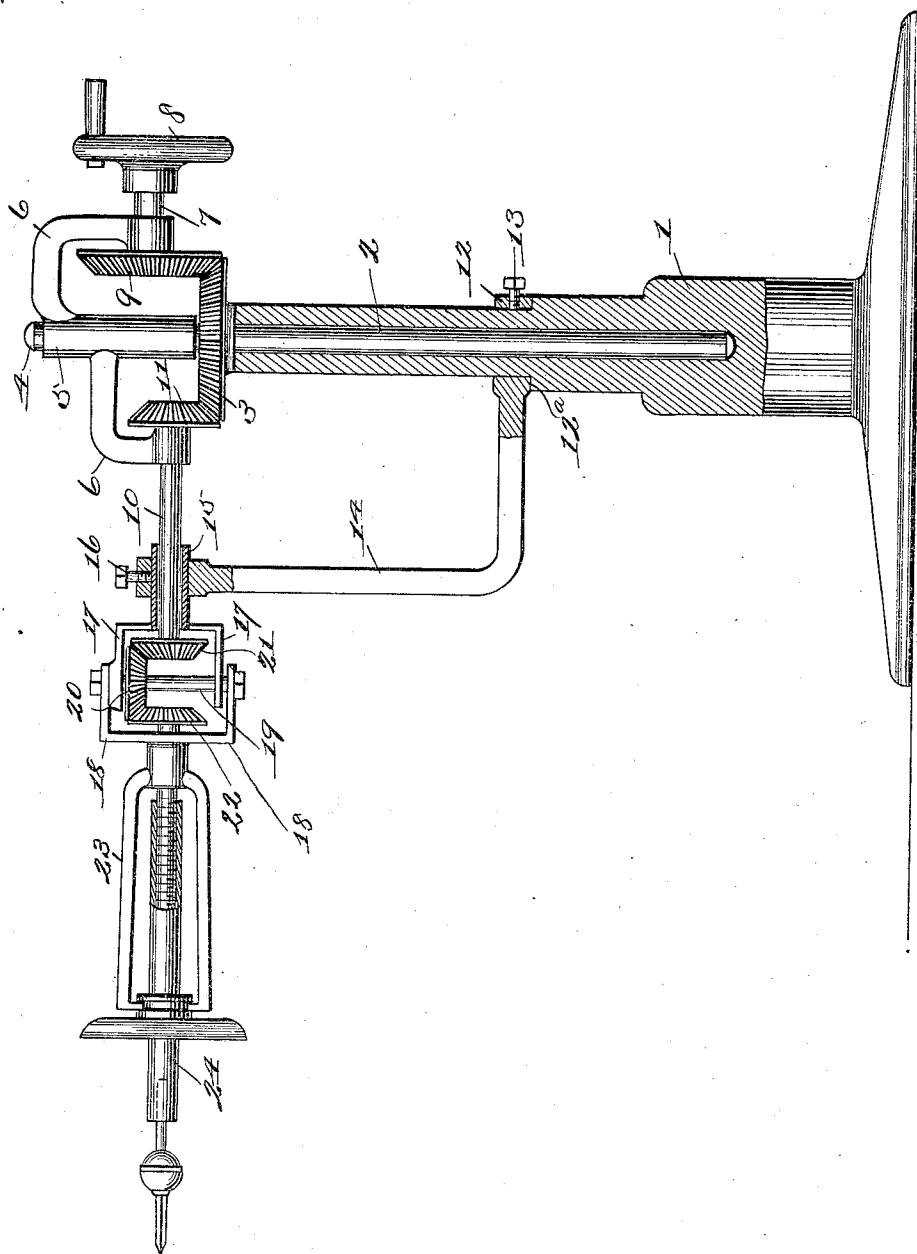


L. G. SABBAG.  
 DRILLING MACHINE.  
 APPLICATION FILED DEC. 9, 1907.

944,915.

Patented Dec. 28, 1909.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## DRILLING-MACHINE.

944,915.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed December 9, 1907. Serial No. 405,792.

*To all whom it may concern:*

Be it known that I, LITFALLAH G. SABBAG, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Drilling-Machines, of which the following is a specification.

This invention relates to a drilling machine and the object of the invention is a device of this kind in which the drill can be used at any desired practical angle, being adjustable both horizontally and vertically.

The invention consists of the novel features of construction hereinafter described, pointed out in the claim, and shown in the accompanying drawing which is a sectional side elevation of the device.

In this drawing 1 represents a base which is provided with a deep vertical socket in which fits a shank 2 which upon its upper end carries a beveled gear 3. A post 4 rises from the upper end of the base standard 1 and upon said post is mounted loosely a sleeve 5 which is provided with pivotally extending bracket arms 6 in one of which is journaled a shaft 7 provided at its outer end with a wheel handle 8 and at its inner end with a beveled gear 9 which engages the gear 3. The other arm 6 forms one bearing for a shaft 10 which carries a beveled gear 11 also meshing with the gear 3. A collar 12 encircles the base standard 1 and rests upon a shoulder 12<sup>a</sup> and is locked in its adjusted position by a set screw 13. The collar 12 carries an angled upwardly extending arm 14 in the upper end portion of which is fitted a sleeve 15 which forms the other bearing for the shaft 10 and the sleeve is held against rotation by a set screw 16. This sleeve carries oppositely arranged brackets 17 which overlap bracket arms 18, the two brackets being pivotally connected by a bolt shaft 19 which shaft carries a beveled gear 20. Within the frame formed by the brackets 17 and 18 are arranged beveled gears 21 and 22 which mesh with the beveled

gear 20 and which are carried respectively by the shaft 10 and by a drilling brace 24 provided with an adjusting frame 23.

It will be obvious that by grasping the frame 23, the drill may be swung in a horizontal arc the brackets 18 turning on the bolt shaft 19. It will also be obvious that by loosening the set screw 16 and giving the sleeve 15 a quarter turn the brackets 17 and 18 will lie in a horizontal plane and the drill can then be swung in a vertical arc in the same manner. And it will also be obvious that without moving the base 1 the set screw 13 can be loosened and the arm 14 swung about the base standard thus swinging the shaft 10 and all parts connected thereto, including the arm 6 about the base, the sleeve 5 turning on the post 4. By swinging the arm 14 through one-half of a revolution the drill will extend in a direction opposite its former position without moving the base.

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

A device of the kind described comprising a base standard, a beveled gear wheel carried by said base, bracket arms rotatably mounted above said standard, beveled gears carried by said arms meshing with the beveled gear carried by the standard, means for driving one of said gears, an angled arm rotatably mounted upon the standard, a rotatably adjustable sleeve carried by said arm, a shaft mounted loosely in said sleeve, one of the beveled gears above mentioned being mounted on said shaft, brackets carried by the sleeve, bracket arms pivotally connected to said first mentioned brackets, a brace and bit carried by the last mentioned brackets, and means for imparting rotation to the bit from the said shaft.

LITFALLAH G. SABBAG.

Witnesses:

M. H. LOWRY,  
A. E. CHESLEY.