

No. 36,496.

PATENTED SEPT. 16, 1862.

E. METS.
EXTENSION TABLE.

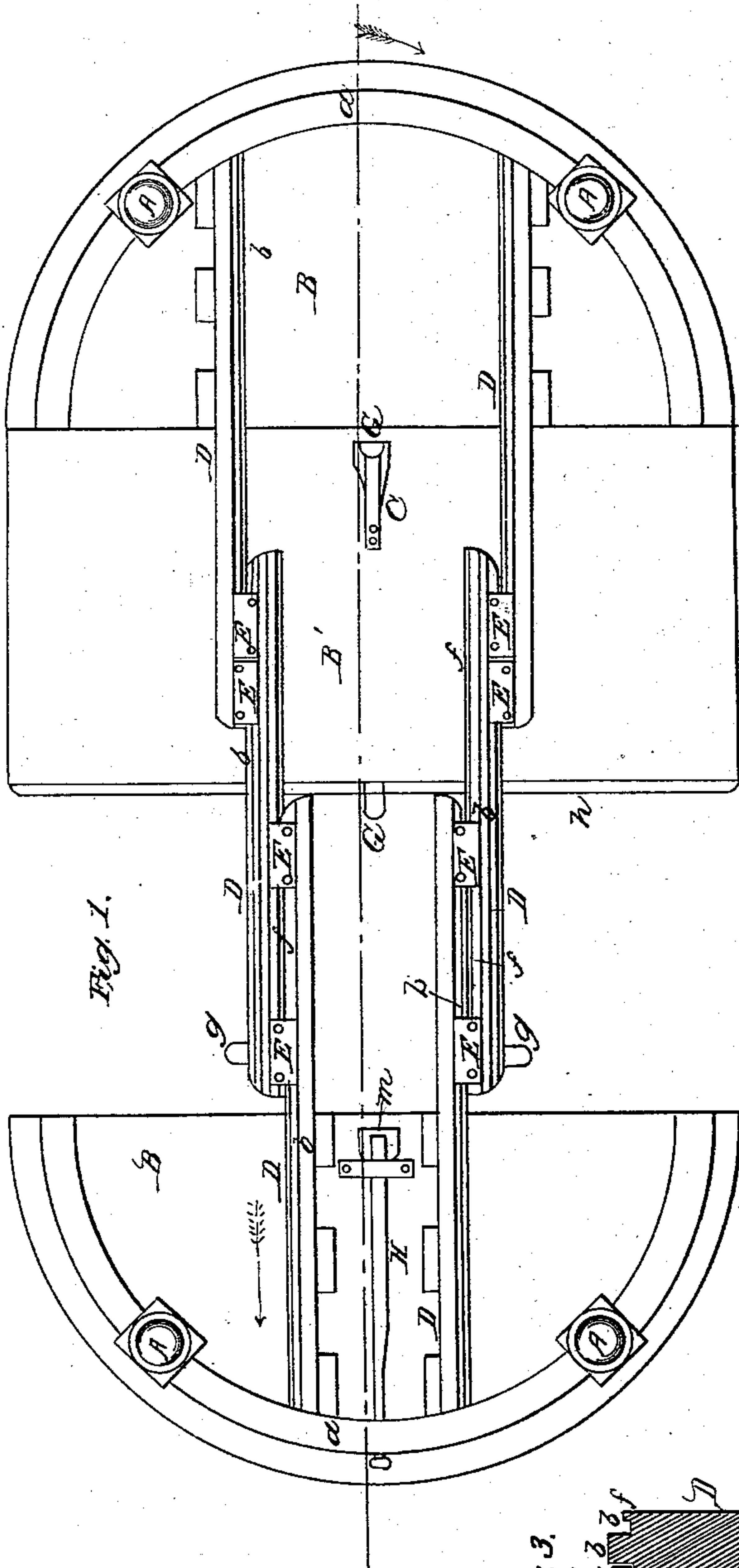


Fig. 1.

