No. 827,209. PATENTED JULY 31, 1906.

W. E. BROOKE.

DIE STOCK.

APPLICATION FILED SEPT. 26, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

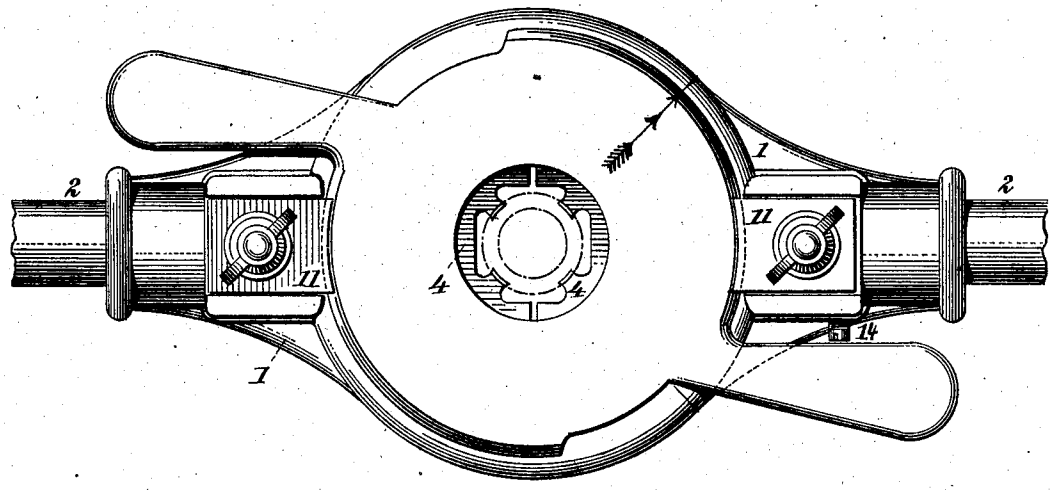
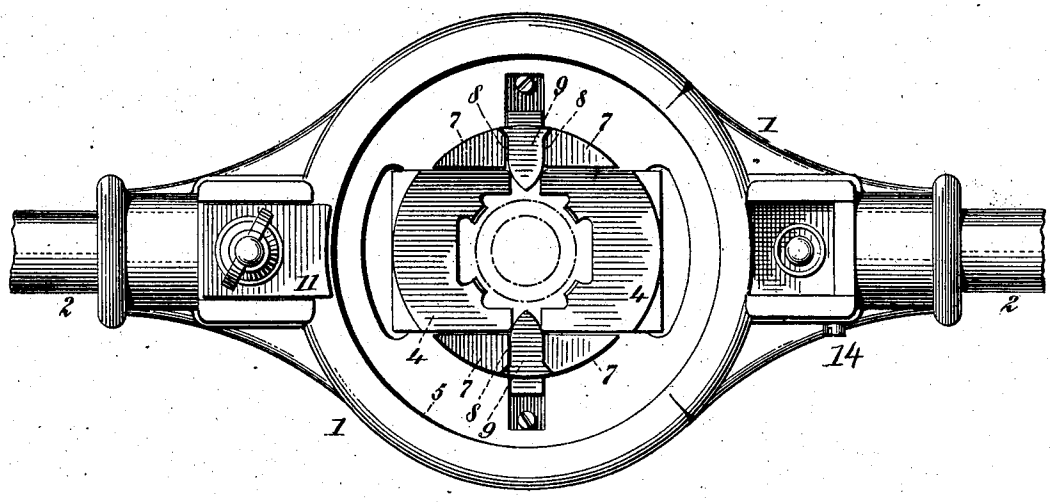


Fig. 2.



WITNESSES:

Gustave Peterich.

Edwin W. Peterich.

INVENTOR

William E. Brooke

BY Archibald & Co.

ATTORNEY

THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

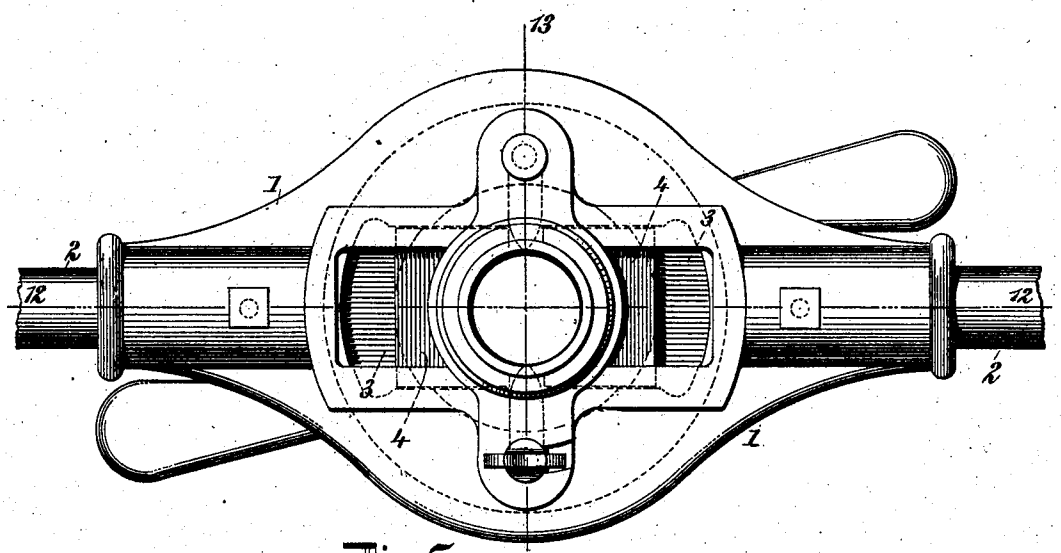


Fig. 4.

