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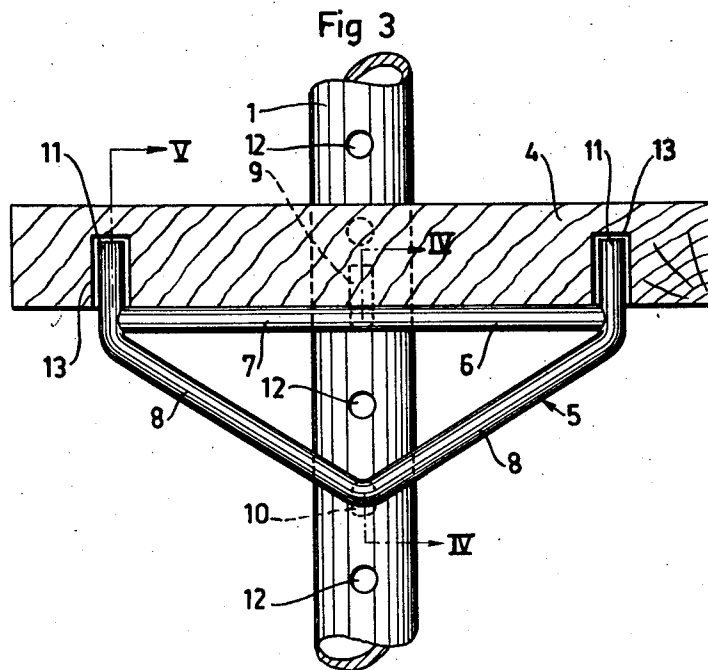
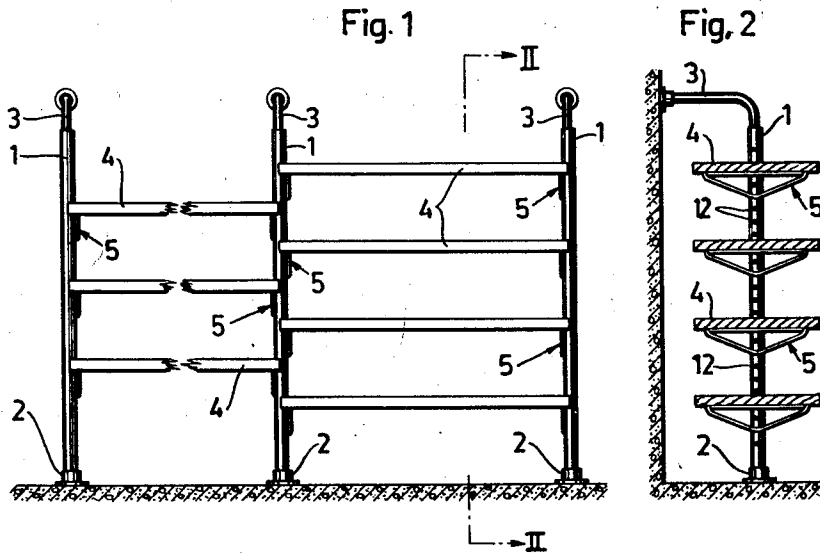
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VERTICALLY ADJUSTABLE SHELF CONSTRUCTION

