Dec. 13, 1949 L. DEDDO 2,490,858

DEMOUNTABLE BENCH OR STAND

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Fig. 1

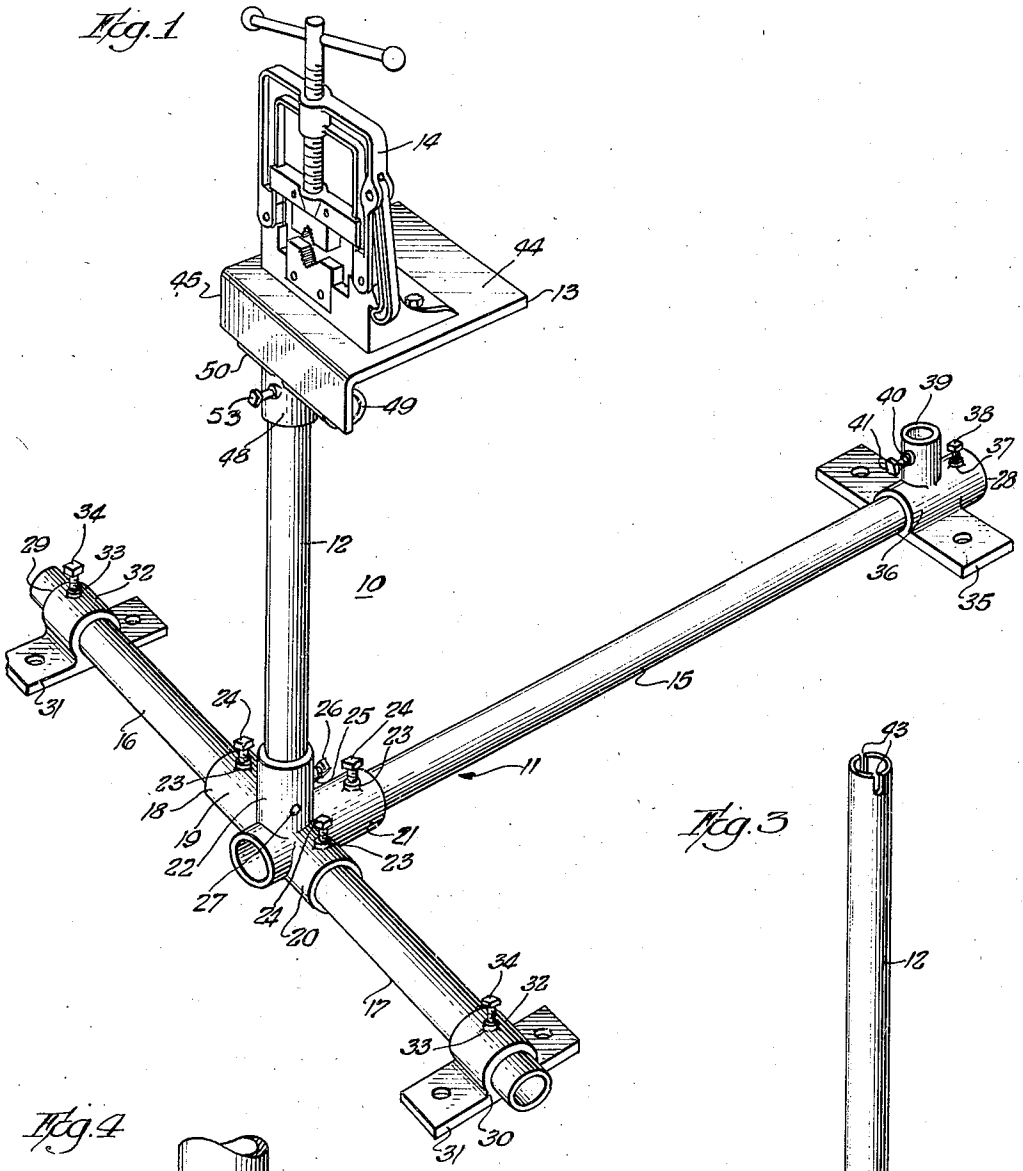
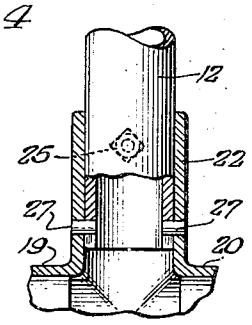


