

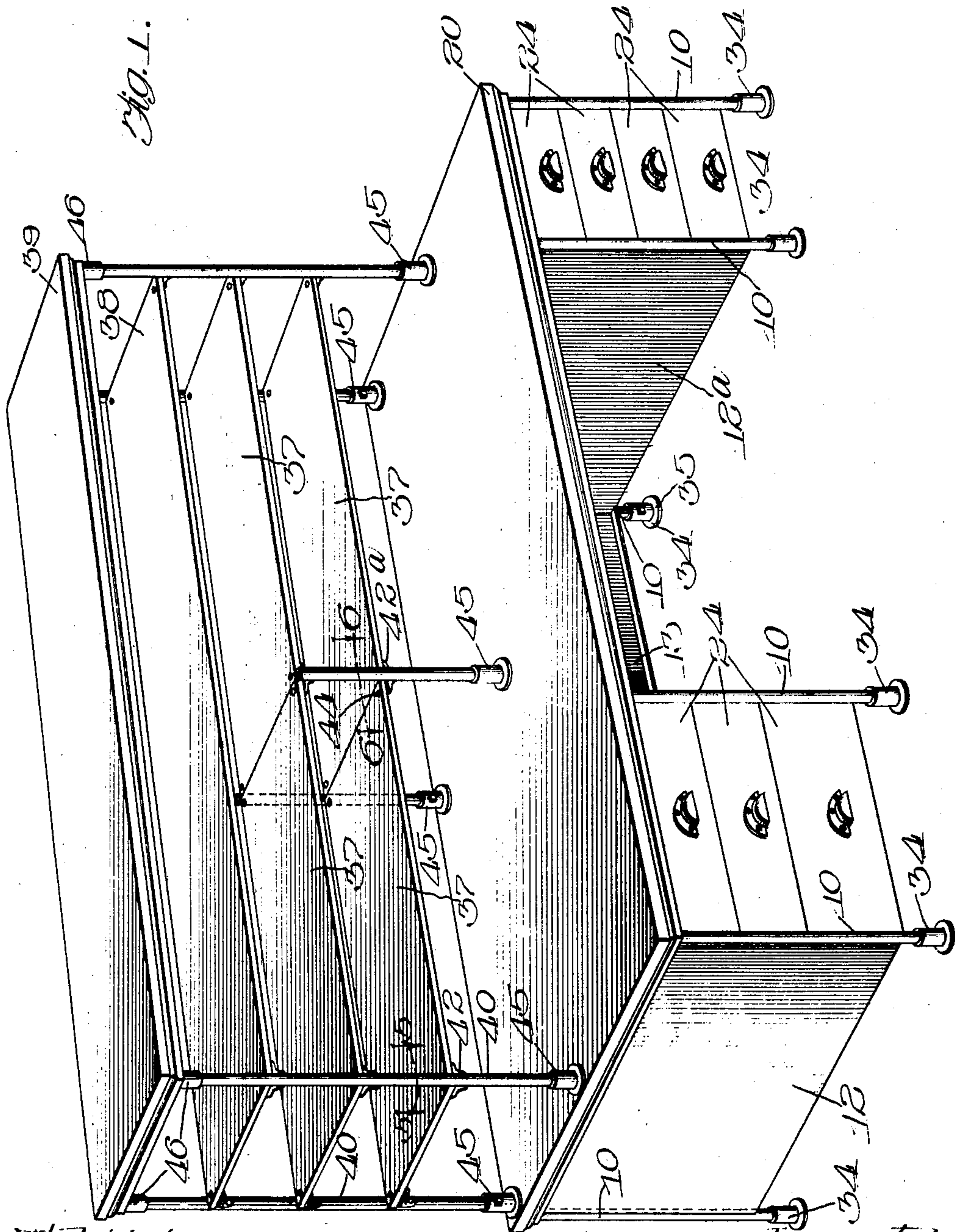
T. C. PROUTY.  
FURNITURE.

APPLICATION FILED NOV. 30, 1908.

948,377.

Patented Feb. 8, 1910.