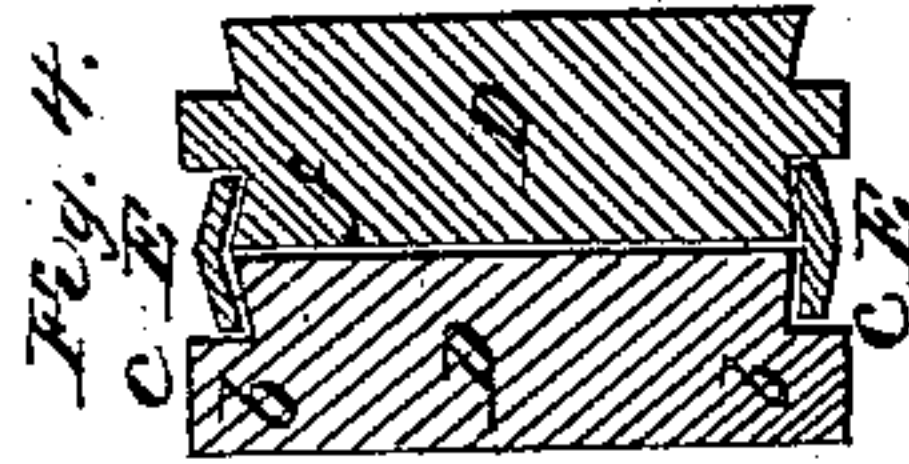


Fig. 4.

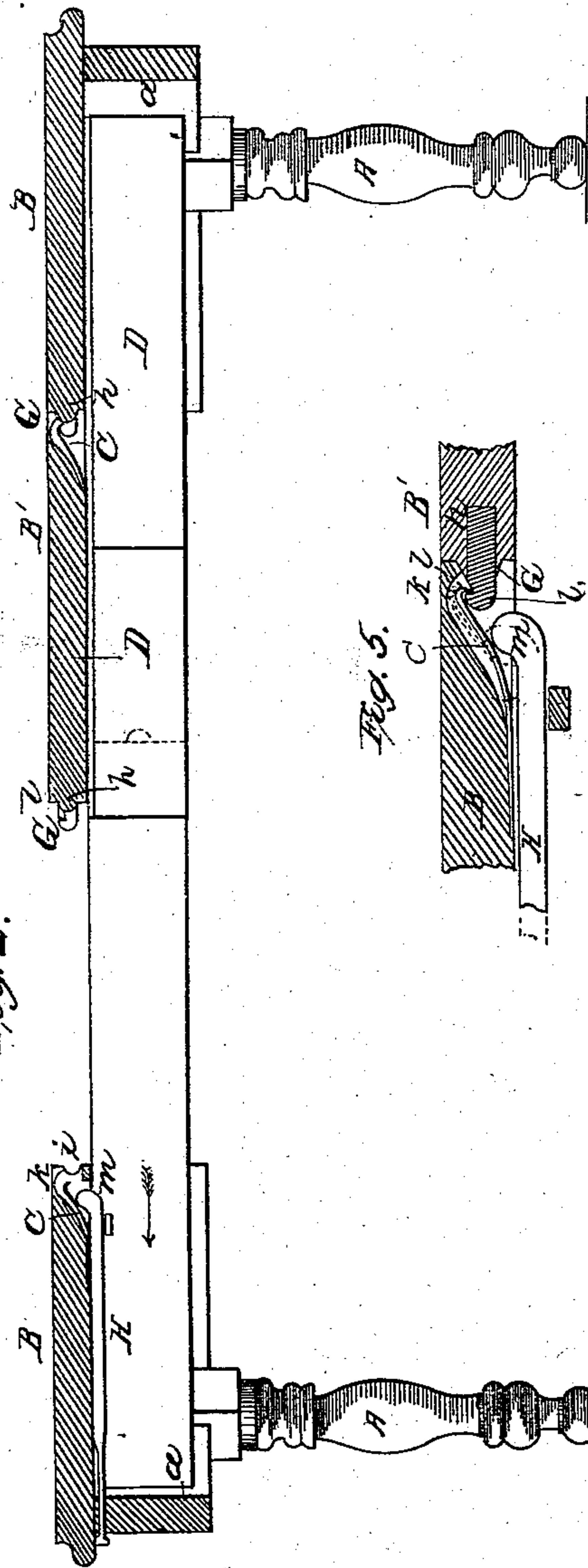


Fig. 2.