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2 Sheets-Sheet 1



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Fig. 4

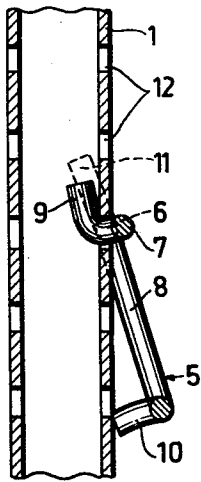


Fig. 5

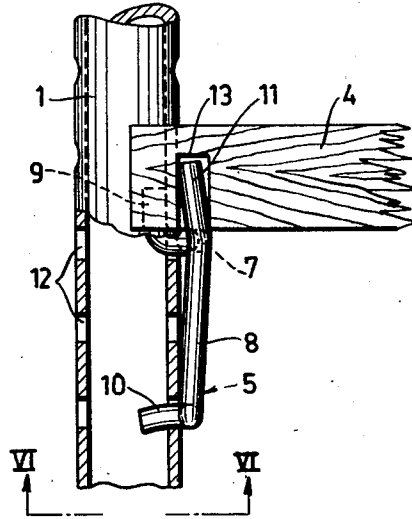


Fig. 6

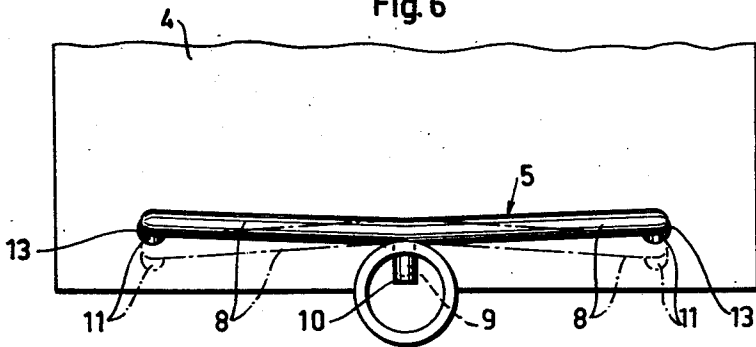
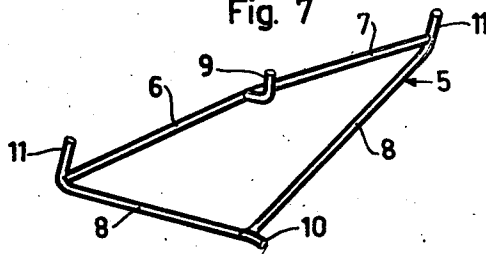


Fig. 7



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VERTICALLY ADJUSTABLE SHELF CONSTRUCTION

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Claims priority, application Sweden October 22, 1954

2 Claims. (Cl. 211-147)

The invention relates to an adjustable shelf construction and has for its principal object to provide a construction which is simple and cheap to produce and can be easily mounted by any person. Furthermore the construction has a considerable stability and enables variation of the height of the shelves within wide limits without the employment of tools.

The construction is of the kind which has supporting uprights with a plurality of openings, brackets attachable to the uprights and provided with fingers fitting in the openings of the uprights and shelves supported by the brackets. According to the invention only a single upright is provided at each end of the shelves and each bracket has two shelf supporting arms projecting from opposite sides of the upright in a direction transverse to the longitudinal direction of the shelves. Each bracket is attached to the upright by a hooklike retaining finger situated between the outer ends of the supporting arms as well as by a second finger situated at a vertical distance from the hooklike finger. Preferably each bracket is resilient in such a way that it must be pressed together by hand against its inherent resiliency in order to allow the fingers to enter their respective openings in the upright. When releasing the bracket the fingers then will be pressed against the walls of the openings of the upright, so that the bracket will be firmly held in position.

Further novel features and details of construction appear from the following description of a preferred embodiment of a shelf construction according to the present invention illustrated in the accompanying drawings.

Fig. 1 is a front view illustrating two sections of the new shelf. Fig. 2 is a sectional side view, the section being taken along the line II—II in Fig. 1. Fig. 3 is a similar view in a larger scale, showing in detail the conjunction between the bracket, the shelf and the single upright. Fig. 4 is a section along the line IV—IV in Fig. 3, showing the securing of the bracket to the upright shortly before its final fixing. Fig. 5 is a section taken along the line V and partly along the line IV—IV in Fig. 3, showing the final position of the bracket and the shelf. Fig. 6 shows the assembly of Fig. 5 from the underside. Fig. 7 is a perspective view of a bracket.