3 SHEETS—SHEET 1.



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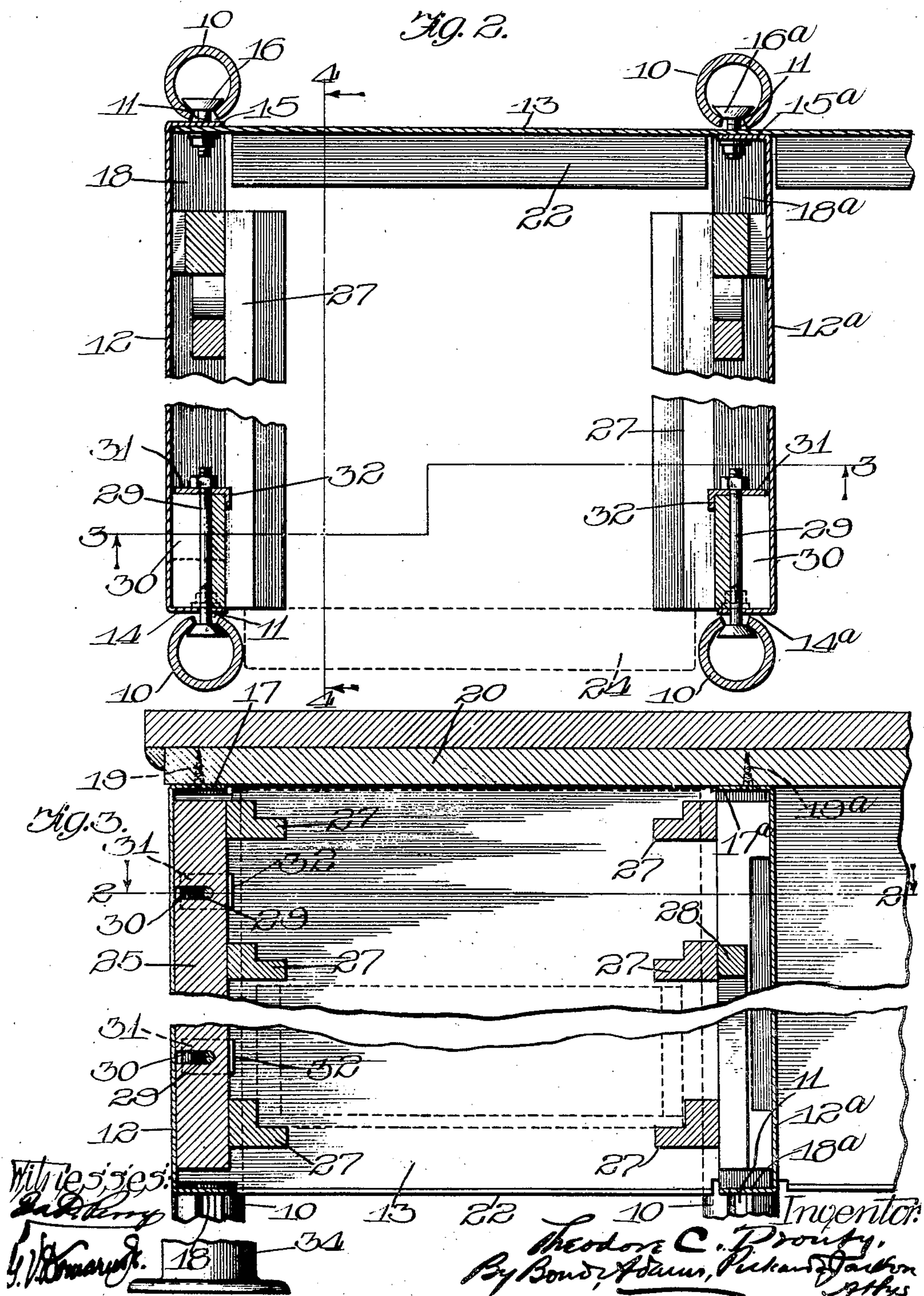
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