No. 816,097. PATENTED MAR. 27, 1906.

D. E. HUNTER.

ROD FOR CARD INDEXES.

APPLICATION FILED OCT. 31, 1904.

FIG. 1

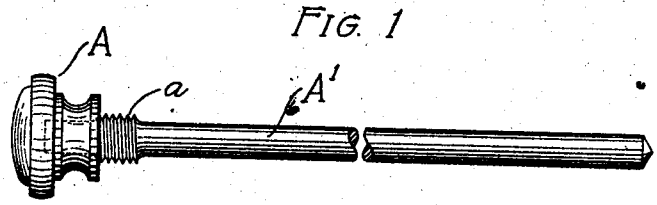


FIG. 2

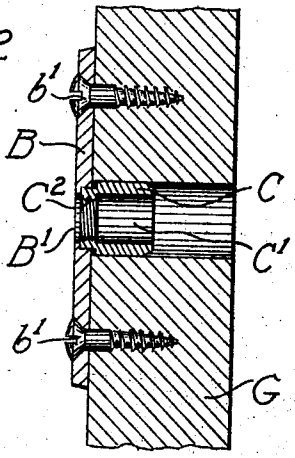


FIG. 3

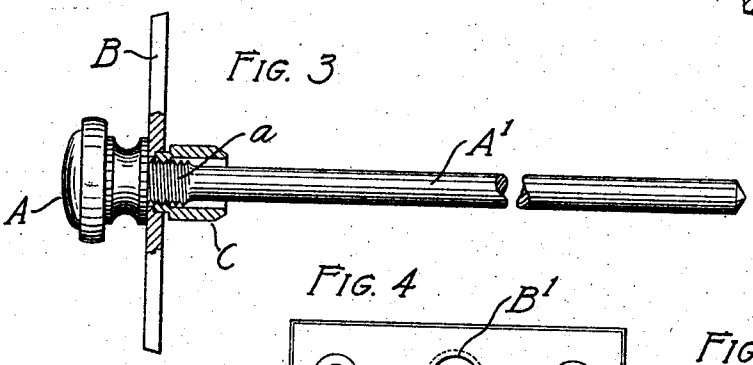


FIG. 4

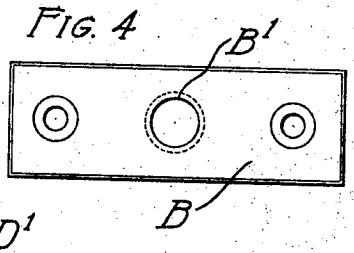


FIG. 5

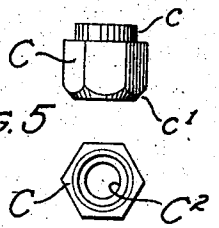


FIG. 6

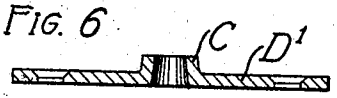


FIG. 7

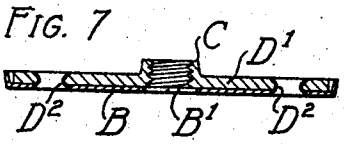


FIG. 8

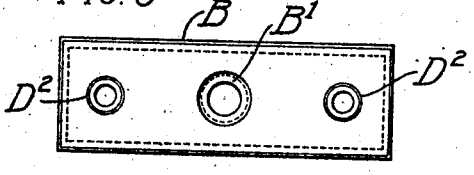


FIG. 9

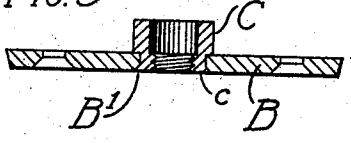
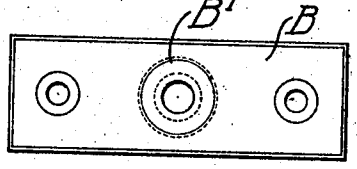


FIG. 10



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DAVID EDGAR HUNTER, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO LIBRARY BUREAU, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

ROD FOR CARD-INDEXES.

No. 816,097. Specification of Letters Patent. Patented March 27, 1906.

Application filed October 31, 1904. Serial No. 230,659.

To all whom it may concern:

Be it known that I, DAVID EDGAR HUNTER, a citizen of the United States, and a resident of Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Rods for Card-Indexes, of which the following is a specification.

