F. J. VOHRALIK.

COMBINATION FOLDING FURNITURE.

APPLICATION FILED AUG. 10, 1918.

1,331,599.

Patented Feb. 24, 1920.

8 SHEETS—SHEET 1.

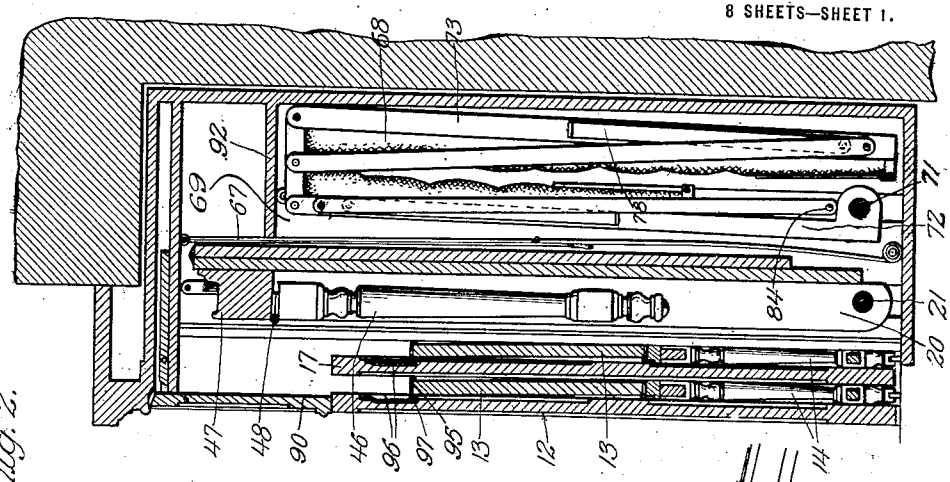


Fig. 2.

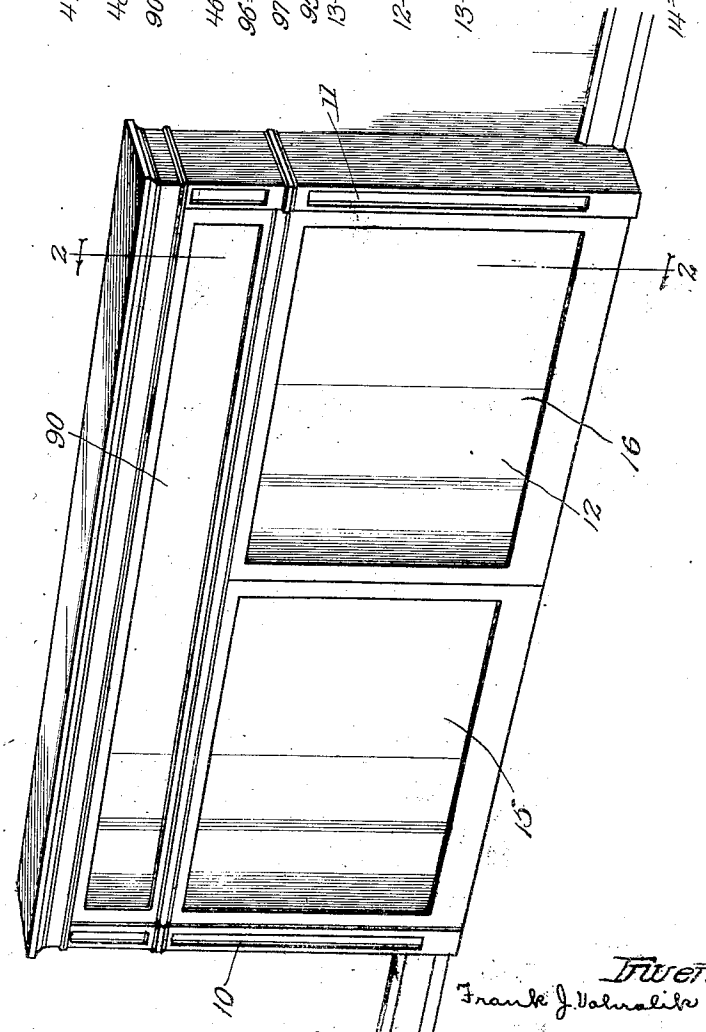


Fig. 1.

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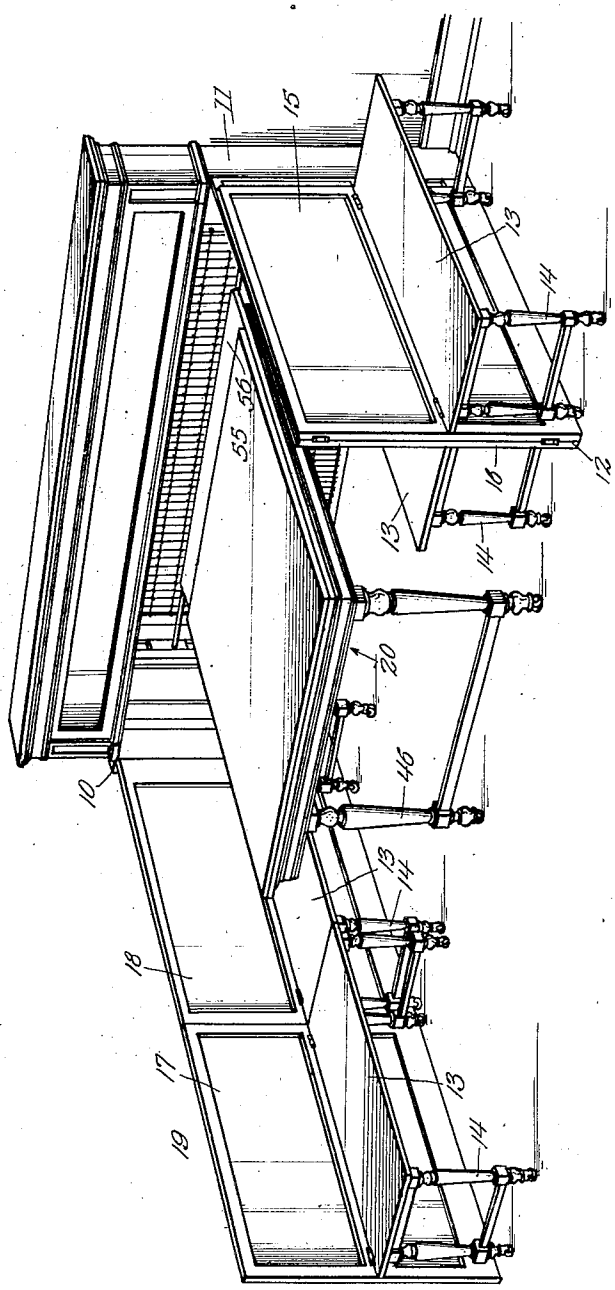


Fig. 3.