Fig. 3

Fig. 4



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Fig. 2

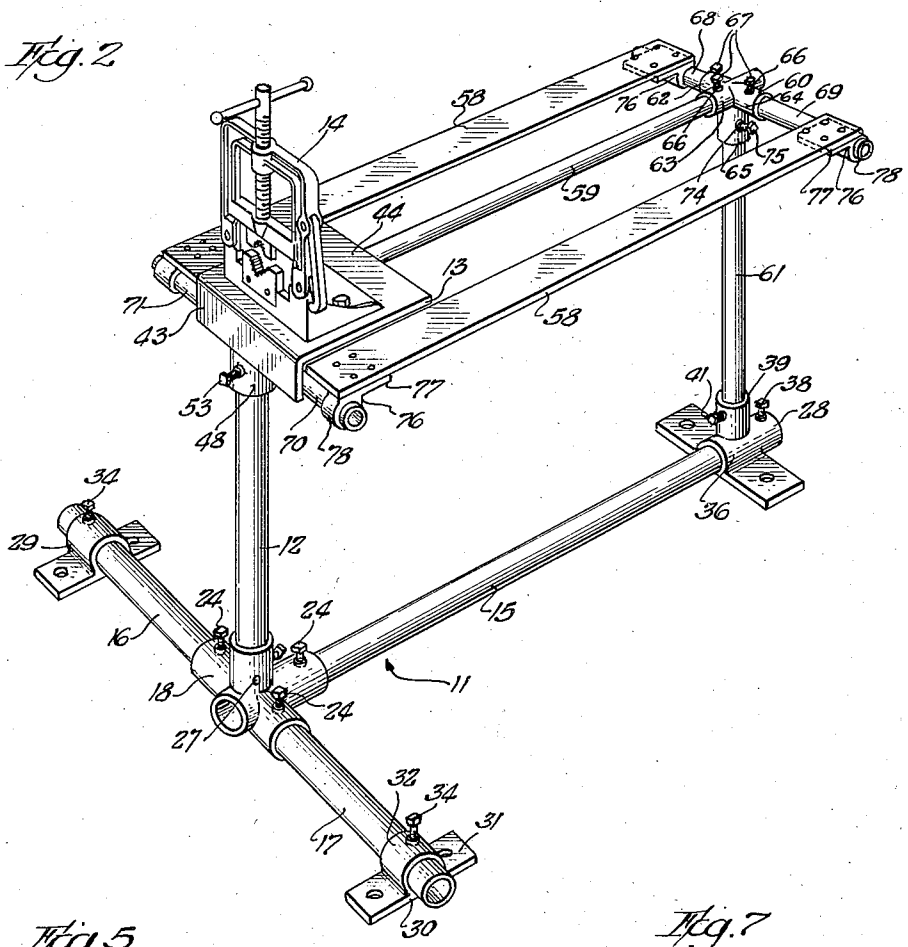


Fig. 5

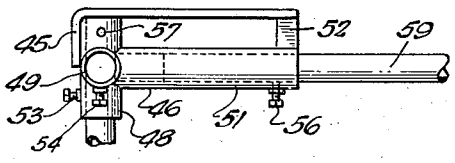


Fig. 7

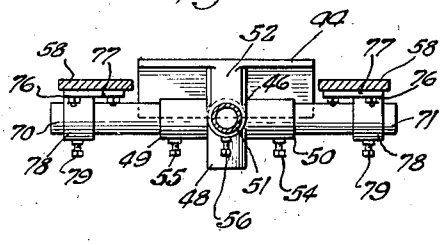
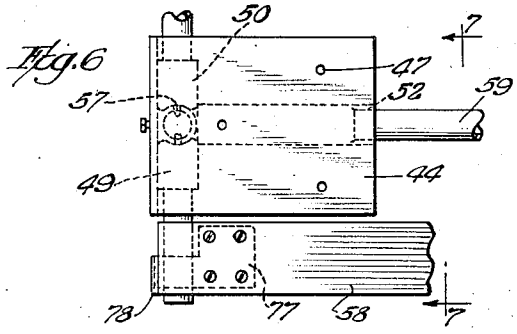


Fig. 6



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UNITED STATES PATENT OFFICE

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DEMOUNTABLE BENCH OR STAND

Leonard Deddo, Chicago, Ill.

Application May 11, 1945, Serial No. 593,306

9 Claims. (Cl. 248—165)

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This application relates to demountable stands or benches, more particularly to quickly demountable stands or benches for plumbers, pipe fitters and the like and it is an object of the invention to provide an improved demountable stand or bench of the character indicated.

It is a further object of the invention to provide an improved plumber's or pipe fitter's stand which may be rapidly assembled as well as rapidly disassembled.

It is a further object of the invention to provide an improved demountable bench or stand for plumbers, pipe fitters or the like which consists of few parts and requires the use of only a simple wrench for assembling or disassembling.

It is a further object of the invention to provide an improved demountable stand of the character indicated which may be simply assembled or disassembled by a single person.

In carrying out the invention in one form, a demountable stand comprising a floor-engaging frame, an upright member extending therefrom and a platform attached to the upright member for holding a vise or similar device is provided. The floor-engaging frame includes a series of members which are adapted to lie parallel to the floor and which extend angularly with respect to each other and a four-part connecting