(No Model.)

W. MORGAN.

CUTTER HEAD.

No. 501,685. Patented July 18, 1893.

FIG. 1

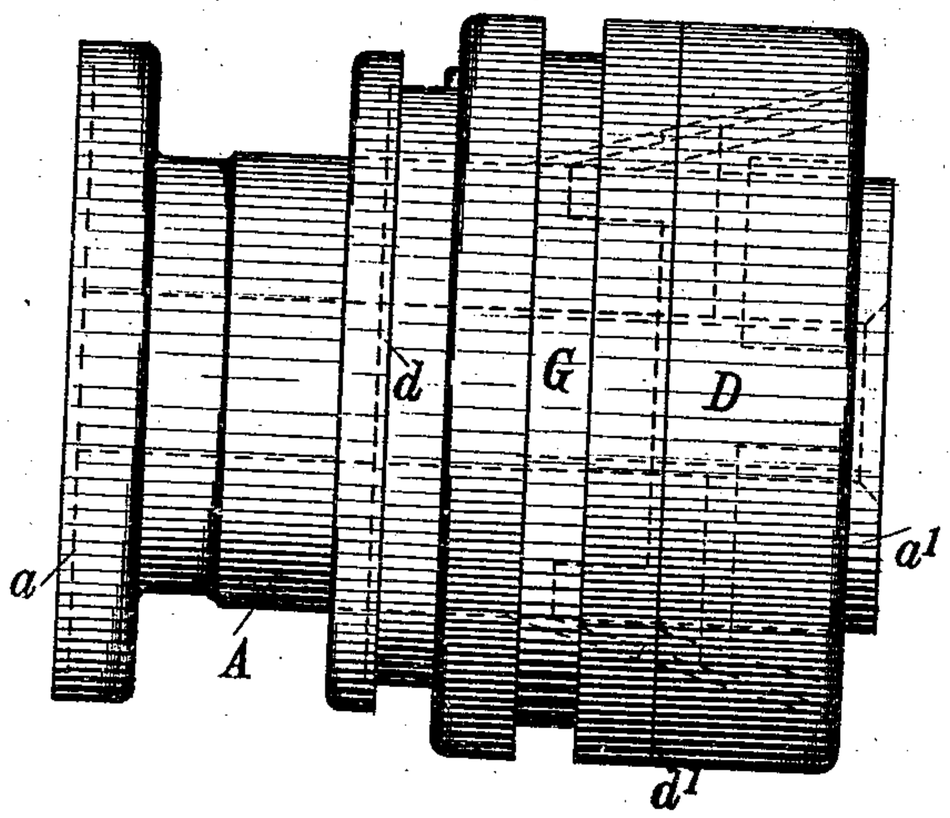


FIG. 2

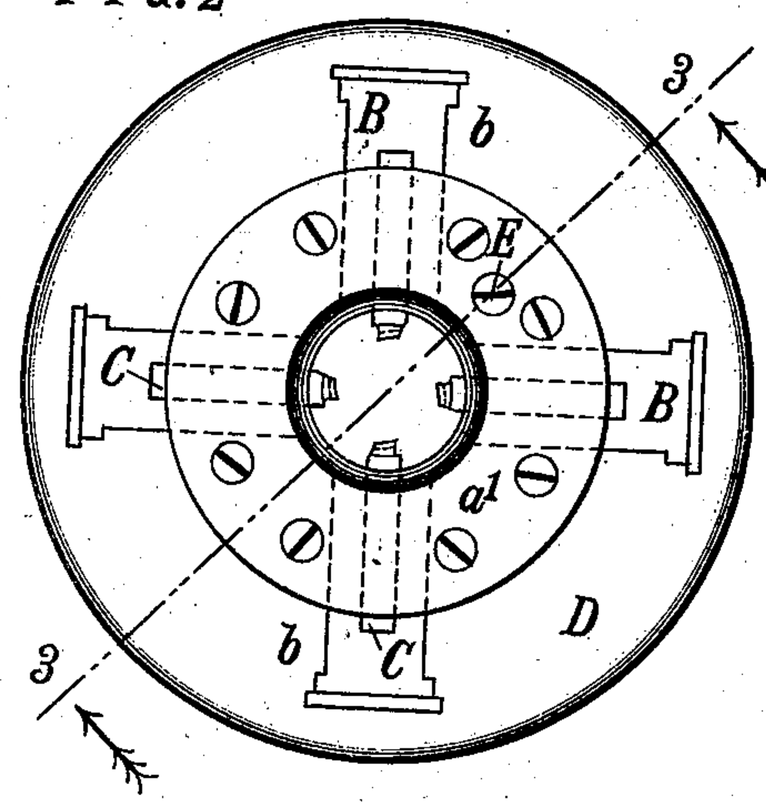


FIG. 3

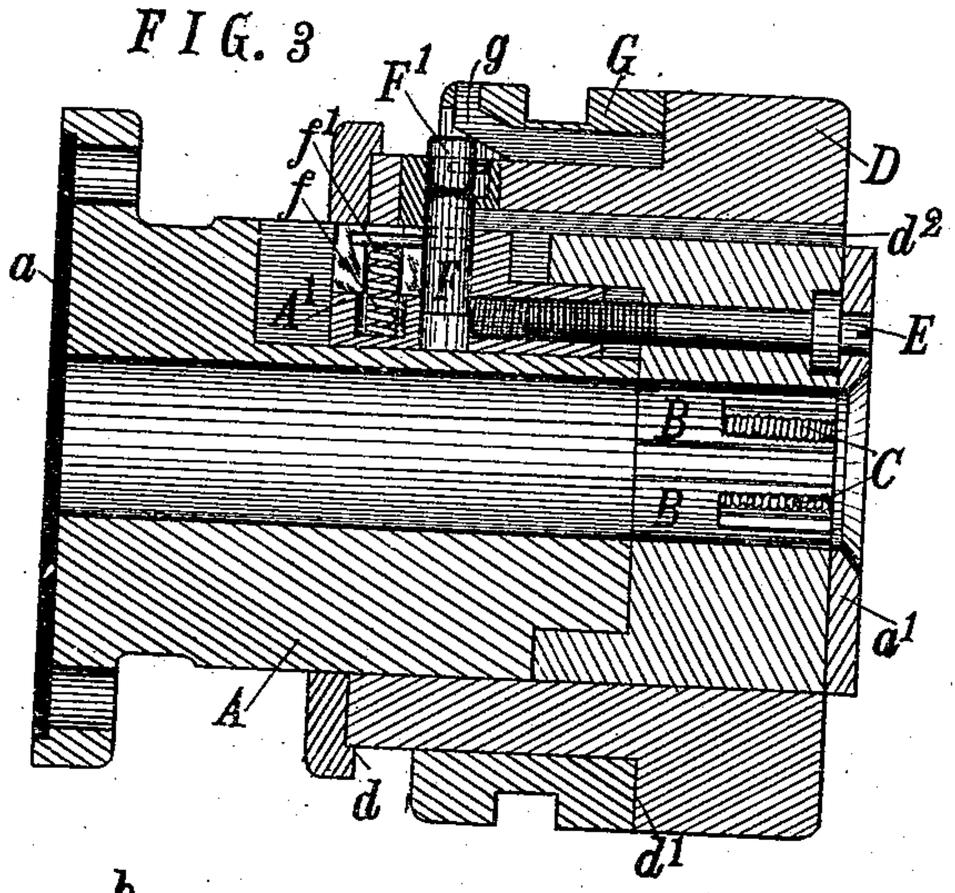


FIG. 4

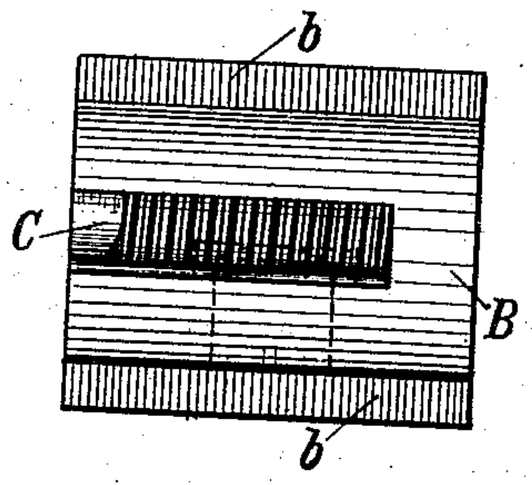


FIG. 5

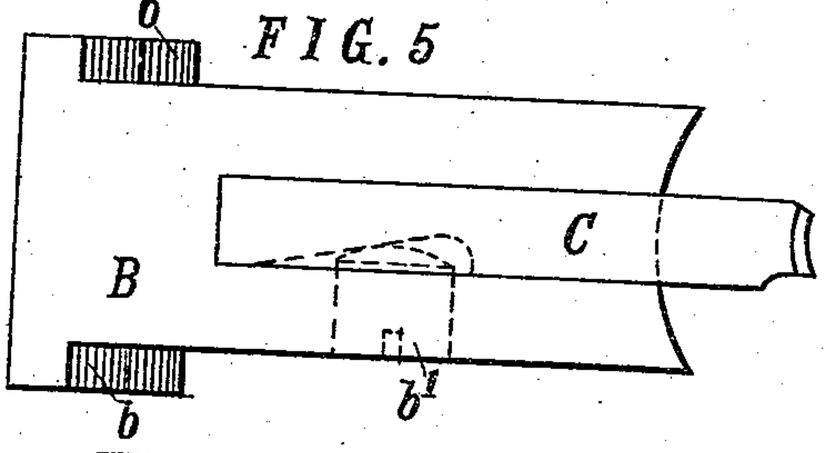
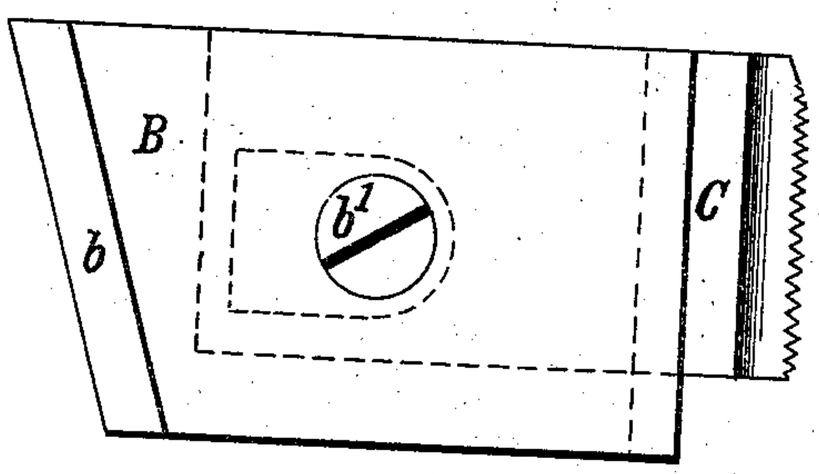


FIG. 6



WITNESSES.

Frank. Miller.

B. V. Woolley.

INVENTOR.

William Morgan

By Wing & Thurston

his attorneys

UNITED STATES PATENT OFFICE.

WILLIAM MORGAN, OF BROOKLYN, OHIO.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 501,685, dated July 18, 1893.

Application filed February 28, 1893. Serial No. 464,008. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MORGAN, a citizen of the United States, residing at Brooklyn, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cutter-Heads; and I do hereby 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 the cutter head of a bolt threading machine, and particularly to the mechanism for locking, unlocking, moving and adjusting the movement of the sleeve which actuates the dies or chasers; also to the construction of the dies and the means for holding them in their respective cases.

It consists in the construction and combination of parts hereinafter described and pointed out definitely in the claims.