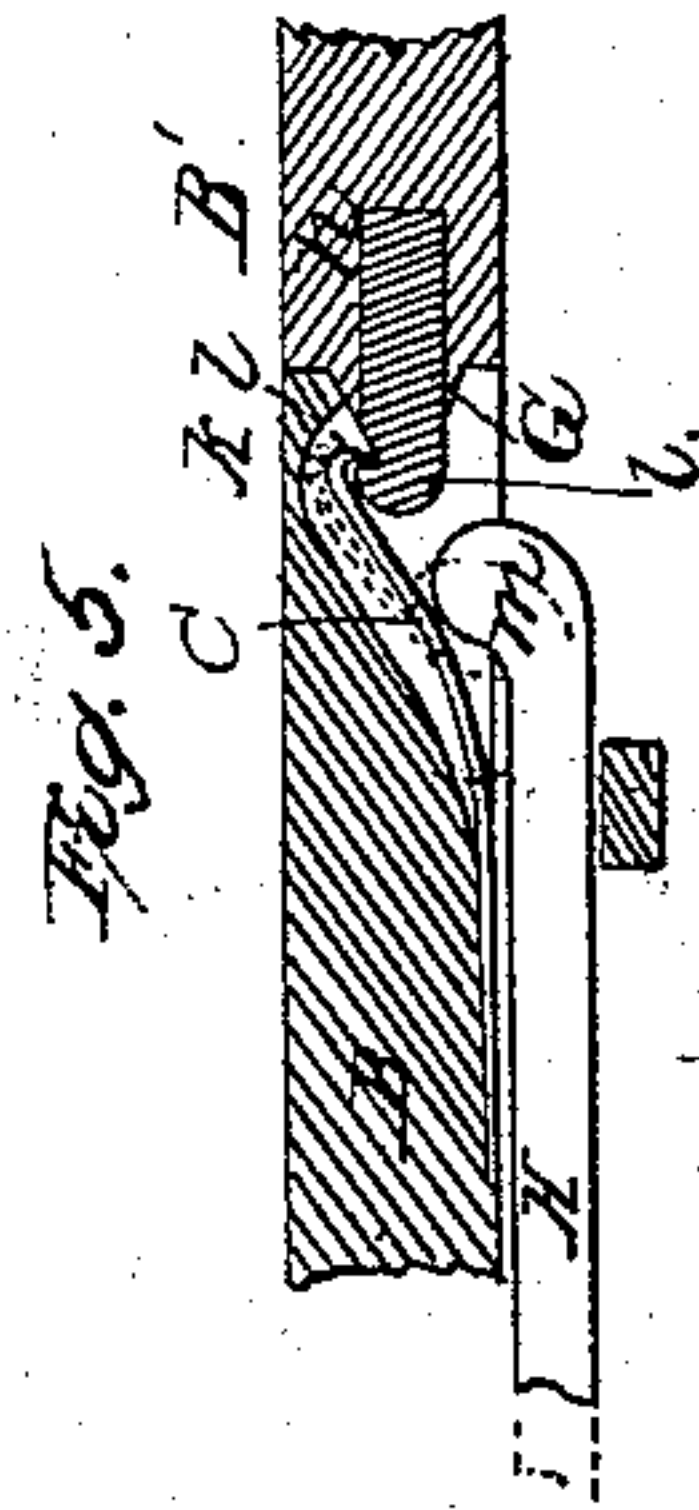


Fig. 5.