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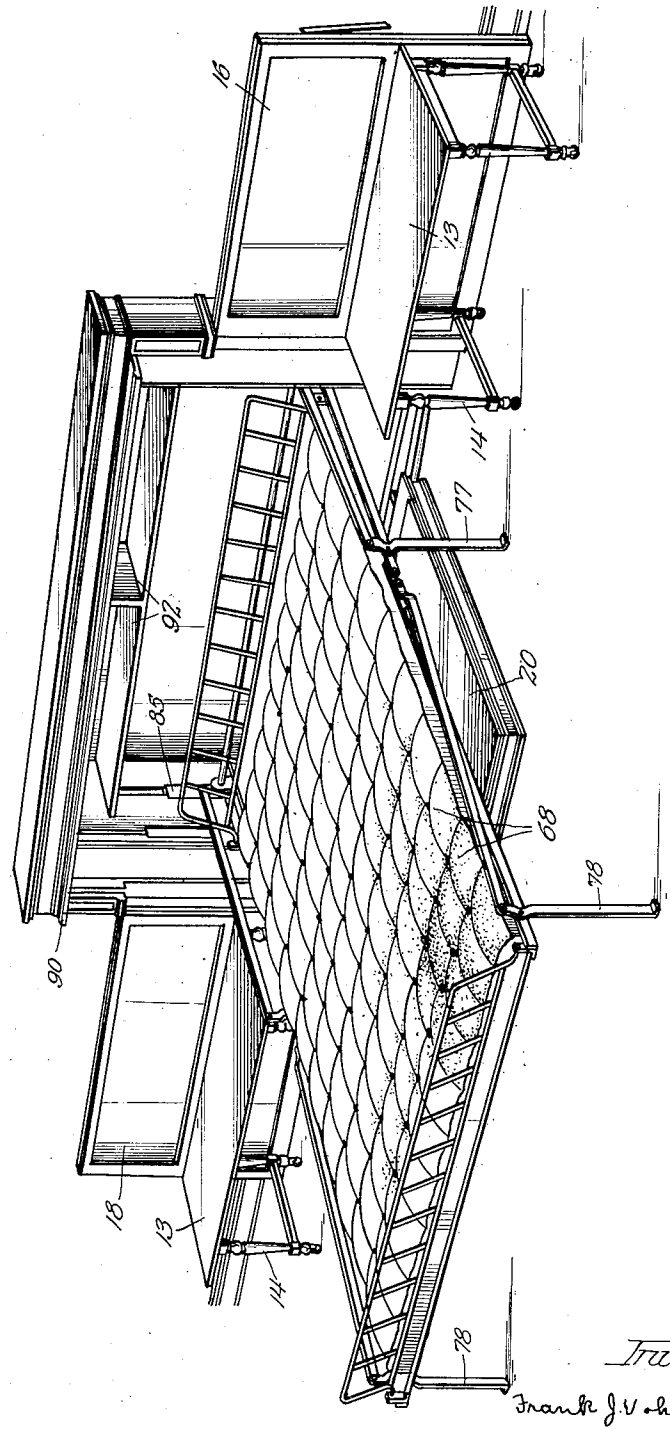


Fig. 4.

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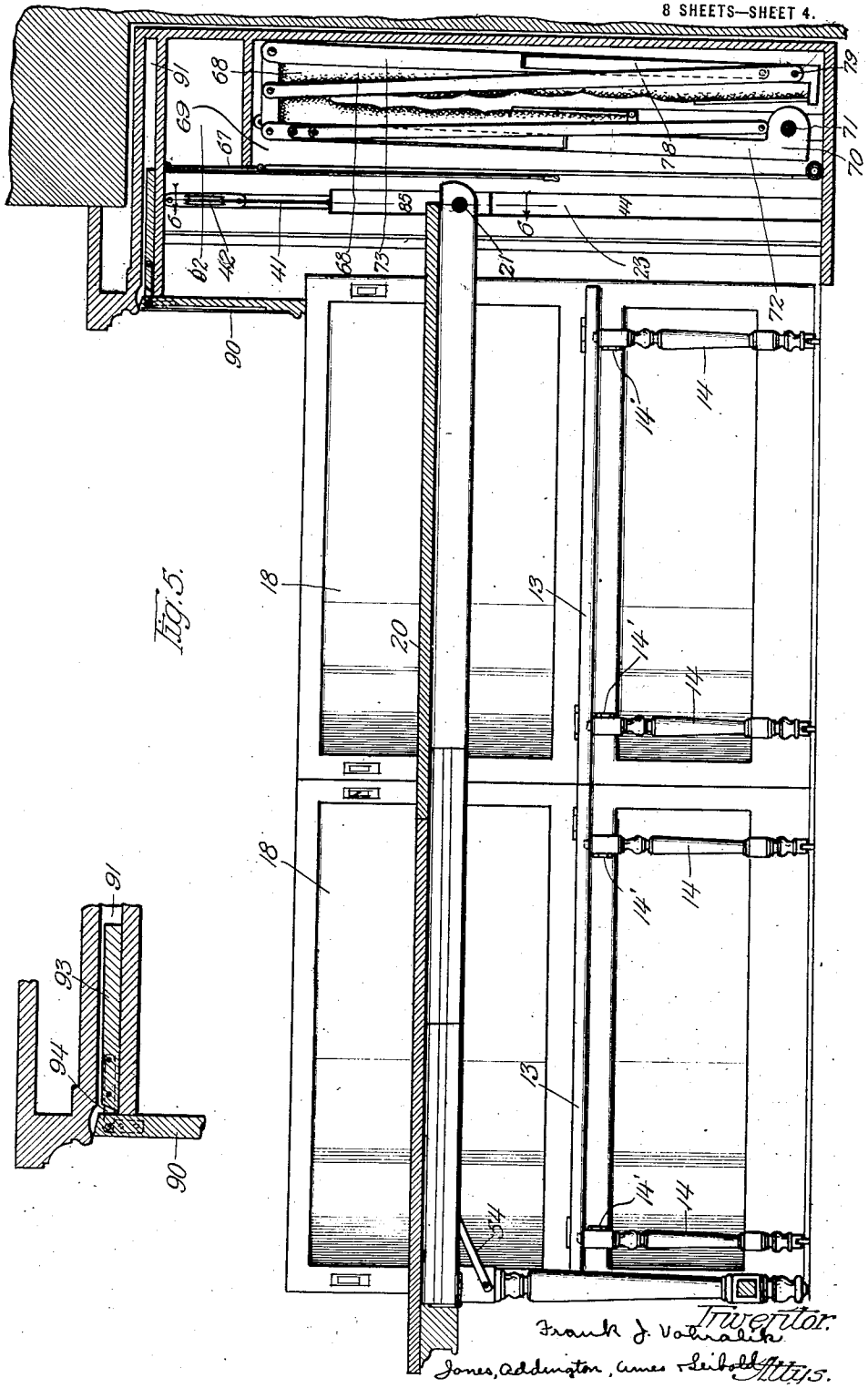


Fig. 5.

Fig. 14.

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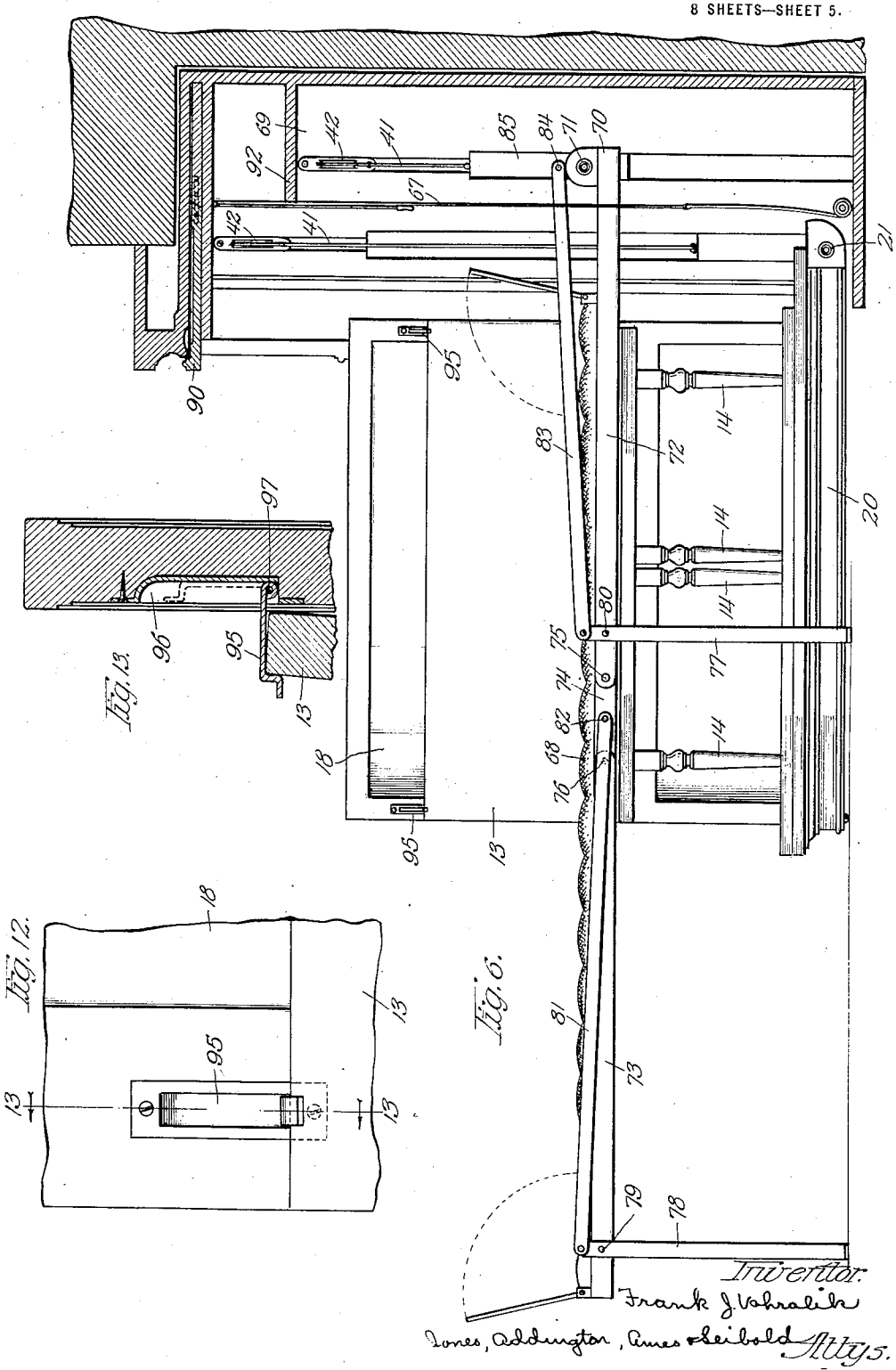
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8 SHEETS—SHEET 5.