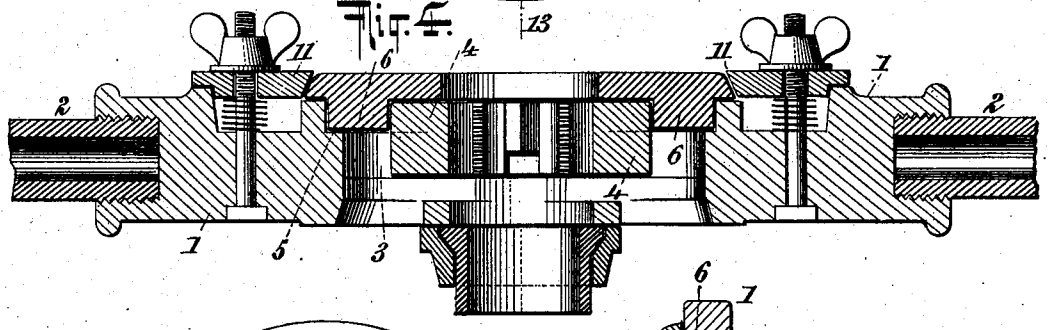


Fig. 6.

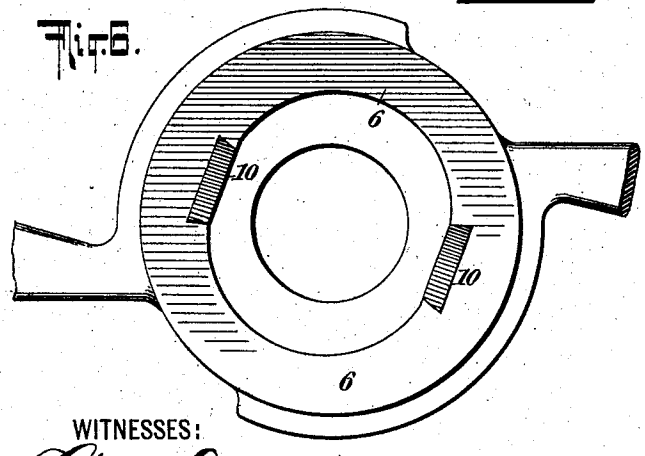
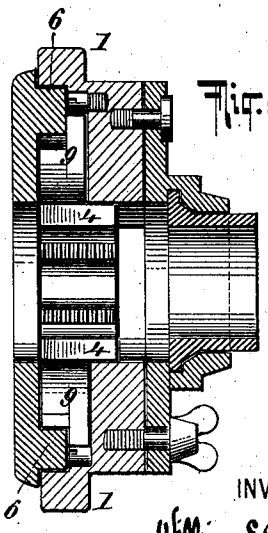


Fig. 5.



WITNESSES:

Gustave Dieterich

Edwin N. Dieterich

INVENTOR

William E. Brooke

BY Archibald & Co.

ATTORNEY

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. BROOKE, OF CLEVELAND, OHIO, ASSIGNOR TO SUE C. BROOKE, OF NEW YORK, N. Y.

DIE-STOCK.

No. 827,209. Specification of Letters Patent. Patented July 31, 1906.

Application filed September 26, 1905. Serial No. 280,139.

To all whom it may concern:

Be it known that I, WILLIAM E. BROOKE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Die-Stocks, of which the following is a specification.

My invention relates to improvements in screw-cutting dies or die-stocks; and it consists in the construction, combination, and arrangement of parts whereby a simpler, less expensive, more effective, and more durable tool is provided, substantially as hereinafter pointed out.

In the accompanying drawings, Figure 1 is a plan view of the tool, showing the cutting-dies closed. Fig. 2 is a plan view with the cover which adjusts and holds the dies removed, showing the cutting-dies open. Fig. 3 is a plan view taken from the bottom, showing the operative movement by dotted lines. Fig. 4 is a longitudinal section on the line 12 12 of Fig. 3. Fig. 5 is a transverse section on the line 13 13 of Fig. 3. Fig. 6 is a plan view of the bottom of the cover.