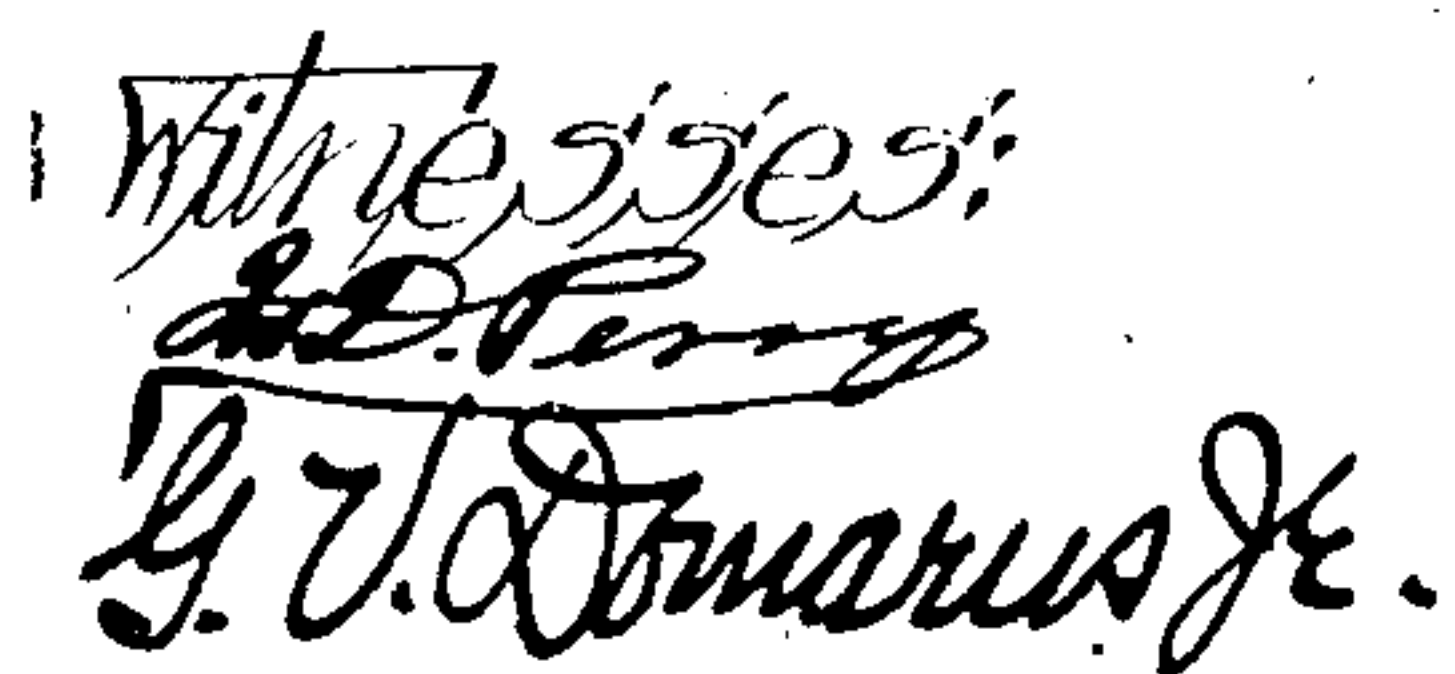
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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