The object of this invention is to provide an improved form of card-holding rods such as are very largely used in connection with card-filing systems; and in particular this invention consists of improvements upon an existing type of card-rod and associated device known as the "screw-front" rod. A type of screw-front rod which is very widely used is described in United States Letters Patent No. 470,884, granted to Herbert E. Davidson March 15, 1892. This particular type of screw-front rod has proved to be mechanically satisfactory provided the threaded securing devices which coöperate with the rod are attached to the drawer-front with skill and accuracy.

The improvements presently to be described relate to the construction both of the card-holding rod itself and of the drawer-fixtures with which the rod coöperates.

In the drawings hereto annexed, wherein like letters are uniformly applied to like parts, Figure 1 is a longitudinal elevation of my improved card-holding rod, and Fig. 2 shows in cross-section one form of drawer-fixture adapted to coöperate with a card-rod either of the construction now manufactured or the improved construction shown in Fig. 1. Fig. 3 shows, part in elevation and part in section, the relation of the card-rod and drawer-fixtures when the same are mutually engaged. Fig. 4 is a front view of the drawer-fixtures shown in Figs. 2 and 3. Fig. 5 shows an elevation and end view of the interiorly-threaded bushing, which is a feature of my invention. Figs. 6, 7, and 8 show in cross-section and front elevation an alternative form of the drawer-fixtures which constitute a component part of this invention, and Figs. 9 and 10 show in cross-section and front elevation another alternative form of the same.

Referring to the said Davidson patent, No. 470,884, it will be observed that an essential portion of the drawer-fixture consists of a threaded bushing (marked C) which is threaded exteriorly to engage with the wood of which the drawer-front is composed and interiorly to engage the screw-threaded card-rod. This bushing is screwed in flush with the drawer-front and is covered by an escutcheon-plate *b*, which is centrally perforated, so as to permit the passage of the card-rod. It has been observed that unless care and skill are employed in the insertion of the threaded bushing of the Davidson fixture the bushing is liable to be set at a slight angle, owing to the fact that it makes its own thread in the wood, and this slight angle is sufficient to misdirect the card-rod when it is inserted and screwed into the bushing, a very small angle sufficing to displace the inner end of the card-rod so far that it fails to register with the holes in the cards or if sprung into alinement jams or binds in the usual follower, such as marked E in the said Davidson patent. Another difficulty, to avoid which requires skill and careful attention, is that in attaching the covering-escutcheon to the wood it is quite difficult to keep the hole in the escutcheon concentric with the threaded hole in the bushing, as the wood-screws employed to attach the escutcheon are very likely through inequalities in the wood itself to draw slightly to one side or the other. Consequently these escutcheons frequently have to be moved or reset, so as to bring the central hole concentric with the threaded bushing; otherwise the card-rod will not enter the threads in the bushing properly. All these things of course cause delay, and therefore expense, in attaching the hardware to the cabinet and sometimes result in defective equipment. Moreover, the card-rods themselves as heretofore manufactured are composed of three parts—namely, the rod proper, to which is shrunk or otherwise attached a threaded bushing at one end, and the head or knob, which is screwed on over this threaded bushing. This bushing necessarily has to be quite thin, indeed should have only thickness enough to receive properly the thread which is to engage with the interior thread of the larger bushing which is set into the drawer. These several parts have to be secured together accurately and permanently, and this again increases the cost of manufacture of the card-rod devices.

The improvements which are herein described and claimed obviate the above difficulties and overcome the defects which while

perhaps mechanically slight in themselves nevertheless in the accumulative aggregate of many thousand instances are of quite considerable importance.

In the drawings hereto annexed Fig. 1 shows my improved card-rod. This consists of a rod or wire A′, which is upset at the part marked *a*, this upsetting being effected by the aid of proper clamping-tools, which preserve the alinement of the two portions of the rod-line at either side of the upset portion *a*. This upset portion is now threaded and the shorter end of the rod forced into the head A. The upsetting process improves the quality of the steel of which the rod A′ is composed, and the diametrical enlargement at the upset portion need only be enough to secure material for the depth of the thread to be turned thereon. This obviates the necessity for bushings, which because thin are liable to split and all the imperfections and inconveniences which are incident to the old three-part structure.

