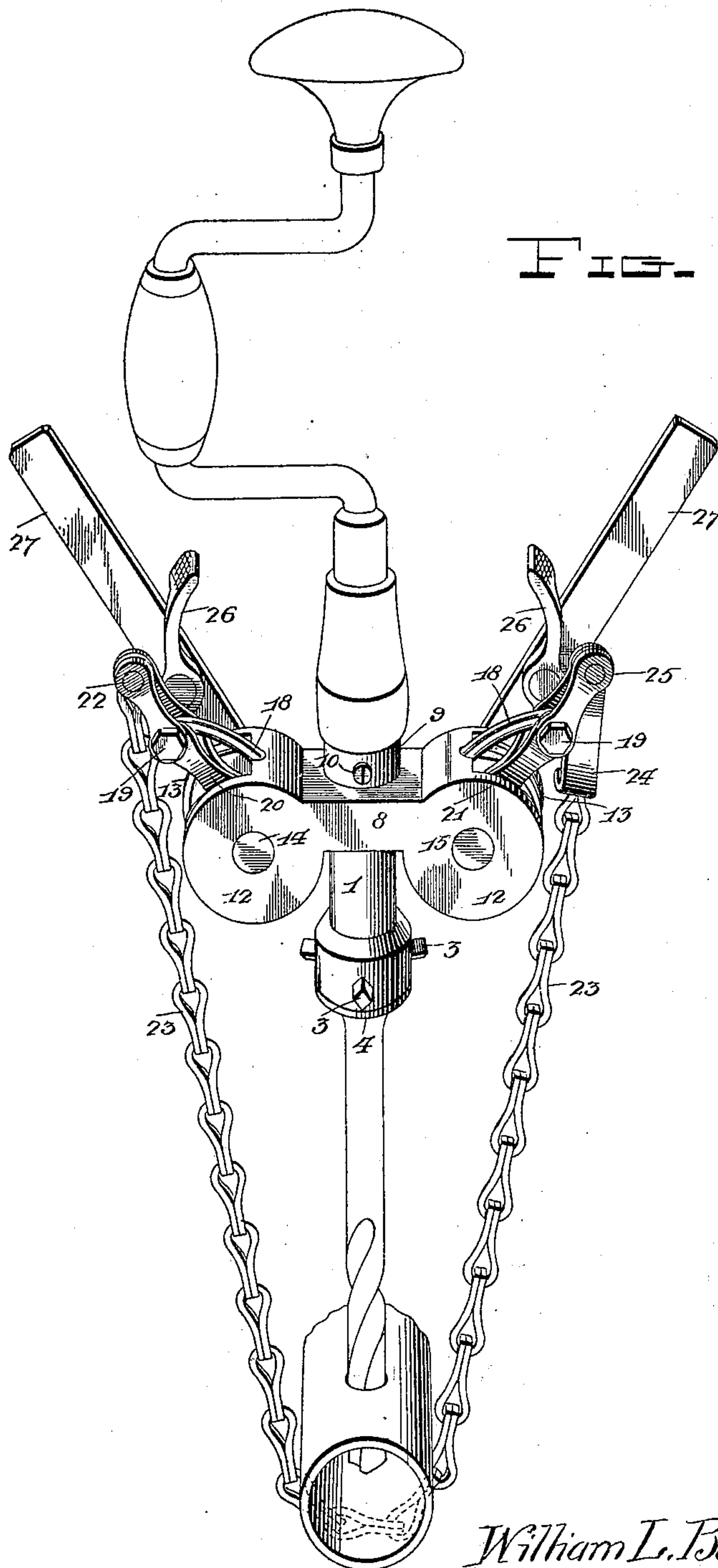


FIG. 1

Witnesses

Thomas Lloyd Garrison  
*Thomas Lloyd Garrison*

Inventor  