In the views thus shown, 1 represents the body of the stock, which in this instance is constructed at its ends with internal-threaded extremities for the insertion of handles 2, other power connections being, however, practical. In the center of the body of the stock is a flat-bottomed recess 3, rectangular in shape, sufficiently wide and deep to hold the cutting-dies 4 and sufficiently long to permit the movement of said dies toward each other or apart under the operation of the cover, as hereinafter pointed out. The cutting-dies 4 are constructed with the usual segmental cutting-threads on their inner edges and with parallel outer sides adapting them to fit the recess 3 on the bottom of which they rest and in which they work. Said dies 4 are of a height which raises their upper portions above the bottom of a circular depression 5, formed in the body of the stock and around the recess 3, said depression 5, of less depth than said recess 3 and circular in form, fitting a disk 6 on the bottom of the cover. The portion of the dies 4 thus elevated is rounded to engage the inner elliptical or cam shaped edge of the disk 6 of the cover, and thus permit the movement of the dies under the force exerted by the said edge when the cover is turned. On two opposite sides of the rectangular recess 3 small portions 7 of the body of the stock are left elevated above the bottom of the circular depression 5 to a height which makes their tops approximately level with the tops of the dies 4, which reach above the base of said depression. Said portions 7 of the stock are rounded at the sides away from the recess 3, so as to form, with the rounded outer edges of the dies 4, approximately a circle permitting the turning of the elliptical inner edge of the disk 6 and its cam-like action. Each of said portions 7 of the stock is broken approximately in its center by a recess 8, which is preferably deeper than the bottom of the depression 5 and rectangular in shape, adapted to hold and permit the play of blocks 9, wedge-shaped at one end and rounded at the other, adapted to force apart the dies 4 under the movement of the inner elliptical or cam-shaped edge of the disk 6 of the cover. The cover, Fig. 6, is formed with a disk 6 on the bottom, the outside edge of which disk is round to fit the edge of the circular depression 5 and the inside edge of which is in the form of an ellipse adapted by its cam-like action when revolving alternately to meet and engage the elevated rounded portions of the cutting-dies 4 and the separating-blocks 9 as the cover is turned. In view of the fact that most of the wear on the disk 6 will fall at the narrowest part of the ellipse formed by its inner edge this portion of the edge may advantageously be chilled or hardened or pieces of steel 10 be set in, as shown in Fig. 6.

The edges of the top of the cover are round and beveled to engage clamps 11, adapted to hold it down and in place, except where the bevel is broken at either side to permit the removal of the cover, said breaks being at points approximately intermediate between the greatest and smallest diameter of the circle formed by the inner edge of the disk 6. The cover is provided with suitable means to turn it, preferably handles, as shown in the drawings. Set in the stock are clamps 11, operated by set-screws or otherwise. The inner edge of each clamp is beveled, adapting it to engage the beveled edge of the cover. The outer edge of each clamp is provided with a shoulder engaging the stock to insure the greatest firmness when the tool is in use. In the stock is placed a set-screw 14, arranged to meet the handle of the cover when it is

turned and arrest its turning, thus enabling the diameter of the thread to be conveniently and accurately adjusted, the point at which the turning of the cover is stopped determining how closely the cutting-dies are forced together under the cam-like action of its disk.

When the parts thus described and shown are assembled and in working position, the disk 6 on the under side of the cover may be revolved within the circular depression 5 by turning the cover, the outer edge of the disk being constantly held by the edge of said depression and the inner edge of the disk engaging alternately the rounded outer upper edges of the cutting-dies 4 and the rounded outer upper edges of the separating-blocks 9 at approximately the point 10 of the disk, where it has been hardened or prepared to stand the greatest wear. The cutting-dies may be thus closed or forced apart by separating-blocks by simply turning the cover, which is firmly held in any desired position by the edge of the circular depression and the clamps.

Each stock is adapted to cut several sizes of screws, and the drawings show a swinging holder under the stock, into which the various-sized ferrules are inserted; but these features are incidental.

What I claim as new, and desire to secure by Letters Patent, is—

1. A die-stock having a recess adapted to hold cutting-dies and transverse recesses adapted to hold wedge-like separating-blocks, in combination with cutting-dies and separating-blocks, and an operating member formed to exert pressure alternately on the cutting-dies and separating-blocks.

2. A die-stock having a recess adapted to hold cutting-dies, transverse recesses adapted to hold wedge-like separating-blocks, and a depression adapted to hold an operating member, in combination with cutting-dies and separating-blocks, a member turning in said depression and having a cam to act on said dies and separating-blocks for opening and closing the dies, and means for holding said member within the depression at any desired point.

3. In a die-stock, the body portion thereof formed with a centrally-disposed recess for dies, a circular depression around said recess, and raised portions on opposite sides of said recess formed with curved walls, in combination with cutting-dies fitting in the recess and having rounded outer edges, separating-blocks operable in said raised portions and located to act upon the dies, and a rotatable member having a circular outer face to bear against the vertical wall of the circular depression and a cam-shaped inner edge to act in alternation upon the rounded portions of the dies and upon the separating-blocks.

4. In a die-stock having sliding cutting-dies, blocks arranged to move transversely to the movement of the cutting-dies, and a rotatable member formed with a cam-face for forcing the blocks between the dies to slide them apart from each other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM E. BROOKE.

Witnesses:

DAVID BROWN,

ED E. PECK.