F. W. MORGANS.

PRINTER'S FURNITURE.

APPLICATION FILED JAN. 29, 1919.

1,307,140.

Patented June 17, 1919.

Fig. 1.

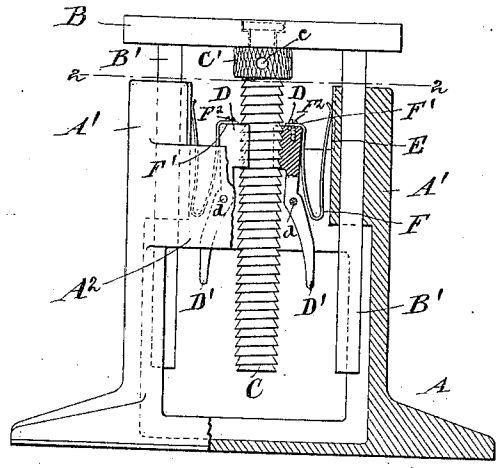


Fig. 2.

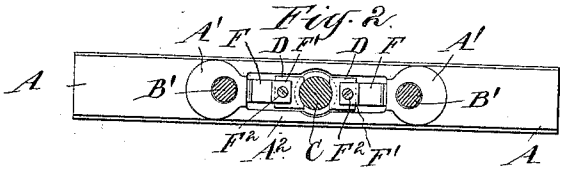


Fig. 3.

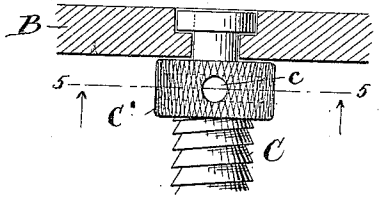


Fig. 4.

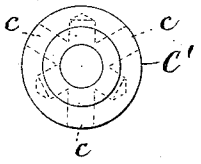
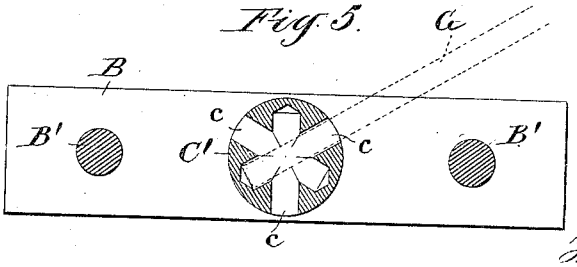


Fig. 5.



INVENTOR

Floyd W. Morgans,

BY Charles K. Searle

ATTORNEY

THE NORR. S PETERS CO., PHOTO-LITH... WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FLOYD W. MORGANS, OF MIDDLETOWN, NEW YORK.

PRINTER'S FURNITURE.

1,307,140. Specification of Letters Patent. Patented June 17, 1919.

Application filed January 29, 1919. Serial No. 273,807.

To all whom it may concern:

Be it known that I, FLOYD W. MORGANS, a citizen of the United States, residing at Middletown, in the county of Orange and State of New York, have invented a certain new and useful Improvement in Printers' Furniture of which the following is a specification.

The invention relates to adjustable furniture and quoins and more particularly to that form known as "job locks" in which the adjustment of the two relatively movable members is effected by a screw having ratchet threads engaged in separable spring-actuated dogs or pawls, serving as a nut, which permit the members to be quickly expanded to approximately the desired extent, the final lockup pressure being attained by turning the screw.

The object of the invention is to provide the device with a screw of this character constructed to be engaged easily and reliably by the turning pin or lever and permit rapid expansion in the final lockup operation. Another important object is to provide the pawls or dogs with springs having sufficient material to offer the required stiffness and resiliency and to insure long service without failure by breakage, and means for attaching such springs reliably to the dogs to insure against accidental displacement while permitting the springs to work freely, and their removal and replacement when necessary.

The invention consists in certain details of construction and arrangement by which the above objects are attained, to be hereinafter described and claimed.

The accompanying drawings form a part of this specification and show an approved form of the invention.

Figure 1 is a plan or face view of the lock, partly in horizontal section. Fig. 2 is a corresponding vertical transverse section taken on the line 2—2 in Eig. 1 and partly in elevation. The remaining figures are on a larger scale. Fig. 3 is a plan view of the screw and its head, with an engaged portion of one of the lock members in horizontal section. Fig. 4 is a corresponding end view of the head. Fig. 5 is a vertical section taken on the line 5—5 in Fig. 3, and partly in elevation.

Similar letters of reference indicate the same parts in all the figures.

The lock comprises two main members as usual, a base A and head B, the former having tubular posts A^1 in which the arms B^1 of the head are received telescopically to permit the lock to be expanded or contracted by moving the members relatively to each other. The outer faces of the base and head are plane and parallel to lie against the matter and inner face of the chase. A hollow bridge A^2 connects the posts A^1, and centrally located on the head B is a screw C extending through the hollow bridge, between and parallel with the arms B^1.