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8 SHEETS—SHEET 6.

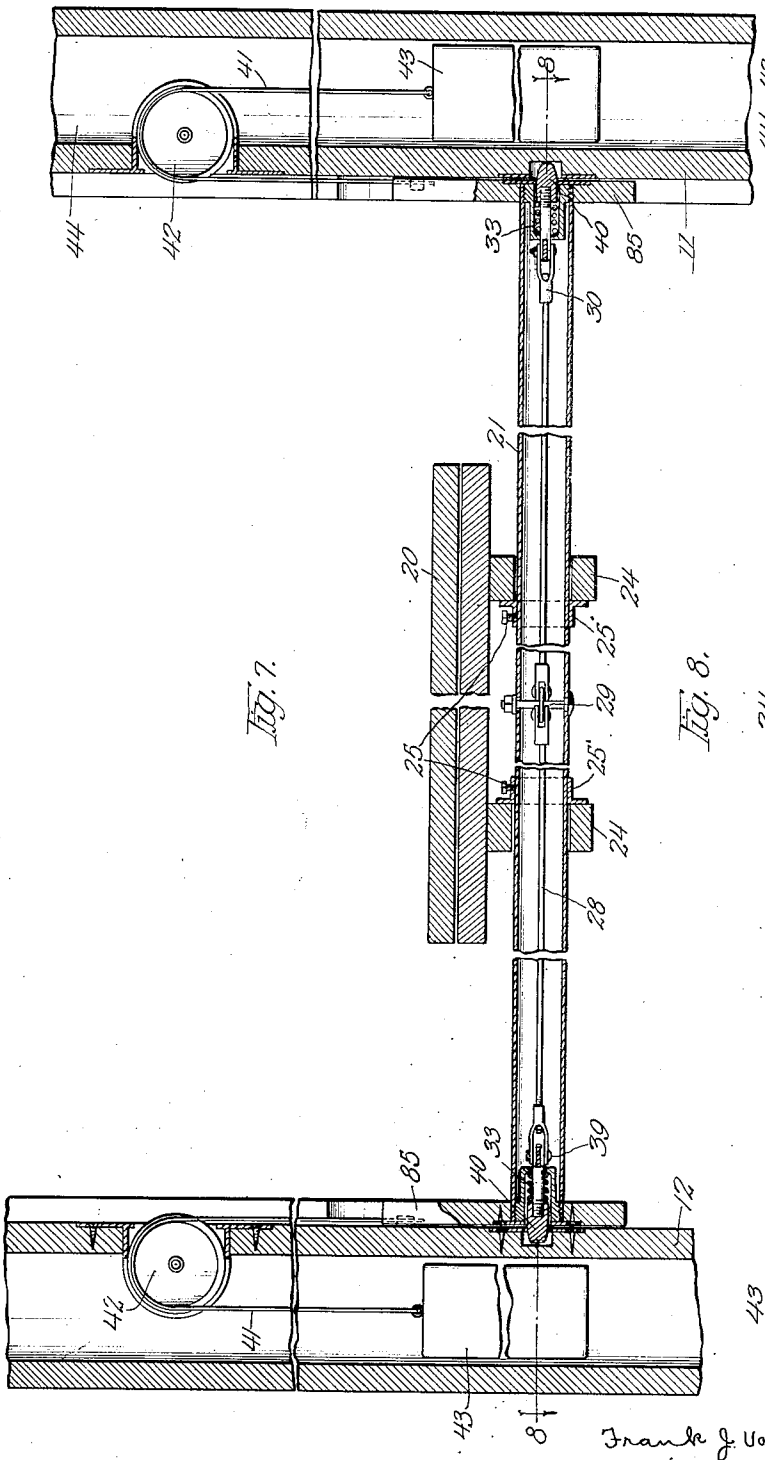


Fig. 7.

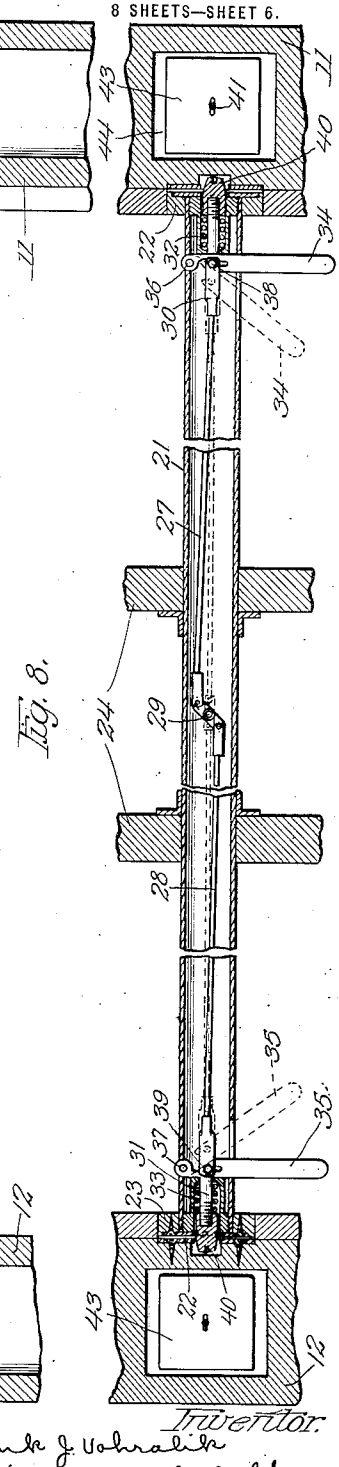


Fig. 8.

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8 SHEETS—SHEET 7.

Fig. 10.

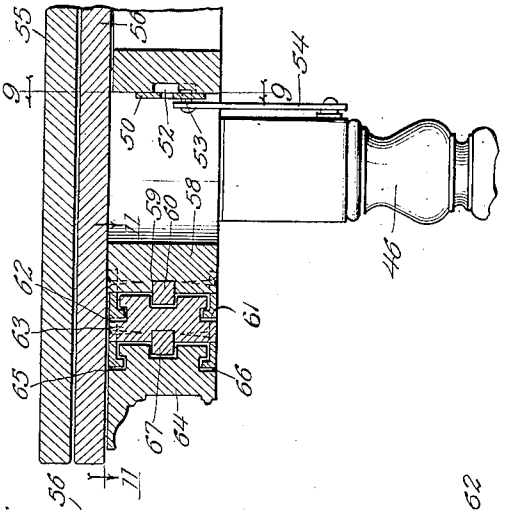


Fig. 11.

