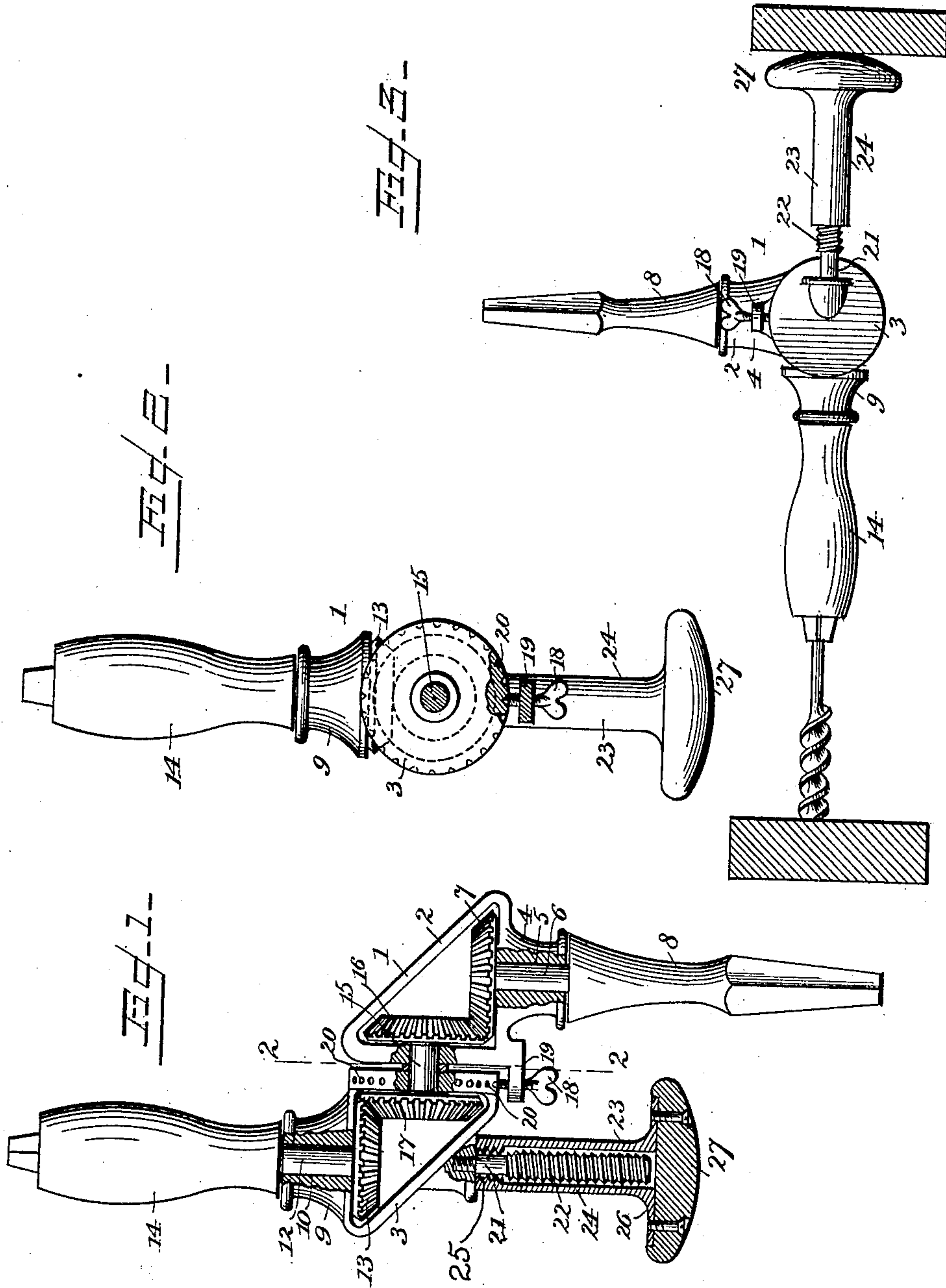


ANGULAR BIT STOCK.

APPLICATION FILED FEB. 14, 1907. RENEWED OCT 22, 1908.

912,886.

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Witnesses
F. L. Ourand
C. H. Griesbauer

Inventor
Seth Albert Plough

by *A. B. Wilson & Co*
Attorneys

UNITED STATES PATENT OFFICE.

SETH ALBERT PLOUGH, OF TRAVERSE CITY, MICHIGAN, ASSIGNOR OF ONE-HALF TO WILLIAM W. SMITH, OF TRAVERSE CITY, MICHIGAN.

ANGULAR BIT-STOCK.

No. 912,886.

Specification of Letters Patent.

