

916,785.

Fig. 1.



Fig. 4.

Fig. 2.

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ADJUSTABLE EXTENSION-SHELF.

No. 916,785.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENTON C. ROWELL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Extension-Shelves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in hanging shelves and refers more specifically to that class of shelves adapted to be hung from a picture molding.

One of the objects of the invention is to provide means whereby the vertical distances between the shelves may be varied at will, and another object is to provide a construction of supports whereby a maximum amount of contact surface may be presented between the wall of a room, and the parts of the supporting members and inner edges of the shelves, thereby insuring a greater amount of firmness and stability of the hanging shelf and preventing lateral movement thereof.

In the drawings:—Figure 1 is a perspective view of the hanging shelves, showing the means for supporting the same from a picture molding. Fig. 2 is a part sectional view, taken on line 2—2 of Fig. 1. Fig. 3 is a perspective view of one of the supporting or hook-arm members of the shelf. Fig. 4 is a sectional view showing the means for connecting the lower shelf member to the supporting rods. Fig. 5 represents one of the rods and connecting parts.

As shown in the drawings, A A¹ A² indicate a plurality of horizontally arranged shelves which are connected with each other by upright connecting rods B B¹, and are supported from a picture molding C or other suitable horizontal support, by means of suspension members D D, engaging said molding C at their upper ends and connected with said shelves at their lower ends. The suspension members D D are each constructed of a single piece of wire or other material which is bent between its ends to form two prongs or arms *d d*¹ which are in

angular and downwardly divergent relation to each other. Below the point at which the wire is bent or folded, the arms thereof are twisted about each other and the folded end of the wire above the point where the arms are twisted together is bent forwardly and then rearwardly and downwardly, thereby forming a rearwardly facing hook D¹ shown in Figs. 1, 2 and 3. The rear arms *d*¹ *d*¹ or those adjacent to the wall against which the shelves are hung are upright, while the arms *d d* are forwardly inclined, and extend to the front margin of the upper shelf A. The upper ends of the connecting rods B B extend through apertures near the corners of the shelves A A¹ A² in line with the said rods.

F F¹ indicate sleeves adapted to receive the screw-threaded ends of the rods B B¹ above the several shelves. Said sleeves F F¹ are interiorly screw-threaded, the lower ends thereof being adapted to receive the upper ends of the rods B B¹, and the upper ends of said sleeves being constructed to receive the lower screw-threaded ends of the arms *d d*¹ of the suspension members D D.

By the construction described and illustrated in Figs. 1, 2 and 3, it will be observed that the arms *d*¹ *d*¹ will extend vertically below the picture molding, in a line considerably nearer the wall than the outer edge of the molding C. By bending the hook-arms *d d*¹ to suit each particular case it will be manifest that the arms *d*¹ *d*¹ may be adapted to rest against the wall throughout the entire length thereof below the hook D¹ down to the points at which they are bent inwardly toward the shelf member A, so that their ends may engage the sleeves F F¹. The arms *d d* of the hook suspension members D extend downwardly and forwardly, as shown in the drawings, thereby forming a support for the front edges of the shelf members A A¹ and A², and preserving the horizontal level thereof. Immediately above the point where the ends of the arms *d d* enter the tops of the sleeve F F, the said arms *d d* are bent so that they may enter the said sleeves in the same line as the rods B B. Screw-nuts I I¹ are placed upon the upper screw-threaded ends of the rods B B¹ so as to rest in close contact with the lower sur-

face of the shelf member directly above the said rod. Screws G G^1 provided with elongated heads extend upwardly through the lower shelf members in line with the rods B and B^1 . The upper ends of said screws engage the lower interior screw-threaded end of the sleeves F and F^1 , while the bottom surface of the lower shelf rests upon the top surfaces of the heads of said screws, where-
 10 by vertical movement of said lower shelf A^2 is prevented. Apertures g g^1 are provided in the elongated heads of the screws G G^1 , wherein a wire or nail may be inserted to turn said screws and tighten or loosen the
 15 same. Each of the sleeves F and F^1 is provided with similar apertures f f^1 for the same purpose.