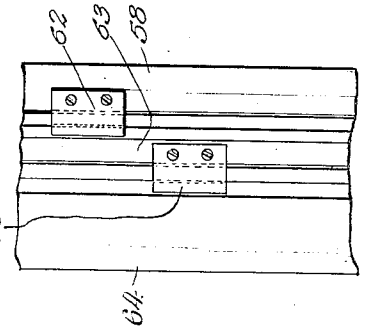
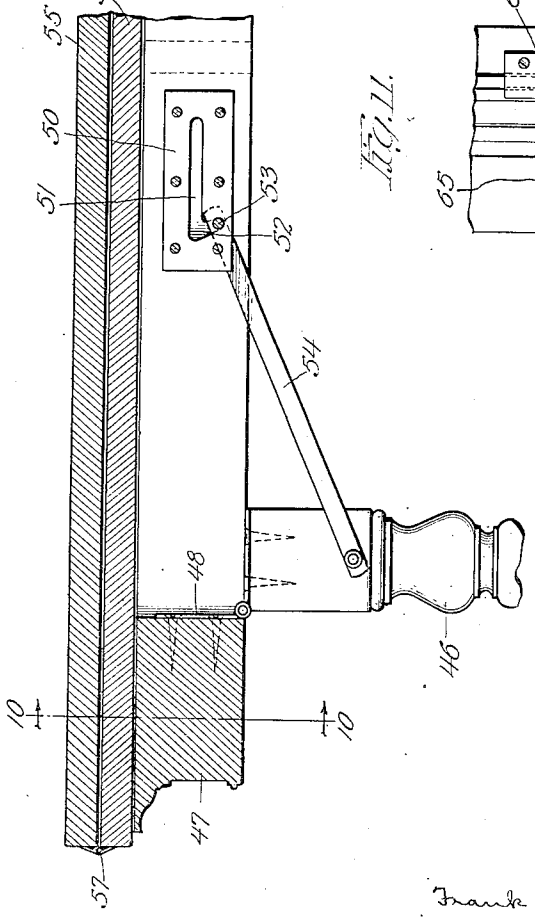


Fig. 9.



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8 SHEETS—SHEET 8.

Fig. 17.

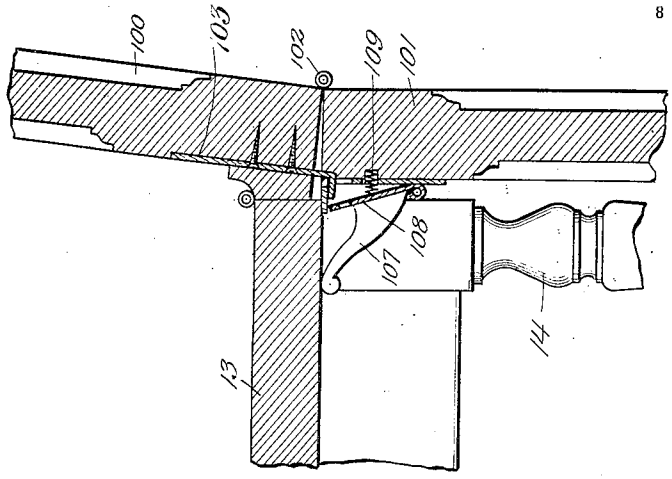


Fig. 16.

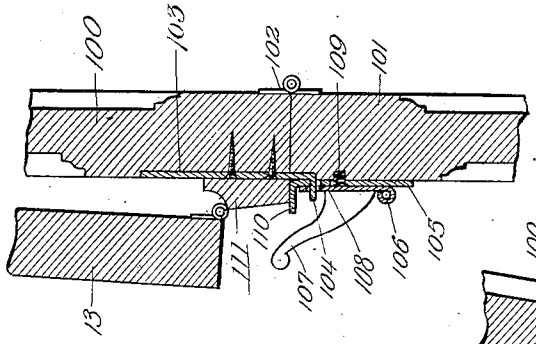


Fig. 18.

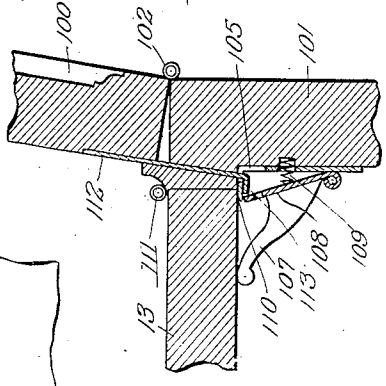
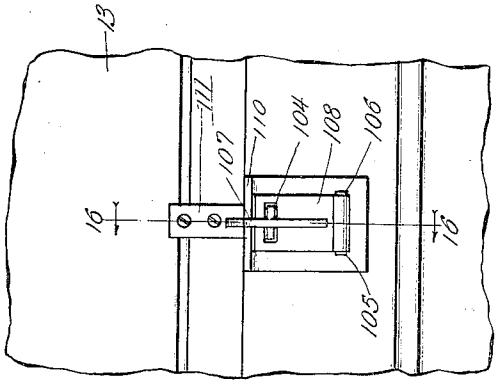


Fig. 15.



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UNITED STATES PATENT OFFICE.

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COMBINATION FOLDING FURNITURE.

1,331,599. Specification of Letters Patent. Patented Feb. 24, 1920.

Application filed August 10, 1918. Serial No. 249,232.

To all whom it may concern:

Be it known that I, FRANK J. VOHRALIK, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented new and useful Improvements in Combination Folding Furniture, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to combination folding furniture, and, more particularly, to a combination folding bed, table, and chair or settee.

One of the objects of this invention is to provide, in one compact structure, the more important and useful articles of household furniture, such as a table and chairs or settees, or a table, chairs or settees and a bed, or any desired combination thereof, the said articles of furniture being capable of being folded up out of the way, and, as desired, separately lowered into position for use.

The new and improved article of combined folding furniture herein described may be made either as an entirely separate and independent article of furniture, which is in no way connected with the building structure and consequently may be moved about at will, or may be constructed as part of a room, being set into the wall of the room, and giving the general appearance of a console or mantel attached to the wall when the furniture is not in use.

The folding table, settee, and bed which enter into my combined article of folding furniture can obviously be designed in any desired style of architecture and upholstered and finished in any manner desired. The table, settees or chairs, and bed can be made in any dimensions and size as desired to accommodate the size of the room in which the furniture is to be placed, and also to furnish the seating capacity desired. Obviously, the tables, settees, and chairs, and beds of my combination furniture can be installed either individually or in combination, and when the complete combination of table, settee, and bed is utilized it may be readily arranged for sitting, dining, or sleeping purposes.

An article of furniture constructed in accordance with the teachings of my invention can be used to great advantage and its utility greatly enhanced in small apartments of one or two rooms in which, by the use of an article of furniture built according to my invention, a single room can be very readily transformed into a dining-, living-, or sleeping-room.

Another object of my invention consists in the production of improved means for folding a table, chair, or settee and bed, or any combination thereof, into a compact structure, the structure being so designed that, when the furniture is all folded up therein, an appearance pleasing to the eye is presented.

Another object resides in the production of a folding chair or settee in which improved means are provided for automatically adjusting the back of the chair or settee to a reclining position when the said chair or settee is unfolded for use.

Another object resides in improved means for increasing the efficiency and reducing the physical effort required to fold up out of the way and again lower into position for use, the various pieces of furniture constituting my combination article of folding furniture.