member. Three parts of the four-part connecting member telescopically receive the series of angularly extending members to complete the floor-engaging frame. The fourth part of the four-part connecting member extends vertically, the upright member is telescopically received thereby at its lower end and interengaging means are associated with the lower end of the upright member and the fourth part of the connecting member for preventing rotation of the upright member. The platform is provided with a connecting member which extends perpendicularly from the platform and which telescopically receives the upright member at its upper end. To prevent rotation of the platform during use of the bench, interengaging means are associated with the upright member at its upper end and with the member extending perpendicularly from the platform.

For a more complete understanding of the invention, reference should now be had to the accompanying drawings, in which:

Fig. 1 is a perspective view of a bench or stand embodying my invention;

Fig. 2 is a perspective view of a modification of Fig. 1;

Fig. 3 is a perspective view of one of the elements of Fig. 1;

Fig. 4 is a fragmentary view partially in section of Fig 1 showing constructional details;

Fig. 5 is an elevational fragmentary view of Fig. 2;

Fig. 6 is a top fragmentary view of Fig. 2; and

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Fig. 7 is a view taken substantially in the direction of the arrows 7—7 of Fig. 6.

Referring to the drawings, the invention is shown embodied in a plumber's or pipe fitter's stand 10 which comprises a floor-engaging frame 11, an upright supporting member 12 extending vertically from the floor-engaging frame and a horizontal platform 13 at the upper end of the upright member, the platform 13 being used to support a pipe vise 14 or similar device.