It is evident that, by the construction illustrated in the drawings, the greater part
 20 of the weight of the hanging shelves will rest upon the vertical arms d^1 d^1 . This will have a tendency to preserve the contact between the said arms d^1 d^1 and the surface of the wall, thereby diminishing the probability of any accidental lateral displacement of
 25 the shelves and the consequent liability of the dislodgment of any articles thereon. Moreover, inasmuch as the sleeves F^1 F^1 are placed at equal distances from the inner
 30 edges of the shelf members A A^1 A^2 , the inner edges of said members will always remain in contact with the wall and further diminish the chance of any lateral movement of the shelves.

It is clearly obvious that the relative distances between the shelf members A A^1 A^2 , may be varied at will by turning the sleeves
 35 F and F^1 and thereby causing the rods B and B^1 to rise and fall, while the parallel relation of the shelf members may still be maintained. This is an especially important feature of my invention, inasmuch as
 40 shelves of this class are generally used for holding books, plates, china, etc. of different
 45 sizes.

E E indicate longitudinal grooves provided in the upper surfaces of the members
 50 A A^1 A^2 , to receive the edges of plates or dishes when the shelves are used for holding goods of this nature.

I claim as my invention:—

1. The combination with a plurality of shelves arranged one above the other and provided near their edges with apertures, of
 55 means for connecting said shelves comprising a plurality of vertically arranged rods extending through said apertures and comprising sections, certain of which meet end to end above said shelves, interiorly screw-
 60 threaded coupling sleeves connecting the screw-threaded aligned ends of the adjacent rod sections, and nuts on the rod sections below the shelves, between which and the sleeves the shelves are confined, the arrange-
 65 ment being such as to permit vertical adjust-

ment of said shelves relatively to each other and to said rods.

2. The combination with a plurality of connected shelves provided with apertures near their forward and rear edges, a plurality of upright rods which extend between
 70 and connect said shelves and extend through aligned apertures thereof, a plurality of suspension members each constructed of a single piece of wire bent between its ends to
 75 form a hook portion and two downwardly divergent arms which at their lower ends are screw-threaded, and sleeves or sockets on the upper ends of said upright rods with
 80 which the lower screw-threaded ends of said arms have engagement.

3. The combination with a plurality of connected shelves provided with apertures near their forward and rear edges, of upright rods which extend between and connect
 85 said shelves and extend through the apertures thereof, a plurality of suspension members each constructed of a single piece of wire bent between its ends to form a hook portion and two downwardly divergent
 90 arms which at their lower ends are connected with said upright rods, the rear arms being upright and located in the same vertical plane with the rear edges of the shelves.

4. The combination with a plurality of
 95 shelves apertured near their forward and rear margins, of upright rods which connect the shelves with each other, and which pass at their upper ends through said apertures, and are screw-threaded at such upper
 100 ends, nuts on said rods below the uppermost shelf, suspension members for sustaining said shelves, each comprising a wire bent between its ends to form two downwardly divergent arms and having a hook at its
 105 upper end, the lower ends of said arms being arranged in vertical alinement with said rods, and interiorly screw-threaded sleeves connecting said arms to the upper ends of
 110 said rods, said sleeves bearing upon the upper face of said uppermost shelf.

5. The combination with a plurality of shelves apertured near their forward and rear edges, of a plurality of upright rods extending between said shelves, said rods being
 115 screw-threaded at their upper ends and having their said upper ends extended through the apertures in the shelves, nuts on the rods below the shelves, interiorly screw-threaded sleeves connecting the screw-threaded ends
 120 of the rods and bearing upon the upper surfaces of said shelves, suspension members each consisting of a wire bent between its ends to form two downwardly divergent arms and provided with a hook at its upper
 125 end, the lower ends of said arms being arranged in alinement with said connecting rods, interiorly screw-threaded sleeves connecting the lower ends of the arms with the
 130 upper ends of the connecting rods which

pass through the uppermost shelf, said sleeves bearing on the top surface of said uppermost shelf, and headed screws passing through the apertures of the lowermost shelf
5 and engaging the screw-threaded sleeves on the lowermost connecting rods.

In testimony, that I claim the foregoing

as my invention I affix my signature in the presence of two witnesses, this 26th day of July A. D. 1907.

BENTON C. ROWELL.

Witnesses:

TAYLOR E. BROWN.

GEORGE R. WILKINS.