Other objects will become apparent from the following description and the illustrations, the invention being more specifically pointed out in the appended claims. I have illustrated a specific embodiment of my invention in the accompanying drawings, but obviously the invention is not limited to this specific embodiment thereof, many modifications and applications thereof being included within the scope of the invention as set forth in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1, shows the preferred form and design of console which I utilize with my combination furniture, and shows the appearance thereof when the furniture is all folded inside thereof;

Fig. 2 is a cross-section on the plane represented by the line 2—2 looking in the direction of the arrows in Fig. 1, and illustrates the compact method of placing the furniture within the console compartment;

Fig. 3 is a view in perspective and illustrates the table and chairs or settees lowered into position for use;

Fig. 4 is a view in perspective of the bed lowered into position for use, with the chairs or settees folded up into position as they are utilized for sleeping purposes. This

figure also shows a compartment in the upper part of the folding chamber, which may be utilized for storing bedding, table-linen, etc.;

Fig. 5 is a vertical section through an article of furniture illustrating my combined folding-bed, table, and chair or settee, and shows the table extended for a large seating capacity, the size of the table in this view being twice that of the table shown in Fig. 3;

Fig. 6 is a vertical section of my combined folding furniture with the bed lowered into position for use;

Fig. 7 is a side elevation partly in section, illustrating the control means for lowering and raising either table or bed;

Fig. 8 is a plan view partly in section of the control mechanism shown in Fig. 7;

Fig. 9 is an illustration in detail of the means used for locking the legs of the table in position when the table is lowered into position for use, and is a section on the plane illustrated by the line 9—9 of Fig. 10;

Fig. 10 is a section taken on the plane represented by the line 10—10 of Fig. 9;

Fig. 11 is a section taken on the plane represented by the line 11—11 of Fig. 10;

Fig. 12 is an illustration of a detail of the means used to lock the seat of the chair or settee in position when folded up out of the way;

Fig. 13 is a vertical section taken on the plane represented by the line 13—13 in Fig. 12;

Fig. 14 illustrates the means used for opening and closing the upper inclosing panel of the furniture-inclosing chamber or console;

Figs. 15, 16, and 17 are detailed illustrations of the means utilized for securing an inclined back for the settees or chairs; and

Fig. 18 illustrates a modified means for obtaining this same result.

Referring now to the drawings in detail, and more particularly to Fig. 1, it will be seen that the exterior appearance of my combined folding and collapsible furniture is that of a mantel or console. Obviously, the exterior architecture or design of this inclosing chamber may be adapted to any style of architecture. The end walls of this inclosing chamber are fitted with swinging, preferably hinged, pilasters 10 and 11, whereby the lower portion of the front wall of the inclosing chamber may be swung forwardly and outwardly, as clearly illustrated in Figs. 3 and 4. The lower front wall 12 is rigidly secured to the pilaster 11 and has hingedly secured on the inside thereof the seats 13 of the chairs or settees, and the supporting legs 14 for these seats 13, which are likewise hingedly secured at 14' to the wall 12. The wall or partition 12 consists of two sections divided in the center and hingedly secured to each other. These two sections, 15 and 16, are hingedly secured to each other, whereby the outer section 16 may be rotated through an arc of 180 degrees, so that these two sections will be placed back to back, as clearly illustrated in Fig. 3. The wall or partition 17, secured to the left pilaster 10, and which comprises the two sections 18 and 19 interconnected in the same manner as the sections of the wall or partition 12, is folded into the inclosing chamber in such a manner that it is directly in back of the outer partition or wall 12 and its associated folding or collapsible appurtenances.

When the settees or chairs are folded into the inclosing chamber, the supporting legs 14 are folded back against the supporting walls 12 and 17, about their hinged supports, and the seats 13 are folded up about their hinged supports, against the upper portions of the supporting partitions 12 and 17.

The manner in which the supporting legs 14 and the seats 13 are folded up against the supporting partitions 12 and 17 is clearly illustrated in Fig. 2. As shown in this figure, when the legs and seats are folded back against the supporting partitions, these partitions and the associated seating appurtenances can be compactly inclosed in the housing chamber.

As hereinbefore described, the partitions or supporting walls for the chairs, 12 and 17, are divided and hingedly interconnected at the middle, this provision being made so as to accommodate the seating capacity for the size of the table which it is desired to use; the table being adapted to a capacity of from two to ten people, as hereinafter described. This capacity of ten people as illustrated in my preferred embodiment thereof herein illustrated and described, can obviously be increased or decreased, as desired. Likewise, in the preferred embodiment shown, the chairs or settees are arranged to be folded into the cabinet so as to show a plain panel on the outside of the mantel or inclosing chamber. However, it will be obvious that the feet and supporting legs for the chairs could be readily attached to the opposite side of the supporting wall or partition, so that when the cabinet or inclosing chamber is closed the settees would appear on the outside of the cabinet, in which case the chairs or settees could be used for a seat in a living-room when the rest of the furniture is folded up and inclosed within the cabinet.

Located in the cabinet directly back of the chairs or settees is the table 20. This table is rotatably secured to a horizontal rod 21, which is slidably fitted in grooves 22 and 23 provided therefor in the end walls 11 and 12, respectively, (see Figs. 7 and 8). The preferred method of securing the table

20 to the rod 21 consists in attaching to the bottom of the table 20 two wooden strips, such as 24, which are perforated to accommodate the supporting rod 21. Secured to the pipe 21 by any suitable means such as set screws 25 are metallic collars, such as 25', said collars engaging the wooden strips 24 in such a way as to prevent movement of the strips longitudinally of the rod 21. The strips 24 are freely rotatable on the rod 21, so that the table 20 can be rotated about said rod. The rod 21 is preferably made from a pipe section, the interior of which is used to inclose the mechanism, which is used to hold the table in the position it assumes when folded up within the cabinet, and in the position that it acquires when pulled down into position for use. This locking mechanism consists of the rods 27 and 28 inclosed within the pipe 21 and attached at the center of said pipe at diametrically-opposite positions to a disk 29 rotatably attached to the pipe 21. The other ends of the rods 27 and 28 are secured to plungers 30 and 31, respectively, said plungers being spring-pressed by means of the inclosing spiral springs 32 and 33, respectively, so that said plungers will tend to assume their extreme outward position, this position being illustrated in full lines in Fig. 8.

Secured to either end of the pipe or rod 21 and extending through slots therein are the handles 34 and 35, these handles being secured to the pipe by the pivot connections 36 and 37, respectively, and being in slidable engagement with the plungers by the pins 38 and 39, respectively.

It will be evident from the foregoing description that, when either handle 34 or 35 is moved from the full line position shown in Fig. 8 to the broken line position shown in said figure, the two plungers 30 and 31 will be retracted into their inward position shown in broken lines in Fig. 8.

The slots 22 and 23 provided in the end walls 11 and 12 are each provided with two apertures, such as 40, one at the bottom, used to hold the table in position when it is folded up in the cabinet, and one near the top, which is utilized to permanently hold the table in position when it is folded out in front of the cabinet for use. These apertures 40 in the slots 22 coöperate with the plungers 30 and 31 to hold the table in position. A chain or cable, such as 41, is fastened to each end of the rod or pipe 21, such cable passing over a pully such as 42, and secured at the other end to a counterweighting balance 43. These counterweights 43 are concealed in pockets or chambers, such as 44, situated on each side of the inclosing cabinet.

It will be evident from the preceding description that the pipe or rod 21 acts as a support for the end of the table which extends into the inclosing cabinet, and for the purpose of supporting the end of the table which is drawn from the cabinet, a pair of legs hingedly secured to the front end of the table are provided.