William L. Baumgardner,

by *A. B. Wilson & Co.*  
Attorneys

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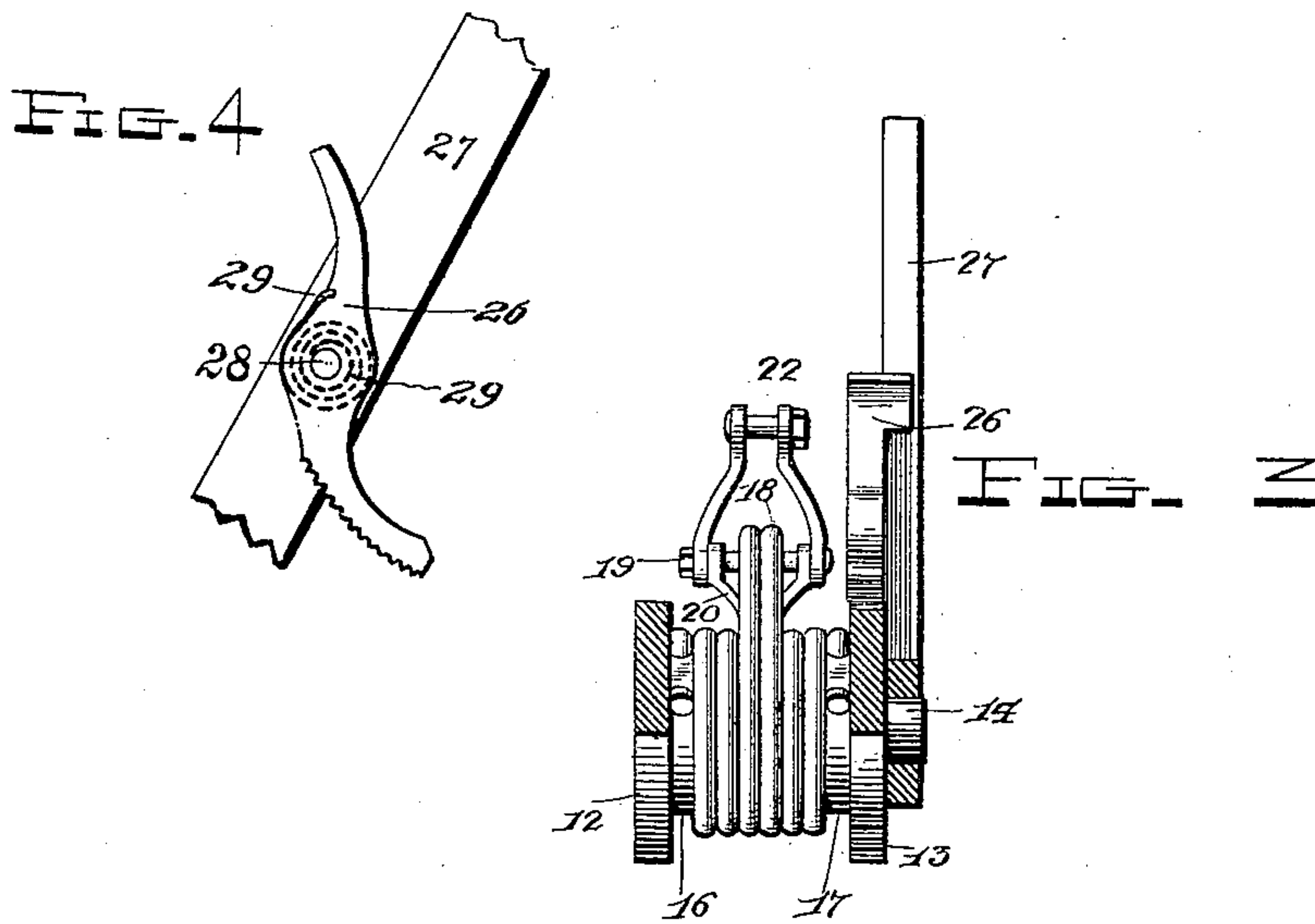