In Fig. 2, C is a bushing of hard wear-resisting material, preferably steel, the inner or rear portion of which is counterbored at C′ and the outer part of which is screw-threaded, as at C^2. In Fig. 8 the exterior of this bushing is more clearly shown, where, it will be observed, the exterior of the bushing is a smooth polygon tipped with a conical surface *c′* and provided with a cylindrical neck *c*. The polygonal body of this bushing is forced into the hole previously bored in the drawer-front, the said hole being purposely made a little smaller in diameter than the extreme outside diameter of the bushing C. The shoulder formed between the neck *c* and the polygonal body of this bushing serves as a seat for the proper tool used to insert the bushing C in the drawer-front. This insertion is necessarily perfectly true and straight provided the hole in the drawer-front has been bored straight. The smooth polygonal body drives readily yet holds firmly in the hole, and the polygonal shape effectively prevents the bushing from being turned in the hole. By "polygonal" in this connection it should be understood any departure from a cylindrical form is meant to be included. For instance, a cylindrical form broken by fins or grooves or having other eccentric protuberances would serve the same purpose. In order to give the proper finish to the drawer-front, an escutcheon-plate B, which should either be composed of or faced with bronze or some other non-corrodible metal, is secured to the drawer-front by means of screws *b b′* over the protruding neck of the bushing C. An aperture B′ is made in the escutcheon-plate of proper size to fit accurately over the cylindrical neck *c* of the bushing C. The hole B′ is fitted upon the neck *c* before the screws *b′* are inserted, and thus the permanent concentric alinement of the hole in the escutcheon-plate and the threaded hole in the bushing C is assured. The bushing C being counterbored at C′, the length of the interiorly-screw-threaded portion of the bushing is materially reduced as compared with the bushing of the Patent No. 470,884. When, as in that patent, the bushing is interiorly screw-threaded through its entire length, it is impracticable for a tap to cut a thread of complete depth, whereas with the shortened threaded portion, which forms a peculiarity of my improved bushing, the thread can be cut to full depth with an ordinary tap. When the rod A′ is screwed into the bushing C, its head A screws up close to the face of the escutcheon-plate B, and as the head A is usually constructed of bronze or brass the total exposed portions of the hardware composing the drawer-fixtures is of non-corrodible and ornamental metal.

In Figs. 6 to 10, inclusive, modifications of my invention are illustrated. Fig. 6 shows the bushing as a plate D′, with a hollow boss C struck up from the plate itself, which should be of steel or other wear-resisting metal, so that the threads cut in the boss C of the bushing-plate D′ and shown in Fig. 7 will stand the wear and tear of ordinary use. Over the bushing-plate D′ there is placed a facing B, which is made of bronze or similar material, thus giving the exposed portions of the hardware an ornamental appearance and preserving it from corrosion. The two portions B D′ are firmly secured together by eyelets D^2 in such manner that the central opening B′ in the facing B is concentric with the threaded portion of the bushing-plate D′. In Fig. 9 the bushing is shown at C, being in this instance a cylindrical counterbored steel piece with a constricted neck *c*. This neck is first inserted through a hole B′ in the escutcheon-plate B, where it is riveted or upset, the lip of the hole B′ being suitably countersunk for this purpose. Figs. 8 and 10 show the face views of the devices of Figs. 7 and 9, respectively.

By the devices above described in detail the bushing and escutcheon are positively united, so that displacement of the one with relation to the other is impossible and concentric alinement of the aperture in the escutcheon with the aperture in the bushing is at all times preserved, thus insuring the free and accurate insertion of the card-rod, as shown in Fig. 3.

What I claim is—

1. A fixture for card drawers or trays, consisting of a threaded card-rod, an interiorly-threaded bushing for the rod, said bushing having a polygonal exterior to drive into the drawer or tray front, and a counterbored interior, to reduce the threaded portion thereof.

2. A drawer-fixture for threaded card-rods, consisting of an interiorly-threaded bushing

having a smooth polygonal body and a cylindrical neck, the body to secure the bushing against turning in the drawer-front and the neck to center an escutcheon-plate, and the escutcheon-plate, provided with an aperture to fit the neck of the bushing and with means to secure it to the drawer-front.

3. A drawer-fixture for threaded card-rods, consisting of an interiorly-threaded bushing having a smooth polygonal body and a cylindrical neck, and a counterbored interior to reduce the length of the threaded portion thereof, the polygonal body to hold the bushing against turning in the drawer-front, and the cylindrical neck to serve as a seat for an escutcheon-plate, and the escutcheon-plate, provided with an aperture to fit the cylindrical bushing-neck and with means to secure it to the drawer-front.

Signed by me at Boston, Massachusetts, this 27th day of October, 1904.

DAVID EDGAR HUNTER.

Witnesses:
ROBERT CUSHMAN,
JOSEPH T. BRENNAN.