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## FURNITURE.

948,377.

Specification of Letters Patent.

Patented Feb. 8, 1910.

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*To all whom it may concern:*

Be it known that I, THEODORE C. PROUTY, a citizen of the United States, residing at Aurora, in the county of Kane, State of Illinois, have invented certain new and useful Improvements in Furniture, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in furniture and has for its leading object to provide a construction that comprises a plurality of slotted tubular supporting members with which are adjustably and removably secured other parts, such as sides, ends, drawers, shelves, &c., whereby the several parts of a single article of furniture can be readily and easily assembled and disassembled and parts of different sizes and kinds can be connected to the same supporting members so as to form a piece of furniture of larger or smaller size. This object I accomplish by the devices and combinations of parts illustrated in the drawings and hereinafter specifically described.

That which I believe to be new will be set forth in the claims.

In the drawings:—Figure 1 is a perspective view of a piece of furniture embodying my improvements, said piece of furniture consisting of an office desk with two sets of drawers at the sides and a series of shelves mounted on and secured to the desk. Fig. 2 is a horizontal section through a portion of the desk shown in Fig. 1, the section being taken at line 2—2 of Fig. 3, and illustrating the means for connecting the end and rear walls of the desk to the hollow slotted supporting members and also showing the manner of attaching the drawer supports, the drawers themselves being omitted. Fig. 3 is a vertical section taken at line 3—3 of Fig. 2. Fig. 4 is a vertical section taken at line 4—4 of Fig. 2. In Figs. 2, 3 and 4, the desk is shown partly broken away. Fig. 5 is a detail, being a section at line 5—5 of Fig. 1, through one of the shelf-supporting hollow members and illustrating the means employed for connecting a shelf at one end to said supporting members. Fig. 6 is a detail, being a section at line 6—6 of Fig. 1, through one of the shelf-supporting hollow members and illustrating the means employed for supporting the shelves at their abutting ends that come opposite such supporting member. Fig. 7 is a detail, show-

ing in side elevation the shelf-supporting means illustrated in Fig. 5, a portion of the shelf being shown in section. Fig. 8 is a detail, being a perspective view of the clip employed in connection with each one of the bolts employed to secure the drawer supporting frames to the hollow supporting standards.

Referring to the several figures of the drawings, in which corresponding parts are indicated by the same reference characters:—10 indicates supporting standards, any required number of which may be employed according to the size and character of the article of furniture to be constructed. In the construction of a desk of the character shown in Fig. 1, eight of these supports will be employed, four in the front and four directly opposite them at the rear. Each of these supports consists of a tube provided with a longitudinal slot 11, the arrangement of the tubes to form the construction shown being such that the slot in a front support will be opposite and in line with the slot in the tubular support immediately in rear of said front support. The desk shown is provided with end walls and a rear wall, one of the end walls being shown in Fig. 1 and being indicated by 12. The rear wall referred to is indicated by 13. These inclosing walls are each made of a metal sheet.

Each end wall 12 is provided with an inwardly-turned flange 14 at one end and a corresponding flange 15 at its other end, such flanges being of sufficient width to extend across the slots in the tubular supporting standards at one of the front and rear corners of the desk and to leave the face of the sheet substantially in line with the outer sides of said standards, as is clearly shown in Fig. 2. These end walls 12 are secured to the said corner standards by means of bolts 16 that project through the slots in the standards and through suitable openings in the said flanges 14 and 15, each bolt being retained in place by a nut screwed upon it, the head of each bolt lying within a standard and preferably being conical in shape so as to approximately fit the inner face of the standard. It is evident that by this construction the plate forming the end wall 12 can be very firmly secured in place and can, before the nut is tightened up, be adjusted up or down as may be required, so that it



can be set in relation to the two standards in the exact position desired. Each end wall 12 is also provided with a flange along its upper and lower edges (see Fig. 3), the upper flange being indicated by 17 and the lower flange by 18. Being thus flanged along all four edges, the sheet is given great stiffness. In addition to its function as a stiffener, the upper flange 17 serves as a means through which screws 19 or other fastening devices can be passed to secure the desk top 20 in place. This desk top 20, as shown, is made of two layers, the upper one forming a fine finish for the desk. It is obvious that a single thickness of material would suffice, of course, for the top.

Referring now to the rear wall 13, it will be noted (see Fig. 4) that it is provided with upper and lower flanges indicated respectively by 21 and 22, which serve to add stiffness to the plate, the upper flange serving also as a support for the top 20 through which flange screws 23 or other fastening devices may be passed into such top. The ends of this rear wall are not turned, but, as clearly indicated in Figs. 2 and 4, its ends lie against the inwardly-turned flanges 15 of the end walls 12 and are secured in place by the same bolts 16 that secure such end walls to the rear tubular supports 10.