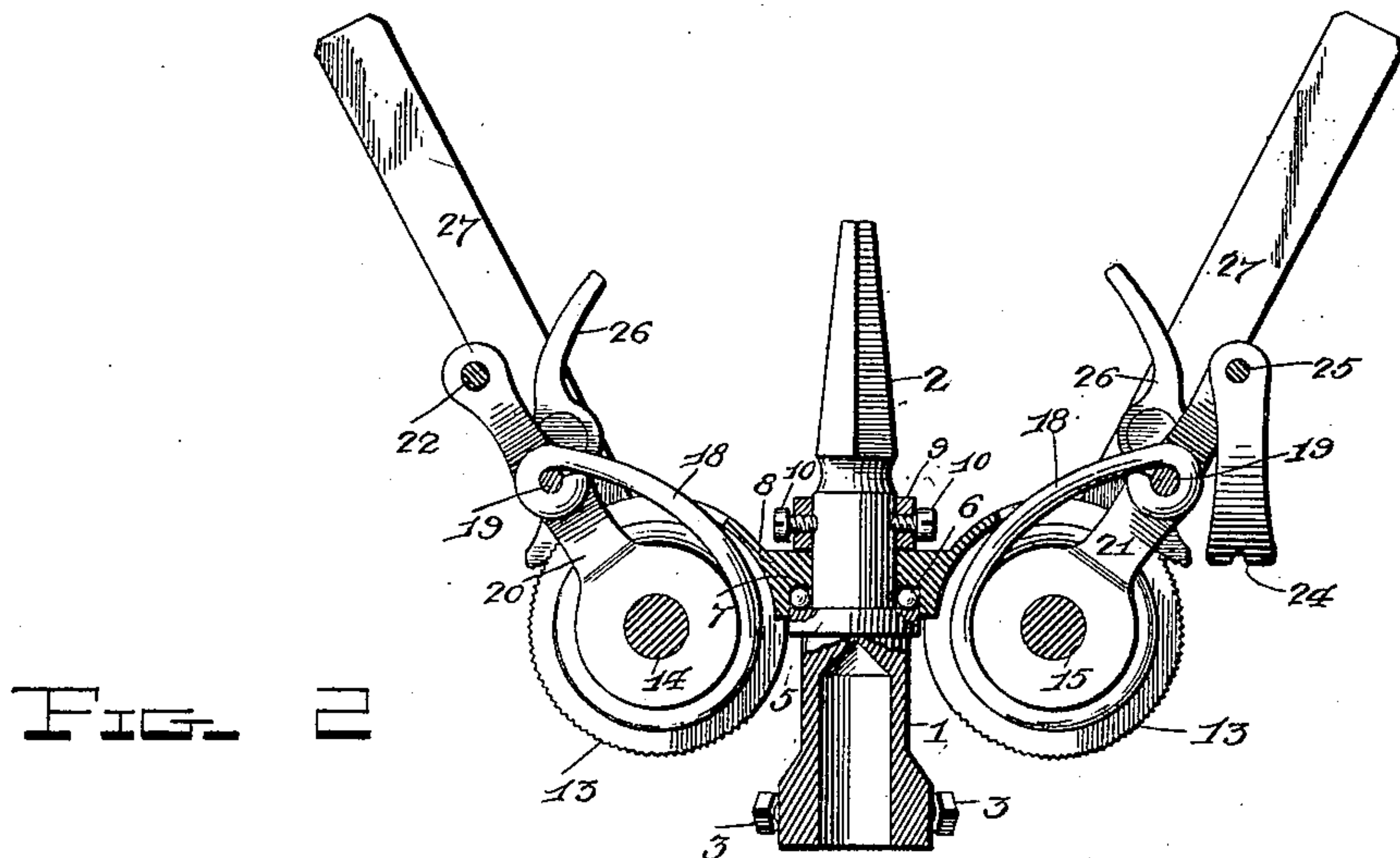
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2 Sheets—Sheet 2.