The supporting legs 46 for the table are secured to the front apron 47 thereof by means of hinges, such as 48, and are folded under the top of the table to a position substantially parallel thereto and substantially perpendicular to the front apron 47 when the table is folded up and inclosed in the cabinet, as illustrated in Fig. 2. However, when the table is withdrawn from the cabinet and the top thereof assumes a horizontal position as illustrated in Figs. 3, 5, and 9, the hingedly supported legs 46 will rotate about the hinge pivot of the hinge 48 until they assume a position substantially perpendicular to the top of the table 20. When these supporting legs 46 of the table acquire this perpendicular position, they will be locked in this position automatically by the mechanism illustrated in detail in Figs. 9 and 10. This mechanism consists of a metallic plate 50 rigidly secured in any desired manner to a strip secured to the bottom face of the table top. This plate 50 is provided with a slot 51 having an angular offset 52. Riding in the slots 51 and 52 is a pin 53 secured to a rod 54, the under end of which is pivoted to one of the legs 46 of the table. With this mechanism, in order to fold the legs 46 underneath the table, it is necessary to raise the rod 54 out of the angular slot 52, after which the legs 46 may be rotated about the hinge pivot, at which time the pins 53 move along the longitudinal slots 51 in the plates 50. The operation of folding the legs 46 of the table into their collapsible position underneath the table is, consequently, a manual operation. However, when the table is moved from the collapsed position in the cabinet, as shown in Fig. 2, to the extended position ready for use, as shown in Figs. 3 and 5, the table-top swings from a vertical to a horizontal position, and, as it gradually moves from one of these positions to the other, the legs 46 will swing about the hinge and will carry with them the rod 54, which will permit the pin 53 to slide in the slot 50 until it reaches the extreme end thereof, when the pin will drop into the angular slot 52 and thereby lock the legs 46 in position substantially perpendicular to the table, and in a position suitable for supporting the table.

When the table is thus swung out of the cabinet it is of a size suitable for seating six persons, two of whom can be conveniently seated on either side of the table and two at the front end of the table. The chairs or settees for the people sitting at either side of the table are provided by the collaps-

ible chairs or settees unfolded from the cabinet before the table is let down, as hereinbefore described, and the chairs for the front of the table may be any suitable chairs, not constituting a part of the collapsible equipment. The table at this time is of a size substantially that shown in Fig. 3, and the chairs or settees may be arranged in any desired way, either as shown at the left of the table in this figure, or at the right thereof, the collapsible chairs for this seating capacity being preferably arranged as shown at the right in Fig. 3, the seats 13 drawn back against the supporting bracket 15, the supporting legs 14 being likewise turned back against the said supporting partition 15.

I prefer to make the table 20 of the extension type, so that any desired seating capacity may be obtained. Ordinarily, a table having a capacity twice that shown in Fig. 3—that is, one which will accommodate ten persons conveniently—is sufficiently large to meet social requirements, and I prefer to make the tables of my collapsible furniture with but two seating capacities—one for six and one for ten persons—but obviously the table can be readily designed for any size desired. The extension feature of my improved collapsible table is obtained by the means illustrated in Figs. 9 and 10. As there illustrated, the top of my table consists of two sections 55 and 56 hingedly secured to each other by concealed hinges at 57. Secured to the lower section 56 in any suitable manner (preferably by screws) is a runner 58. This runner is fitted with a longitudinal groove 59, in which is securely fastened a tongue 60. Secured to the runner 58 are the metallic brackets 61 and 62, which provide a sliding surface for the extension runner 63. The extension runner 63 is secured to the apron 64 by means of metallic brackets 65 and 66, and a tongue 67 similar to that hereinbefore described for the interconnection between the runner 58 and the extension slide 53.

From the foregoing description it will be evident that in order to extend the table it is merely necessary to draw out the front apron the full extent, whereupon the apron 64 and the extension slide 63 will move upon their respective sliding surfaces until the front legs of the table have been moved out a distance sufficient to accommodate the top section 55 of the table. When the front supporting legs 46 and the side aprons of the table have been thus extended, the top section 55 of the table is swung about the hinge 57 and the table assumes its full-length position, as shown in Fig. 5.

The operation of lowering the table into its horizontal position, suitable for use, from the collapsed position in the cabinet and then folding up the table into the cabinet, may now be briefly described as follows: The first operation in lowering the table is to move either one of the handles 34 or 35 so as to unlock the rod or pipe 31 in order that it may be free to move in its coöperating slides, and at the same time giving the top of the table a slight movement forward so as to raise the said rod 21 to a position in which the locking bolts 30 and 31 will not be in alinement with the apertures cut in the slots for locking the supporting rod or pipe for the table in position.

When the table has been thus moved, the counterweights 43 will balance the table. The table is now brought forward, the weight thereof acting on the counterbalancing weights will decrease, and these weights will consequently move the rear end of the table upwardly. At the time the table is lowered the front legs 46 thereof will automatically swing into their proper vertical position. When the legs 46 are swung into proper position they will be locked in such position, as hereinbefore described. When the counterbalancing weights have raised the rear end of the table to the proper height, the locking bolts 30 and 31 will be moved forward into their coöperating apertures cut in the slots in which the rod 21 moves, at which time the table will have assumed the position illustrated in Fig. 3. The table is now half open. If it is desired to extend the table to its full length, the front legs thereof are drawn forward with the extension slides, as hereinbefore described, and the hinged section 55 opened and rested on these extension slides.

To fold the table back into position, the foregoing operations are reversed; that is, the section 55 of the table is first folded back, then the front legs 46 and the extension slides are slipped back to their non-extended position and one of the handles 34 or 35 is then operated to release the locking bolts 30 and 31, at which time the table is slightly raised to move the said bolts out of the position of alinement with their co-operating apertures in the slides, after which the front legs 46 of the table are manually restored, as hereinbefore described. The front end of the table is then gradually raised, and, due to this gradual raising of the table, the weight thereof exerted on the counterbalancing weight is gradually increased; and, since, the table is just slightly heavier than the weights, the table will gradually push the rod 21 into the position it assumes when the table is collapsed in position in the cabinet, at which time the locking bolts 30 and 31 will move into their coöperating apertures at the bottom of the slides, thereby permanently locking the table in this position.

Obviously, if so desired, the combination of the collapsible table and chairs or settees

as hereinbefore described may be readily used in this dual combination, without the addition of the collapsible bed hereinafter to be described.

When a combination of table or settees or chairs is used without the collapsible bed, I prefer to utilize the space on each side of the table for a cabinet, which may be arranged with shelves to receive china, silverware, linens, and other necessary articles. In this case the back of the cabinet can be readily arranged for serving purposes, whereby the food can be placed on the table directly from the pantry or kitchen. In this case the back of the cabinet is fitted with an opening which leads direct to the pantry or kitchen, said opening being fitted with a door which is hinged at the bottom and which, when lowered, serves as a bridge for spanning the space intervening between the pantry opening and the rear edge of the table, and which, when thus lowered, serves as a suitable and convenient support for passing the food from the pantry or kitchen on to the dining-room table.

When the combination of collapsible settees or chairs, table, and bed is used, I prefer to interpose between the table and the chamber inclosing the bed in the inclosing cabinet, a spring roller curtain, such as 67, thereby obscuring the bed from view when the table is lowered into position. Obviously, any type or variety of screening means may be used for this purpose.

As will be readily observed from Figs. 2, 5, and 6, the collapsible bed 68 is folded at substantially its middle for the purpose of reducing its size so that it will conveniently fit into the bed-inclosing chamber 69. The rear side-rail sections 70 of the bed are secured to a horizontal cross-bar or pipe 71 in the same manner as the table is secured to the cross-rod 21. Likewise, the bed is counterbalanced the same as the table, and the same locking mechanism is used to lock the bed in position when it is lowered for use.

The bed is locked merely in the position in which it is used, there being no necessity for locking it in its other position, it being stably held in this position by the inclosing chamber and its weight.

The table 20 is locked in the chamber in its collapsed position because it is necessary to lower said table to the floor, as shown in Fig. 6, when it is desired to unfold the bed 68 from the inclosing cabinet. When the table is thus lowered to the floor, as shown in Fig. 6, the weight that it exerts on the cross rod 21 is very materially reduced, and consequently if the table cross-rod 21 were not locked when the table was lowered to the floor (as shown in Fig. 6) the counterweights which coöperate with the table would tend to pull the rear end of the table upwardly. It is for this reason that it is necessary to lock the table when the rear end thereof is in its lower position; and, obviously, this locking operation is not necessary in a cabinet of collapsible furniture of this type in which only the settees or chairs or collapsible table are used.