In the piece of furniture represented in Fig. 1, it will be noted that the desk is provided with drawer spaces at each side of the central portion of the desk, as is common in long desks. Each drawer space I have shown inclosed by providing at the inner side of each space a wall formed of a plate that is constructed in all respects like the end wall 12, and which is secured in place to the adjacent tubular supports exactly as already described for such end wall 12. Inasmuch as the construction and method of attachment of these inside inclosing walls for the drawer spaces are exactly the same as the construction and method of attachment of the end walls 12, I have indicated them and their flanges by the same reference numerals with the addition of the letter *a*. The only difference between the arrangement of the walls 12 and 12<sup>a</sup> with relation to the rear wall 13 is that the rear flange on the wall 12 lies against the outer face of said rear wall 13 instead of against the inner face, but it is perfectly obvious that if desired the rear flanges of both the walls 12 and 12<sup>a</sup> might lie against the inner face of said rear wall 13.

The drawers in the spaces inclosed at the sides by the walls 12, 12<sup>a</sup> and 13, and the top 20, are indicated by 24 and may be of such number in each space as may be desired, and may be of varying depths as usual. Different widths of drawers may be employed, accordingly as the supporting standards 10 at the sides of each space are set closer to

or farther from each other, which may be readily done, as will be appreciated.

Each set of drawers is supported by two frames, each frame being adjustably and removably secured to a single supporting standard 10, as best shown in Figs. 2 and 4. The frames are all constructed and supported alike, and a description of one will therefore suffice. Each frame, in the construction shown, consists of two vertical pieces 25 and 26, such two pieces being connected together by horizontal strips 27, which latter strips form the guiding supports for the various drawers. The frame may be further braced by diagonal strips 28. The frame is arranged with the forward edge of the vertical strip 25 against the inturned vertical flange 14 of the end wall 12, which flange, as already stated, lies opposite the longitudinal slot in one of the front hollow tubes 10. The pieces 25 and 26, when the frame is thus arranged, will not project into the drawer space so as to interfere at all with the insertion or withdrawal of the drawer, but the guide strips 27 do project into such space, as clearly shown in Fig. 3, so as to properly support the drawers. The drawer supporting frame is tightly clamped to its slotted tube 10 by long bolts 29, two of such bolts to each frame being used in the construction shown. These bolts have heads similar to the heads of the bolts 16 which lie in the slotted tube 10, the body of the bolt itself projecting through such slot and through said inturned flanges 14.

On the outer face of each vertical piece 25 is formed a long horizontal slot 30 (see Fig. 3) for each of the long bolts 29 to pass through. The inner end of each of these slots,—that is the end farthest away from the hollow tube 10,—is closed by a flat piece of metal 31 (see Fig. 8) through which the bolt passes and which serves not only as a washer for the nut on the bolt to bear against but by reason of having a turned end 32 which bears against the inner face of the strip 25 serves to prevent any tendency to inward motion of the frame. The advantage of running the long bolts 29 through channels or slots as 30 over having them run through holes bored through the piece 25 from edge to edge is that by merely loosening the nuts on these long bolts sufficiently to enable the turned ends 32 of the pieces 31 to be disengaged from the sides of the vertical strips 25 the entire frame can be lifted from engagement with such long bolts 29, whereas if the bolts extended through holes such as mentioned the frame in order to be disengaged would have to be moved back far enough to be withdrawn entirely off the ends of the bolts, and that would necessitate making the drawer supporting frames shorter in some cases than would be desirable. For example, as shown by Fig. 4, if the slotted



construction described were not employed, the frame could not be pushed back sufficiently far to clear the ends of the long bolts there shown because its rear edge would come in contact with the rear wall 13 or rather with the bolts 16 that are used to secure such rear wall in place.

In the forward edge of the vertical piece 25 of each drawer supporting frame are formed deep recesses, as at 33 (see Fig. 4), into which project the bolts 16 that serve to secure the intumed flanges of the walls 12 and 12<sup>a</sup> to their respective slotted tubes 10.

34 indicates short hollow posts, one for each supporting standard 10, such hollow standards 10 fitting within said posts and being adjustable therein. Each hollow standard is secured within a post by means of a bolt 35 similar to the bolts 16, said bolt 35 projecting through the slot in the standard and through a suitable opening in the hollow post and being tightened to hold the parts by an ordinary nut, as shown.