In the drawings the uprights 1, which are formed of tubes, rest on the floor in sockets 2 and at the upper end they are held in position by a curved rod or tube 3 fixed to the wall. Between the uprights 1 shelves 4 are inserted resting on brackets 5, secured to the uprights in a manner to be described. The tubular uprights 1 have a series of openings 12 extending diametrically there-through. The brackets 5, see especially Fig. 7, are formed of pieces of metal rod and have two shelf supporting arms 6 and 7, extending when fixed to the upright from opposite sides thereof in a direction transverse to the longitudinal direction of the shelves. At their outer ends said arms are supported by the two legs 8 which converge to a common point and together with the arms

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6 and 7 in the illustrated embodiment form an isosceles triangle. It is, however, not necessary that the triangle is exactly isosceles. On the upper side or the base the bracket carries a hooklike retaining finger 9 and at the apex beneath the finger 9 there is a second finger 10, both fingers being formed of pieces of metal rod. Said fingers are for the fixing of the brackets to the upright. At the outer ends of the arms 6 and 7 there are upright fingers 11 which in the illustrated embodiment are prolongations of the legs 8. These fingers 11 have for their object to fix the shelves 4 by entering the openings 13 thereof.

The shelf construction is mounted in the following way.

The brackets 5 are fixed to the uprights 1 by first having the finger 9 to enter the desired opening 12 in the upright. Then the bracket is brought to the position shown in Fig. 4, in which the lower finger 10 lies too low to enter the corresponding opening 12 in the upright. Therefore the bracket must be pressed together by hand somewhat in order to bring the finger 10 in the final position as shown in Fig. 5. When the bracket then is released it has a tendency to take its original form, so that the fingers 9 and 10 will be pressed against the walls of their respective openings and thus will firmly fix the bracket to the upright.

The shelves 4 are now placed on the brackets 5 in such a position that the fingers 11 enter the openings 13 on the underside of the shelves. Fig. 6 illustrates in dash and dot lines the position of the legs 8, the arms 6 and 7 and the fingers 11 before the introduction of the latter in the openings 13. These are situated at a greater distance from the end of the shelf than the fingers 11. As the shelf 4 abuts the upright 1 the outer ends of the arms 6 and 7 thus must be bent away from the upright 4 for enabling the fingers 11 to enter the openings 13. Due to the resiliency of the bracket the shelf 4 will then be pressed against the upright 4 when releasing the bracket, so that a good stability is obtained.

As especially appears from Fig. 5 the fingers 11 are not quite upright but inclines somewhat from the perpendicular. When entering the fingers 11 in the openings 13 the fingers will thus be pressed against the walls of the openings 13, so that the shelf is firmly held also in the vertical direction. Furthermore, the inclination of the fingers 11 will hold the finger 10 pressed against the upright 4 thereby preventing said finger from losing its grip.

What I claim is:

1. An adjustable shelf construction comprising a single upright at each end of the construction having a plurality of equally spaced openings along their length, a plurality of resiliently flexible brackets each formed of resilient rod material bent in the shape of a closed triangle and each having a finger at one apex and a finger on the side opposite said apex, said side opposite said one apex being a base, said fingers extending transverse to the plane of said brackets, said openings in said uprights being spaced so that the openings in pairs of openings are spaced from each other a distance slightly less than the height of said triangular bracket from said base to the said apex, said brackets being resiliently flexible in the plane of the triangle, said base being flexed toward said apex and said fingers inserted in the openings on said uprights, shelf engaging means comprising upright fingers on the ends of said base, and said brackets also being resiliently flexible transversely of the plane of the triangle, and shelves between brackets on said uprights, said shelves having apertures therein for receiving said upright fingers, said apertures being spaced from the ends of said shelves a distance such that said brackets are kept deformed when said upright fingers engage in said apertures.

2. An adjustable shelf construction as claimed in claim

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1 in which said upright fingers are at an angle to the plane of the triangle.

References Cited in the file of this patent

UNITED STATES PATENTS

560,884	Anderson et al.	May 26, 1896
595,064	Herbst	Dec. 7, 1897
775,496	Parsons	Nov. 22, 1904

5

920,633
1,381,838
1,875,318
1,905,908
2,127,280
2,136,109
2,458,897

4

Oppenheimer	May 4, 1909
Jackson	June 14, 1921
Hammer	Sept. 6, 1932
Karnes	Apr. 25, 1933
Zimbalist	Aug. 16, 1938
Kress	Nov. 8, 1938
De Swart	Jan. 11, 1949