As hereinbefore stated and as clearly illustrated in Figs. 2, 5, and 6, the bed consists of two sections 72 and 73, each of which is pivotally connected to an interconnecting link, such as 74, by means of pivots, such as 75 and 76. Each of the sections 72 and 73 is fitted with a supporting leg, such as 77 and 78, respectively, the legs 78 being pivotally secured to the section 73 at 79, and the legs 77 being pivotally secured to the section 72 at 80. Pivotally secured to the upper end of the legs 78 is a connecting link 81, which is pivotally secured to the center of the interconnecting link 74 at 82. The legs 77 are connected at their upper ends to an interconnecting link, such as 83, which is pivotally secured at 84 to a slide slot 85, which moves up and down with the rod 71. In order to reach the bed, it is obvious that the partition containing the chairs or settees must first be swung out, after which the table must be rotated around its rod 21 to a position on the floor as indicated in Fig. 6. The curtain 67 must then be lowered, when the bed is accessible.

To lower the bed, it is swung forward in the manner hereinbefore described for the table. When the bed is thus brought forward the pivoted connecting link 83 automatically rotates the legs 77 of the section 72 of the bed to a position in which they will be perpendicular to the section 72 and act as a support therefor. When the bed has been lowered to this position, the second section 73 is raised and rotated together with the interconnecting link 74 about their respective pivots, and as the section 73 is gradually rotated about its pivot 76, the link 81 will rotate the legs about their pivot 79 until they take a position vertical to the section 73, in which position they serve as suitable supports for the second section 73 of the bed.

During the initial lowering movement of the bed—that is, when the bed is lowered out of the inclosing chamber 69—the lower end of the bed, which is arranged in the inclosing chamber, is raised, due to the action of the counterbalancing weight, in a manner identical to that described for the table. When this end of the bed reaches the proper level, bolts similar to those used for the table snap into coöperating apertures in the slides in the sides of the cabinet, and lock this end of the bed in this position.

To return the bed to the cabinet, the bed is first folded back, during which movement the legs 78 are automatically returned to their folded-in position by the action of the connecting links 83. The rear end of the

bed is then unlocked by moving a handle, similar to 34 and 35 used for the table, to withdraw the locking bolts from their cooperating apertures, after which the bed can be readily swung into position in the inclosing cabinet 69 under the influence of the counterbalancing weights. As the bed is gradually swung to its vertical position, the gravitational force exerted thereby is slightly greater than that of the counterbalancing weights, and the bed will consequently gradually slide into its position in the inclosing cabinet 69. To completely close the cabinet, the curtain is next drawn into position, the table swung up into its vertical position, and the partitions which support the chairs are likewise folded into position.

The top horizontal panel 90 of the inclosing cabinet is arranged so it may be swung upwardly and pushed back into a cooperating slide 91 in the top portion of said cabinet (see Figs. 5 and 14) in order to make accessible a shelf and chamber 92, which may be utilized for storing linen, bedding, or any other material desirable.

The mechanism utilized in order to open this panel so as to make the chamber 92 accessible is illustrated in detail in Fig. 14. As there illustrated, the panel 90 is secured to a sliding follower 93 by means of concealed metallic hinges, such as 94, the purpose of the sliding follower 93 being to hold the panel 90 in position when it is completely withdrawn from the slide 91 and dropped into the vertical position which it assumes when it is utilized to obscure the interior portion of the upper part of the cabinet.

In order to open the upper portion of the cabinet, the panel 90 is raised to a horizontal position, so that said panel is in longitudinal alinement with the follower 93, and the panel may then be pushed back into the slide 91, it being guided in this slide by means of the follower 93. To return the panel 90 to its closed position, the above operation is reversed.

In order to hold the seats 13 of the settees in folded position—that is, up against the partitions with which they coöperate—these partitions are fitted with coöperating catches 95, such as illustrated in Figs. 6, 12, and 13. These catches 95 are embedded in apertures 96 fitted in the partitions, whereby the catches 95 when folded into their vertical position (shown in broken lines in Fig. 13) will be flush with the front surfaces of the partitions. In this position, being flush with the front surfaces of the partitions, these catches will neither interfere with the closing nor interfere with the comfort of a person sitting on the settee and leaning back against the partitions. The catches 95 are pivotally secured at 97 to a metallic plate embedded in the apertures 96 and secured to the partitions in any suitable manner. The catch 95 is manually rotated about the pivot 97 and turned into horizontal position to hold the seat 13 in position when the seat has been swung upwardly against the partition, the catches 95 being rotated into vertical position into the apertures of the partition shown in dotted lines in Fig. 13 when the seats are rotated into their horizontal position for use.

The settees or chairs may be used with straight backs, as illustrated in Figs. 3, 4, 5, and 6; or the settees may be adapted for a reclining back by mechanism which is illustrated in Figs. 15, 16, and 17. As there illustrated the upper section of the partition 100 is secured to the lower section 101 thereof, by a hinge 102. The upper section 100 is fitted with a metallic plate 103, which is provided with a forwardly-extending lug 104. Secured to the lower section 101 is a metallic plate 105, to which is pivotally secured at 106 an upwardly- and forwardly-extending arm 107. The upper portion of the arm 107 is curved and projects upwardly into a position slightly above the plane assumed by the lower surface of the seats when swung into horizontal position for seating purposes. The arm 107 is integral with the plate 108, the rear face of which is held in contact with the plate 105 by means of a spiral spring 109. The plate 108 is apertured to receive the forwardly-extending lug 104 of the plate 103 when the arm 107 and the plate 108 are in normal position, which they assume under the influence of the spring 109. The plate 108 has a forwardly-extending projection 110, which rests under a block 111 secured to the plate 103 and hence to the upper portion 100 of the partition, the seats 13 of the settee being hingedly secured to the block 111.

It will now be evident that as the seat 13 is lowered to its horizontal position for seating purposes, the lower surface thereof will strike the upper curved portion of the arm 107, thereby forcing this arm 107 forward about the pivot 106, which carries with it the plate 108, this movement being so adjusted that the plate 108 will move forward to the position shown in Fig. 17, in which the forwardly-protruding arm 104 of the plate 103 will be free of the aperture in the plate 108. As the seat 13 continues to move downwardly after the forwardly-projecting arm 104 is clear of the aperture in the plate 108, the seat 13 will exert a lever action on the block 111, thereby raising said block and swinging the upper section 100 of the partition into the inclined position shown in Fig. 17.

The angle of inclination which will be assumed by the section 100 of the partition may be regulated by the lever action exert-

ed by the seat 13 due to the difference in thickness between this seat 13 and the block 111. For ordinary purposes, the angle of inclination shown in Fig. 17 has been most satisfactory for the purposes of comfort and operation, but obviously this angle of inclination can be readily varied to suit the circumstances of the case.

In order to hold the upper section 100 of the partition and its coöperating seat 13 in position, and to relieve the coöperating parts thereof from the strains which would be exerted thereon when an individual leaned against the back 100 of the settee, the forwardly-protruding arm 104 of the metallic strip 103 projects through an aperture in the plate 105, and when the section 100 has reached the maximum angle of inclination, the forwardly-protruding lug 104 will have been raised in this aperture to a position where it contacts with the forwardly-extending arm 110 of the plate 108. In this position the strain exerted against the section 100 obviously will be carried by the coöperating metallic bars 103 and 105, due to the contacting surfaces of the forwardly-projecting lug 104 and the forwardly-projecting arm 110 of the respective plates.

From the foregoing description it will be evident that with the mechanism hereinbefore just described, the backs of the settees will automatically assume an angle of inclination when the seats 13 of the settees are lowered to their seating position. Likewise, when the seat 13 is raised to its upward position, the upper section 100 of the partition will return to its vertical position and will be locked in this position by the coöperative action of the forwardly-projecting lug 104 and the aperture 108, said plate being withdrawn to its normal position against the plate 105 by the spiral spring 109.

Fig. 18 shows a modified form of mechanism for obtaining an inclined-back settee. In the mechanism shown in this figure, the inclination for the back is not secured by an automatic action, but the back is forced into its inclined position manually when the seat 13 is lowered. As illustrated in this figure, the seat 13 is secured by means of a hinge 111 to the lower section 102 of the partition, and the upper or inclining portion 100 of the partition is secured to the lower section 101 of the partition by a hinge 102. The upper section 100 of the partition is fitted with a metallic plate 112 which carries a forwardly-extending lug 113. The plate 112 is loosely and slidingly fitted between the front face of the section 101 of the partition and the seat support 112^1. The lower section 101 of the partition is fitted with plates 105 and 108 and a forwardly-projecting arm 107 identical to those described in connection with the mechanism disclosed in Figs. 15, 16, and 17.