Witnesses  
Thomas C. Johnson  
J. H. Wilson

Inventor  
William L. Baumgardner,  
by  
A. B. Wilson & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

WILLIAM L. BAUMGARDNER, OF WATSONVILLE, CALIFORNIA.

## BRACE OR BIT-STOCK ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 631,922, dated August 29, 1899.

Application filed January 5, 1899. Serial No. 701,217. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. BAUMGARDNER, a citizen of the United States, residing at Watsonville, in the county of Santa Cruz and State of California, have invented certain new and useful Improvements in Brace or Bit-Stock Attachments; and I do 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 to attachments for braces or bit-stocks; and the object is to provide a device to be carried by the brace and which is adapted to encompass the work and permit of the drill being fed as the work progresses.

To this end the invention consists in the construction, combination, and arrangement of the device, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings the same reference characters indicate the same parts of the device in the several views.

Figure 1 is a perspective view of my improved drill-chuck attachment for breast-braces as it would appear in use. Fig. 2 is a vertical longitudinal section. Fig. 3 is a longitudinal section through one of the transverse feed-shafts. Fig. 4 is a detail view of one of the spring-actuated pawls.

In the drawings, 1 denotes the chuck-spindle, the shank 2 of which is adapted to the ordinary brace and its lower end is provided with radial set-screws 3 3 to detachably secure the removable socket 4 in place. This socket is provided with the usual tapering rectangular orifice to receive the correspondingly-formed shank of the ordinary drill or bit, and when this socket is removed the set-screws are used to secure the ordinary straight-shank twist-drills.

5 denotes an annular collar formed integral with the spindle and which forms a bearing for the series of balls 6, which also have a bearing in the ball-race 7, formed in the bracket 8, and which is held in place on the chuck-spindle by means of the collar 9, secured thereon by the set-screws 10 10. The outer ends of this bracket 8 terminate in integral parallel flanges 12 and 13, in which

are journaled the transverse parallel feed-shafts 14 and 15, on which are secured the drums 16 and 17, to which are fixed the outer ends of the coiled springs 18 18, the inner ends of which are secured to the bolt 19, fixed in the outer ends of the crank-arms 20 21, loosely mounted on said shafts between the drums.

The free end of the crank-arm 20 is provided with a strap or clevis 22, to which is fixed one end of the chain 23, the free end of which is adapted to encompass the work and be adjustably secured in a claw 24, pivoted in a strap or clevis 25, pivoted to the outer end of the crank-arm 21, fixed on the feed-shaft 15.

The edges of the flanges 13 13 are serrated or formed with ratchet-teeth, as shown, to engage the correspondingly-formed end of the spring-actuated pawls 26 26, fulcrumed on the hand-levers 27 27, fixed to the same ends of the feed-shafts.

In Fig. 4 I have shown one of the pawls pivoted on the bolt 28, fixed in the hand-lever 27. This bolt is encompassed by a spring 29, one end of which is fixed to the lever and the other end to the pawl, the tension of the spring being exerted to normally retain the inner end of the pawl in engagement with the serrated edge of the flange 13.

The operation of the device is as follows: The attachment is fitted to a carpenter's ordinary brace, as shown in Fig. 1, a drill fitted to the chuck-spindle, and the chain passed around the work while there is no tension on the springs, the hand-levers being in the position shown in dotted lines in Fig. 2. The levers are then thrown upward to the position shown in Fig. 1, which winds up or applies tension to the springs, the tension being employed through the medium of the chain to hold the work against the drill, and as the drill is rotated by the brace the spring-tension draws the work and drill together, and thus automatically feeds the drill to the work without the necessity of applying pressure to the brace.

It will of course be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The chuck-spindle, the bracket mounted thereon, the spring-actuated feed-shafts journaled in said bracket, and the chain operatively connected to said shafts, substantially as shown and described.

2. The chuck-spindle, the bracket encompassing the spindle and formed with the parallel flanges, the transverse parallel feed-shafts journaled in said flanges, the hand-levers and the drums fixed to said shafts, the crank-arms loosely mounted on said shafts, the springs having their outer ends fixed to the drums and their inner ends fixed to the crank-arms, and the chain connecting the

outer ends of said crank-arms, substantially as and for the purpose set forth.

3. In a drill attachment, the combination with the bracket formed with the serrated flanges, the spring-actuated shafts journaled therein, the levers fixed to said shafts, and the spring-actuated pawls fulcrumed on the levers and adapted to coact with the serrated flanges to take up the tension of the springs, substantially as and for the purpose set forth.

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

WILLIAM L. BAUMGARDNER.

Witnesses:

F. S. AUSTIN,

C. A. PALMTAQ.