The screw is rotatably attached to the head member B and has angularly tapered or conical threads and is adapted to serve both as a screw and as a cylindrical ratchet engaged by correspondingly shaped teeth on the adjacent faces of oppositely placed pawls or dogs D pivotally mounted on pins *d* in the bridge, each having a lug D^1 extending below the bridge and both lugs so located and presented as to be easily grasped by the thumb and finger and thus oscillated upon the pins *d* to separate the dogs and free the screw. The dogs are held in this yielding engagement with the screw by V-shaped leaf springs F each secured at one end to its dog by a screw F^2 extending into the upper face of the dog through an arm F^1 formed by bending the end of the spring at a right angle as shown, with the free end extending above the bridge A^2 and abutting against a plane surface E provided on the inner face of the post A^1.

The springs F exert their expansive force to hold the dogs, as a divided nut, in engagement with the threads of the screw, or to yield, as pawls, and permit the head B to be drawn out as will be understood.

The space between each dog and its adjacent plane surface E on the post is necessarily limited; by making the springs of flat metal in V-form considerable body or length is available and is increased by extending the free leg upwardly as shown, without increasing such space, and by securing the springs upon the upper faces of the dogs, through the arms F^1, the screws F^2 are easily accessible by removing the head B and its attached parts; the construction permits the springs to be attached to the dogs before they are pinned in place, or subsequently if desired, and a broken spring may be easily removed and a new one substituted without removing the dog. This mode of attachment also permits a greater effective length of

spring, and as the arm F^1 is bent upon and lies in close contact with the upper face of the dog its screw F^2 is not affected by the action of the V portion and is not likely to loosen.

The screw C has a knurled head C^1 by which it may be turned by the fingers in adjusting the lock between the matter and chase and has radial cavities *c* adapted to receive a pin G, or analogous implement, indicated in dotted lines in Fig. 5, serving as a lever by which the final forcible rotatory movement may be imparted in locking up.

Instead of the usual two holes extending diametrically entirely through the screw-head and crossing at its center, which form requires care in inserting the pin to avoid thrusting through and a consequent lifting engagement of its protruding end with the table or bed on which the form is made up, three radial cavities *c* are provided, crossing at the center but not extended entirely through, thus providing a stop which limits the inward thrust of the pin. By this arrangement the above source of annoyance and damage is eliminated while affording a long bearing or engagement for the pin or lever.

Another important advantage offered by the three cavities arranged at angles of 120° to each other, as shown, is the increased length of arc through which the pin G may be moved in turning the screw. It will be noted that the location of the posts A^1 and arms B^1 preclude a full sweep of 180°, and if the head be provided with four equally spaced cavities only a quarter turn can be imparted to the screw after the first partial revolution, while with the three cavities each succeeding movement after the first partial rotation, may be a full third of a revolution.

These advantages are important in saving time and avoiding accident to the matter in the locking up operation, especially as is frequently the case, the operation has to be performed after the chase is in place on the press and the locks have to be manipulated largely through the sense of feeling. Injury by abrasion of the press bed or imposing surface is avoided when locking or unlocking forms.

I claim:—

1. In a device of the character set forth, comprising two relatively movable members, hollow posts on one of said members, arms on the other of said members received in said posts, a screw rotatably mounted on one of said members between and parallel with said arms and engaged with the other of said members, and a head on said screw having three equally spaced radial cavities therein crossing at the center thereof and extending beyond such center and terminating within said head, each adapted to receive the end of a pin by which said screw may be turned, and adapted to limit the inward thrust of such pin.

2. A device of the character set forth, comprising relatively movable head and base members and guiding means therefor, a screw rotatably mounted in said head member and having angular conical threads adapted to serve as a ratchet, dogs having teeth matching to such threads and pivotally mounted in said base member, and flat springs of V form interposed between adjacent portions of said base member and said dogs, with one end bent at an angle and secured upon the upper face of each dog at the end of the latter, and the other ends of said springs slidably engaged with adjacent portions of the base member, the V-bends of said springs extended below the pivots of said dogs.

3. A device of the character set forth, comprising relatively-movable head and base members and guiding means therefor, a screw rotatably mounted in the head member and having angular conical threads adapted to serve as a ratchet, dogs having teeth matching to such threads and pivotally mounted in said base member, flat springs of V-form interposed between adjacent portions of the base member and dogs and arranged lengthwise of said screw, both ends of the springs being accessible from the upper end of the device, the one end vertically movable upon the wall of the base member and the other end having a lateral bend resting upon the upper end of the toothed portion of the dog, and removable means passed through the lateral bend of the spring and into the upper end of the said toothed portion and readily accessible from the upper end of the device.

In testimony that I claim the invention above set forth I affix my signature.

FLOYD W. MORGANS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."