Patented Feb. 16, 1909.

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To all whom it may concern:

Be it known that I, SETH ALBERT PLOUGH, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented certain new and useful Improvements in Angular Bit-Stocks; 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.

This invention relates to improvements in angular bit stocks.

The object of the invention is to provide a bit stock of this character having means by which the same may be used at various angles for boring or drilling holes.

A further object is to provide a bit stock having a handle or grip adapted to be used as a feeding device when the instrument is employed in boring holes through joists or the like.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is partly a side view and partly a vertical sectional view of the bit stock constructed in accordance with the invention; Fig. 2 is a vertical sectional view on the line 2-2 of Fig. 1, parts being broken away; Fig. 3 is a view similar to Fig. 1 showing the arrangement of the stock when used for boring between joists or the like.

Referring more particularly to the drawings, 1 denotes the stock which consists of a body portion formed of two substantially triangularly-shaped open castings 2 and 3. On one side of the casting 2 is formed a bearing head 4 having a centrally-disposed bearing passage 5 in which is journaled a short gear shaft 6 on the inner end of which within the hollow casing 2 is mounted a bevel gear 7. On the opposite or outer end of the shaft 6 is fixedly mounted a brace or chuck engaging shank 8 by means of which the stock is connected with a brace or other operating device, not shown.

On one side of the casting 3 is formed a bearing head 9 having a centrally-disposed bearing aperture or passage 10 in which is revolubly mounted a short gear shaft 12 on the inner end of which is fixedly mounted a

bevel gear 13. On the outer end of the shaft 12 is fixedly mounted a bit or tool chuck 14 which may be of any suitable construction.

In assembling the stock the castings 2 and 3 are brought together, as shown and are pivotally or revolubly mounted on each other by means of a gear shaft 15 which projects through the engaging sides of the castings 2 and 3 and on the end of the shaft which projects into the castings 3 is fixedly mounted a bevel gear 16 which is adapted to mesh with the gear 7 on the shaft 6 of the shank 8. On the end of the shaft 15 which projects into the casting 3 is fixedly mounted a bevel gear 17 which is adapted to mesh with the gear 13 on the shaft 12 of the tool chuck 14. By providing the train of gears herein shown and described, the bit in the tool chuck may be operated by the brace connected to the shank 8 when the latter is arranged at different angles.

In order that the revolubly mounted castings 2 and 3 may be securely locked together when the parts have been adjusted to the desired angle, I provide a set screw 18 arranged in a laterally-projecting lug 19 formed on the inner side of the casting 2, the lug 19 having formed therein a threaded aperture through which the set screw 18 is adapted to work. The inner end of the set screw 18 is preferably pointed and is adapted to be screwed into engagement with one of an annular series of conically-shaped recesses 20 formed in the annular edge of the inner side of the casting 3, as shown.

Fixedly mounted on the inclined side of the casting 3 is a handle or grip shank 21, said shank being arranged in alinement with the center of the tool chuck 14, as shown. The shank 21 is preferably provided with a coarse screw-thread 22 and on said shank is arranged a revoluble grip or handle 23, said handle comprising a tubular portion 24, the inner end of which is reduced and provided with interior screw-threads 25 which are adapted to engage and work on the thread 22 of the shank 21. The outer end of the tubular portion 24 is provided with an annular flange 26 to which is preferably secured a wooden head or hand-piece 27. By providing the shank 21 with a coarse screw-thread and the inner end of the handle or grip 23 with interior threads to engage the same, said handle may be turned inwardly or outwardly on said shank and may be em-

ployed as a feeding device when the stock is used between the joists, as shown in Fig. 3 of the drawings, or any other suitable position where a fixed bearing may be had for the end of the handle.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction, may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined by the appended claim.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent is:—

In a device of the class described, the combination with a main support having an integral disk provided with apertures in its periphery, of a tool chuck journaled for rotation in said support, an operating shaft

journaled at right-angles to the chuck in the support, a pair of gears on said shaft, a pinion on the chuck shaft meshing with one of the gears, an auxiliary support carried by said operating shaft and adapted for rotary movement thereon, a lug carried by said auxiliary support which overhangs the disk, a set screw carried by said lug and adapted to coöperate with the apertures in the disk, whereby the supports may be locked in mutual relative positions, said locking arrangement being arranged intermediate the gears, an operating shank journaled in the auxiliary support, and a pinion carried by said shank and adapted to mesh with the other gears on the operating shaft.

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

SETH ALBERT PLOUGH.

Witnesses:

GRACE M. SMITH,

JENNIE M. SMITH RENNIE.