In the drawings, Figure 1 is a side elevation of my improved cutter head. Fig. 2 is a front end view thereof. Fig. 3 is a longitudinal section on line 3—3 of Fig. 2. Fig. 4 is an end view of one of the die cases. Fig. 5 is a front view of the same, and Fig. 6 is a side view of the same.

Referring to the parts by letters, A represents the barrel, the flange *a* of which is adapted to be bolted to the face plate on the live spindle. In the front end of this barrel are slots in which lie the holders or cases B for the chasers or dies C. The cases are held in the slots by the cap *a'*. A longitudinally movable sleeve D is mounted on the barrel A, and the die case slots extend into this sleeve. The outer ends of the slots are provided with inclined grooves which receive the inclined tongues *b* on the die case. This construction is old and well known, and its mode of operation is as follows, viz: when the sleeve D is moved toward the flange *a*, the die cases are drawn outward; when moved in the contrary direction, they are moved inward. The farther inward they are moved,—that is to say, the nearer the axis of the head, the smaller the bolt which may be threaded thereby.

The piece A' is set into the barrel A and is rigidly connected therewith by the set screw E, which set screw also affords the means of adjusting the said piece longitudinally. Lying in a radial hole which extends through the sleeve D and piece A' is the locking pin F. A spring *f* lies in a socket in the piece A' and engages with an arm *f'* on the part F, thereby moving said part F outward so that it engages with the sleeve D as well as the part A', thus locking said two parts together. When these parts are thus locked, the dies are held in the position they should occupy to cut the threads.

G represents a collar which surrounds the sleeve D and is movable longitudinally thereon between the two shoulders *d d'*. Lying in a slot on the inside of this collar is a wedge *g*, which when said collar is moved to the extreme right, against the shoulder *d'*, just engages with the pin F', which lies in the radial hole in the sleeve D and bears against the outer end of the pin F, and prevents it from being moved. When said collar D is moved to the left, this wedge forces the locking pins F F' inward until the pin F is forced from the hole in the sleeve D. When the pin F has been thus disengaged from the sleeve D, the collar G strikes against the shoulder *d*, and the continued movement of the collar G to the left causes the simultaneous movement of the sleeve D, thereby drawing the die cases outward. When the sleeve D is being thus moved to the left, the outer end of the pin F lies in a longitudinal slot d^2 in the inside thereof, which prevents the revolution of said sleeve on the barrel A.

The die cases B have a central slot in which the dies C are placed. The dies are held in this slot by the side set screw *b'*, which bears against the beveled side of said die, thereby preventing the dies from being pulled out of said slot.

Having described my invention, I claim—

1. In a cutter head, in combination, a barrel having a hole adapted to receive a locking pin, movable dies mounted in one end of said barrel, a longitudinally movable sleeve to move said dies, having a hole adapted to receive one end of said locking pin, a locking pin F, a pressure pin F' and a collar having an interior wedge shaped part adapted to engage with said pressure pin, substantially as and for the purpose specified.

2. In a cutter head, in combination, a bar-

rel having a hole adapted to receive a locking pin, movable dies mounted in one end of said barrel, a longitudinally movable sleeve D adapted to move said dies, having (first) a hole adapted to receive one end of said locking pin, (second) an interior longitudinal groove, and (third) two shoulders *d d'*, a locking pin F, a spring acting to force said pin outward into engagement with the sleeve D, a pressure pin F' lying in the hole in the sleeve D and engaging with the pin F', and a longitudinally movable sleeve G mounted on sleeve D between the two shoulders thereon having an interior wedge which engages with the pin F', substantially as and for the purpose specified.

3. In a cutter head, in combination, a barrel, the dies mounted in its end, a movable piece A' set into said barrel having a hole adapted to receive a locking pin, a set screw adapted to adjust the relative position of piece A' and the barrel, a sleeve D adapted to operate the said dies having a hole adapted to receive one end of said locking pin, a locking pin F, a pressure pin F' and a collar G having an interior wedge adapted to engage with the pin F', substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM MORGAN.

Witnesses:
E. L. THURSTON,
FRANK. MILLER.