36 indicates a hole formed centrally through the bottom wall of the hollow post 34 through which a screw, as indicated in Fig. 4, or other fastening device, is adapted to be passed to secure the post rigidly to a floor. By this construction, the means for securing the post to the floor are hidden from view, thus tending to give a neater finish to the device.

Upon the top of the desk I have arranged a set of shelving, the same consisting, in the construction shown, of four shelves 37 each of a length equal to substantially half the length of the desk, above which is placed another shelf 38 of substantially the same length as the desk, the set of shelvings being surmounted by a top-piece 39. The number of short shelves, as well as the number of long shelves, may be varied to suit special conditions. These various shelves are supported by standards 40, the standards being formed in the same manner as the standards 10 hereinbefore described. That is to say, each of them consists of a tube having a longitudinal slot therein. In the construction shown, two of these tubes are employed to support the ends of the shelves and as the lower shelves are shorter than the upper shelf there is required an intermediate set of standards 40. The front and rear shelf-supporting standards have their slots arranged facing each other, and, on each of the standards are arranged shelf-supporting brackets through each of which passes a bolt 41 having its head in the standard, and, in connection with a nut on the bolt, being adapted to lock the brackets against the standard wherever desired, the bolt and nut being like the bolts already described for securing the sides and ends of the desk to the standards 10. At the end of a shelf where no other shelf is to abut, I provide a bracket

like that shown in Fig. 5 where the bracket is indicated by 42 and is provided with a stud 43 adapted to enter a hole formed in the shelf near one corner. Where, however, the ends of two shelves abut, as in the case of the smaller shelves 37 of Fig. 1, I provide a wider bracket like that indicated by 42<sup>a</sup> in Fig. 6, which is provided with two studs 44, each adapted to enter a hole near one corner of each of said abutting shelves. Each of the shelf-supporting standards 40 fits in a short hollow post or socket 45, constructed exactly like the hollow post 34 already described, and which may be secured in place as is said post 34,—namely by a screw or other fastening device passing through a suitable central opening in its base.

The top 39 of the set of shelves may be secured to the standards 40 in any desired manner, although I prefer to secure it by the use of inverted hollow posts or sockets indicated by 46, made and applied as are the pieces 45.

By my invention I am enabled to construct in an economical manner a very strong and serviceable piece of furniture, and, by reason of the manner in which the parts are connected together, such parts can be readily assembled and disassembled, and, by keeping in stock connecting pieces such as walls 12, 12<sup>a</sup>, and 13, of different lengths, a piece of furniture of a standard type can be put together very quickly of any size desired, thus obviating the necessity of keeping on hand large quantities of pieces of furniture of different sizes.

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

1. As an improvement in furniture, the combination with two longitudinally-slotted tubular supporting members, of a piece extending between such supporting members, said piece having vertical flanges at its ends and a horizontal flange at its upper edge, said vertical end flanges being arranged opposite the said slots, a top resting upon said upper flange, and devices engaging the inner faces of said tubular members and projecting through the slots therein and through said vertical flanges to connect said supporting members and the piece extending between them together.

2. As an improvement in furniture, the combination with front and rear supporting members each formed of a tube provided with a longitudinal slot, of end walls and a rear wall, said end walls having end flanges, and means projecting through said flanges and through said rear wall and also through the said slots adapted to connect said supporting members and walls together.

3. An improvement in furniture, comprising in combination a tubular standard having a longitudinal slot, a drawer support arranged opposite said slot, and a device ex-



tending through said slot and engaging the inner face of the tubular standard adapted to clamp the drawer support and standard together.

5 4. As an improvement in furniture, the combination with a standard, of a drawer-supporting frame having a slot or recess in one face and a bolt projecting from said standard and lying within said slot or recess  
10 in said frame, said bolt being adapted to draw said frame toward said standard.

5. As an improvement in furniture, the

combination with a standard, of a drawer-supporting frame having a slot or recess in one face, a bolt projecting from said stand- 15  
ard and lying within said slot or recess in said frame and being adapted to draw said frame toward said standard, and a plate mounted on said bolt and having a turned end engaging said frame.

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