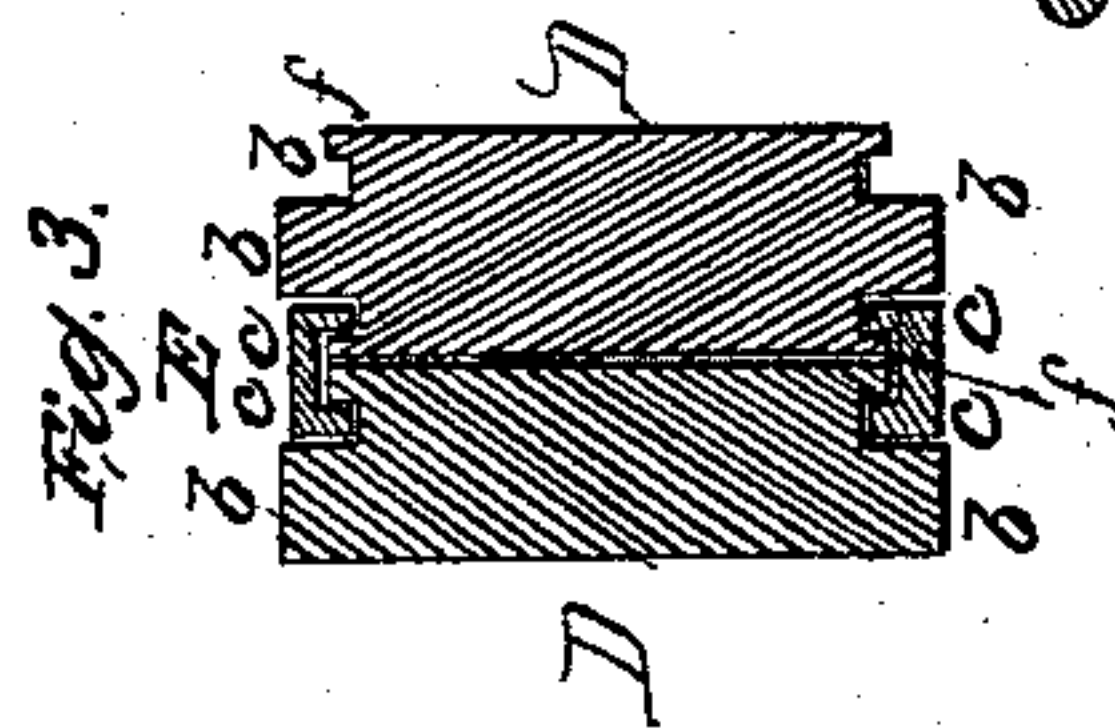


Fig. 3.

Witnesses.
J. T. Mink
R. R. Cogood.

Inventor
Elias Mets
by J. Fraser & Co. attys.

UNITED STATES PATENT OFFICE.

ELISHA METS, OF ROCHESTER, NEW YORK, ASSIGNOR TO HIMSELF AND P. M. BROMLEY, OF SAME PLACE.

IMPROVED EXTENSION-TABLE.

Specification forming part of Letters Patent No. 36,496, dated September 16, 1862.

To all whom it may concern:

Be it known that I, ELISHA METS, of Rochester, in the county of Monroe and State of New York, have invented a new and useful improvement in Extension-Tables; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of the under side of my improved table partially extended and with a space left open for the insertion of one of the extension sections of the leaves; Fig. 2, a longitudinal vertical section of the same in the plane indicated by the red line, Fig. 1; Fig. 3, a cross-section of two of the extension supporting-bars with accompanying slides detached; Fig. 4, a modification of the parts shown in Fig. 3; Fig. 5, a fragment in section, representing the device for locking and retaining the adjacent leaves and extension sections and the operating parts connected therewith.

Like letters designate corresponding parts in all the figures.

My invention consists in the construction, arrangement, and operation of the extension-bars and accompanying slides for sustaining the sections, and also in the device for locking and unlocking and retaining the contiguous edges of the said leaves and sections that fit together.

The table is supported by the ordinary legs, A A, at each end. For general use I prefer that when unextended it shall be of circular shape, and to secure this I form the rims *a a* by steaming and then bending. The fixed leaves B B are secured to these rims in the usual manner.

The extension-bars D D are arranged to slide longitudinally side by side, as usual; but their arrangement and construction in relation to the slides that connect them together and guide them are peculiar. In the upper and lower surfaces of each, extending longitudinally and at the proper distance from the contiguous sides of the bars, is made a groove, *b*, Fig. 3, sunk sufficiently deep to receive and guide a corresponding right-angled projection or bearing, *c*, of the metallic slide E. The outer main surface of the slide parallel with

the horizontal surface of the extension-bars is sunk down flush, or a little more, with the wood, so as to slide clear and free, thus leaving centrally in the bars between the grooves *b b* a projecting tongue, *f*, fitting in the space between the right-angled bearings *c c* of the slides, as clearly represented in Fig. 3. In the outer pairs of extension bars secured, respectively, to the opposite ends of the table this groove and tongue are necessary on but one side of the upper and lower surface; but in the intermediate bars they are necessary on both. They may be formed in any desirable manner, a very convenient way being to saw in first horizontally the proper depth for the countersink of the slides, and then to saw down vertically the required distance to form the grooves *b b*.

The slides are made of only sufficient length to hold the bars together and brace them properly against the vertical weight on the extension sections and leaves, and to form a firm and steady bearing in the grooves where they slide, as indicated in Fig. 1. In the outer bars but one is attached to the extremity of each, but in the main bars they are attached, respectively, to the opposite ends and on opposite sides. They are conveniently secured by means of screws.

The manner of forming the slides may be optional; but I prefer to provide a bed or groove of right-angled shape, in which fits a roller, leaving sufficient space for the passage of the sheet metal between. As the latter passes through its edges are bent or turned up at right angles. The metallic bar thus shaped is then cut into suitable lengths to form the slides, which are thereby produced very cheap.

The slides, instead of being formed with right-angled bearings, may be made beveling or obtuse angled and secured to the bars substantially as represented in Fig. 4; but I prefer the device at first named, as it is simpler and more effective.