The operation of the inclined-back settee illustrated in Fig. 18 may be briefly described as follows: When the seat 13 is lowered to its sitting position, it will first strike the arm 107 and will move said arm forward until the aperture in the plate 108 has been moved out of the path of the forwardly-extending lug 111 of the plate 112 secured to the upper reclining section 100. When the forwardly-extending lug 113 has been thus freed of the retaining aperture in the plate 108, the upper section 100 of the partition, together with its associated plate 112, is free to move about the hinge 102, and the said section can consequently be pushed back into its reclining position. The extent of this movement is limited by the forwardly-extending lug 113, which will contact with the forwardly-extending plate 110 of the plate 108 when the section 100 has been moved to the extreme limit of its inclination. When the seat 13 is moved to its upward or collapsed position and the reclining back 100 of the settee is returned to its vertical position manually, the plate 108 will snap back into place against the plate 105 under the influence of the spring 109, and the upper section 100 of the partition will be locked in this position due to the coöperating action of the aperture in the plate 108 and the forwardly-extending lug 113 of the plate 112.

As will be evident from the foregoing description, collapsible furniture constructed in accordance with my invention as herein illustrated and described readily lends itself to a great variety of forms and applications. Thus, the chairs or settees may be readily used in the manner illustrated to the left in Fig. 3 or to the right in Fig. 3, or in the manner illustrated in Fig. 4. The settees may also be readily used in the folded condition shown in Fig. 4, with the table 20, and in the position shown in Fig. 3. Likewise, the bed, chairs, and table may be designed in any desired form, the style thereof being readily adapted to any period desired. Notwithstanding that the sides and legs of the bed, in my preferred embodiment thereof herein illustrated and described, are shown as plain uncovered metal sections, it will be obvious that these metal sections can be readily covered with wood to conceal the metal sections, the wood being given any desired design or construction.

While my invention may readily be used in a large variety of forms and in many places, its greatest utility will be found in apartments, where, with the collapsible combination of my invention, a single room can be very rapidly transformed into either a living-, dining- or sitting-room. Inasmuch as the invention is adapted to such a large variety of forms and applications, it will be obvious that it is not limited to the specific

form and application thereof herein illustrated and described, the spirit and scope of the invention being limited only by the scope of the following claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. As a new article of furniture, the combination of an inclosing cabinet, a collapsible folding bed, table, and settee compactly inclosed therein, said table and bed being rotatably secured to sliding rods fitted in said cabinet, and said settees being collapsibly secured to the front portion of said cabinet.

2. As a new article of furniture, the combination with an inclosing cabinet of a collapsible bed, table, and settee compactly inclosed therein, and means whereby either the bed, table, or settees may be independently withdrawn from said cabinet and placed in position for use, said table and bed being rotatably secured to sliding rods fitted in said cabinet, and said settees being collapsibly secured to the front portion of said cabinet.

3. A new article of furniture comprising, in combination, an inclosing cabinet, a swinging partition for opening and closing said cabinet, seats associated with said partition, said seats being foldably attached thereto, a table inclosed within said cabinet back of said partition and rotatably secured to a sliding rod fitted in said cabinet, foldable supporting legs associated with said table, and a collapsible bed positioned in said cabinet back of said table.

4. A new article of furniture of the character described comprising, in combination, an inclosing cabinet, guiding grooves fitted in the sides of said cabinet, a rod slidably and non-rotatably fitted in said grooves, a collapsible bed rotatably secured to said rod, and means whereby the end of the bed secured to said rod will be raised in said cabinet when the other end of the bed is withdrawn from said cabinet to lower said bed into position for use in front of said cabinet.

5. A new article of furniture of the character described comprising, in combination, an inclosing cabinet, guiding grooves fitted in the sides of said cabinet, a rod slidably and non-rotatably fitted in said grooves, a collapsible bed having one end thereof rotatably secured to said rod, counterweights secured to said rod, said counterweights serving to raise the end of the bed secured to said rod in said cabinet when the other end of said bed is withdrawn from said cabinet and lowered into position for use.

6. A new article of furniture of the character described comprising, in combination, an inclosing cabinet, guiding grooves fitted in the sides of said cabinet, a rod slidably and non-rotatably fitted in said grooves, a collapsible bed having one end thereof rotatably secured to said rod, counterweights secured to said rod, said counterweights serving to raise the end of the bed secured to said rod in said cabinet when the other end of said bed is withdrawn from said cabinet and lowered into position for use, and means for locking said supporting rod in the position it assumes when said bed is lowered into position for use.

7. A new article of collapsible furniture of the character described comprising, in combination, an inclosing cabinet, guiding grooves fitted in the sides of said cabinet, a bed-supporting rod slidably and non-rotatably fitted in said grooves, a bed rotatably secured to said rod, means whereby the end of said bed secured to said rod is raised in said cabinet when the other end of said bed is withdrawn from said cabinet and lowered into position for use, and means automatically operated for turning the bed-supporting legs into operative position to support said bed when said bed is withdrawn from said cabinet.

8. A new article of collapsible furniture comprising, in combination, an inclosing casing, a partition rotatably mounted in said casing for opening and closing the same and permitting access to the interior thereof, a collapsible table rotatably mounted in said casing back of said partition, means for withdrawing said table from said cabinet and rotating the same to a position in which it will rest on the floor, a collapsible bed mounted in said cabinet back of said table, and means for withdrawing said bed from said cabinet into a position for use out in front of said cabinet and above said table.

9. A new article of collapsible furniture comprising, in combination, an inclosing cabinet, a partition rotatably associated with said cabinet, said partition being adapted to be rotated out from said cabinet to permit access to the interior thereof, a plurality of folding seats secured to said partition, a collapsible table mounted in said cabinet back of said partition, means located in the bottom of said cabinet to rotatably mount said table and whereby said table may be swung down onto the floor, a bed mounted in said cabinet back of said table, and means whereby said bed may be withdrawn from said cabinet into position for use in front of said cabinet when said table has been thus rotated to said floor.

10. A new article of folding furniture comprising, in combination, an inclosing casing, a partition rotatably secured to each side of said casing, means for foldably securing seats to said partitions, a collapsible table mounted in said cabinet back of said partitions, means located in the bottom of said cabinet to which said table is rotatably

secured and whereby said table may be rotated about said means to a position on the floor, means for locking the table in this position, a bed situated in said cabinet back of said table, a rod slidably mounted in said cabinet to which one end of said bed is secured, means whereby when the other end of said bed is withdrawn from said cabinet the rod will be raised in said cabinet, leg-supporting means for said bed, and means whereby said legs will be automatically swung into position to support said bed when the bed is withdrawn from said cabinet over said table into position for use.

11. A new article of collapsible furniture comprising, in combination, an inclosing cabinet, a side pilaster for each end of said cabinet, a partition secured to each one of said pilasters, means for rotating each of said pilasters and the associated partition out from said cabinet, whereby said partitions are permitted to assume a plurality of angular positions with respect to said casing and access to the interior of the cabinet is provided, seating means foldably secured to said partitions, a collapsible table mounted in said cabinet back of said partitions, means for supporting said table in said cabinet and about which said table may be rotated to the floor when said partitions are swung out from said cabinet, means for locking said table in this position, a foldable bed mounted in said cabinet back of said table, and supporting means slidably secured to said cabinet, to which one end of said bed is rotatably mounted, means whereby when the other end of said bed is withdrawn from said cabinet said supporting rod will be raised in said cabinet and the said bed may be lowered into position for use over said table, the said seating means associated with said partitions, being positioned on either side of said bed when said bed is thus lowered for use.

In witness whereof I have hereunto subscribed my name.

FRANK J. VOHRALIK.