The arrangement above described is designed to take the place of the more costly ones now in use and to be as effective and enduring in operation. As there is but little lateral strain or tendency of the extension-bars to separate sidewise, the right-angled edges of the slides

will always hold them in place, and no cross-pieces or braces are necessary, and the slides may also be made very short, as it is essential for them to be in order to work freely and easily in their grooves and without unnecessary friction. Where metallic slides are made the whole length of the bars there is not only a great amount of friction, but in so extended a bearing, unless the edges of the metal that are locked together to hold the parts in contact are made perfectly smooth and straight, (a matter of difficulty,) they will not slide easily and truly, but will bind. In my device this difficulty is obviated, as the bearing-edges of the slides are very short and cannot bind in the grooves. There is also the great advantage of lightness and cheapness of the whole arrangement, and of the slides in particular, which are formed with but two right-angled edges, whereas in other arrangements several bends transversely have to be given to the metal in order to lock their contiguous sliding edges together, thus rendering them difficult to form and fit, not only on account of such irregular shape, but from their length, and when so formed they soon become worn from friction, thus making the joint loose and the action irregular, whereas in my arrangement the slides moving over the wooden bars, wearing equally on all sides, tends to keep them always tight. The slides by being situated on both the upper and lower surfaces of the bars insure sufficient strength against vertical strain caused by the weight on the top of the table, and in this respect are as serviceable as any arrangement of slides in similar situations and much more so than the lateral central tongue and groove used in the most ordinary manner of coupling the extension-bars. In addition to these advantages, in extending the table the slides themselves serve as stops to arrest the motion of the intermediate bars, as indicated at the right hand in Fig. 1, thus saving the additional expense of providing stops for the express purpose. For the purpose of arresting the inward motion of the intermediate bars when closing the table, pins or stops *g g* project laterally from the forward ends of said bars, which strike and fit into depressions in the ends of the next set of bars in the rear.

The proximate edges of the fixed leaves *B* are provided one with a rounded tongue, *h*, Figs. 1 and 2, and the other with a corresponding groove or rabbet, *i*, in which the tongue fits closely but easily, and the opposite edges of each of the extension-sections *B' B'* are respectively provided with the same parts, fitting with the contiguous section in like manner. In that side of each of the leaves and sections provided with the groove is situated at the proper central position a flat spring, *C*, resting in a suitable cavity, and with its forward or elastic end bent into a hook, *k*, as represented most clearly in Fig. 5. In the opposite or tongue edge of the ad-

jacent section is situated a central projecting pin or dower, *G*, of suitable length for the purpose designed, and provided with a catch, *l*, which, when the leaves or sections are brought together, engages with the hook of the spring, thus retaining them in place. Under the spring of the fixed leaf, at the end of the table, is situated a sliding bar, *H*, its outer end passing through the rim of the leaf and provided with a knob for operating by hand, and its inner end, in contact with the spring, provided with a cam-head, *m*, as represented. The uncoupling of these edges of the leaves or sections is accomplished by merely drawing the slide back, disengaging the hook and catch, as indicated by the red lines, Fig. 5. As one cam-slide cannot extend the whole length of the table and act on all the springs, the intermediate sections can be uncoupled by hand, which is easily done by reaching the arm under and pressing on the spring with the finger; or, if desired, a separate slide might be used to each section. This arrangement securely locks and retains the leaves and sections in place, so that when the table is partially or entirely extended it may be drawn endwise over the floor with safety. The astragal edges of the leaves allow them to fit evenly and closely together, which is not the case where the same are made square, the edges thereby frequently striking together and becoming broken, or so swelled or warped that they will not adjust, and are thus a source of much annoyance and trouble. In this device there are no sharp angles to strike together, but the parts fit easily and accurately under all circumstances. In ordinary arrangements several dowels or coupling-pins are essential to retain the leaves; but in mine but one is necessary, and that serves the double purpose of a catch at the same time, thus reducing the cost and simplicity to the lowest degree. The leaves and sections by this means are securely held so as to be firm against any action, while the joints between the same are at all times perfectly closed and the surface true. The action of the spring on the cam-head of the slide *H* is such that when the leaves have been uncoupled and the knob is released the reaction of the same throws it back into its proper position again.

I do not claim, broadly, the use of the slides on both the upper and lower surfaces of the extension-bars to sustain them against vertical weight, as I am aware that such have been used, extending the whole length of the bars; neither do I claim any manner of joining and locking the edges of the leaves and extension-sections other than the special device above described.

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

The short metallic slides *E E*, resting in grooves *b b* on opposite sides of the extension-bars, acting as stops, striking one against the

other in extending the table, and the device for joining and locking the edges of the leaves and sections, consisting of the rounded tongue and groove *h i*, catch-pin G, and spring-hook C, the whole arranged together, and operating substantially as and for the purposes herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

E. METS.

Witnesses:

JOHN L. REQUA,
R. E. OSGOOD.