The floor-engaging frame 11 comprises a longitudinally extending member 15 and a pair of members 16 and 17 extending transversely thereto substantially at right angles. The members 15, 16 and 17 are joined together at one of their ends by a four-part connecting member 18 to lie parallel to the floor and arranged at their other ends are the floor-engaging members or feet 28, 29 and 30, respectively. While two transverse members 16 and 17 are shown it will be apparent that these may be combined into a single member. The four-part connecting member 18 has three sleeves or sockets 19, 20 and 21 which lie in the same horizontal plane and a fourth sleeve or socket 22 extending upwardly at right angles thereto. The connecting member 18 is a unitary member in which the four sockets 19, 20, 21 and 22 are integrally formed and may be termed a double T member since the sockets 19, 20 and 21 form one T and the sockets 19, 20 and 22 form a second T at right angles to the first. The sockets 19, 20, 21 and 22 are hollow cylinders, the inside diameters of which are somewhat larger than the corresponding cooperating members 16, 17, 15 and 12, respectively, whereby the telescopic connections of these members are easily made. Projecting upwardly from the top surface of each of the sockets 19, 20 and 21 is a boss 23 which has a threaded opening therethrough which threaded opening receives a correspondingly threaded setscrew 24, the vertically extending socket 22 being similarly provided with a boss 25 and a setscrew 26. Extending inwardly from the cylindrical wall of the socket 22 are pins 27 which are tightly forced into suitable openings in the cylindrical wall so as to be substantially rigid therewith (see Fig. 4).

The feet or floor-engaging members 29 and 30 are substantially identical and each includes a base 31 having a pair of holes therethrough for attaching the feet to the floor and a hollow cylindrical member or sleeve 32 lying on top of the base 31 and being integral therewith. The sleeves 32 have inside diameters which are slightly larger than the outside diameters of the corresponding transverse members 16 and 17 thereby to form an easy fit between these members and are provided with upwardly projecting bosses 33 having threaded openings adapted to receive correspondingly threaded setscrews 34. The foot or floor-engaging member 28 is substantially similar to

the feet 29 and 30 in that it includes a base 35 and a hollow cylindrical member or sleeve 36 lying on top of the base and being integral therewith. The sleeve 36 has an inside diameter slightly larger than the outside diameter of the longitudinal member 15 whereby an easy fit is obtained between these members, and a boss 37 having a threaded opening therethrough into which the correspondingly threaded setscrew 38 is received. Additionally the foot 28 includes a vertically extending hollow sleeve or socket 39 which is provided with a boss 40 also having a threaded opening therethrough for receiving a correspondingly threaded setscrew 41 for a purpose to be described.

In order to assemble the floor-engaging frame as a unit, the members 15, 16 and 17 are inserted, respectively, into the sockets 21, 19 and 20 after which the setscrews 24 are tightened in order to hold the members 15, 16 and 17 tightly to the connecting member 18 thereby forming a substantially T-shaped structure. The sleeves 32 of the feet 29 and 30 are placed around the outer ends of the transverse members 16 and 17, respectively, and the sleeve 36 of the foot 28 is placed around the outer end of the cylindrical member 15, the setscrews 34 and 38 being thereafter tightened in order to hold the feet in place. To attach the floor-engaging frame to the floor nails or similar devices may be driven through the openings provided in the feet members.

The upright member 12 is substantially cylindrical in form and is somewhat smaller in diameter than the inside diameter of the vertical socket 22 so as to be relatively loosely receivable therein. The lower end of the upright member 12 is provided with cutout portions or slots 42 which are of sufficient width to easily receive the pins 27 to keep upright member 12 from rotating. Similar cutout portions or slots 43 are provided at the upper end of the upright member.

The platform 13 comprises a plate or table-like structure 44 provided at one end with a bent over portion or shield 45 and includes a four-way connecting member 46 spaced below the plate 44 for attaching the platform to the upright member 12. The plate 44 is of sufficient lateral dimension so as to receive and support a pipe fitter's vise 14 or the like for which suitable holes 47 are provided (Fig. 6). Referring to Figs. 5 and 7, it will be seen that the four-way connecting member 46 includes a downwardly projecting sleeve or socket 48, two transversely projecting sleeves or sockets 49 and 50 and a longitudinally projecting sleeve or socket 51, the sockets extending, respectively, at right angles to each other. The sockets 48, 49 and 50 are adapted to lie directly against the shield 45 of the platform 13 and the socket 51 extends outwardly therefrom to the full extent of the platform 44. The socket 51 is spaced below the lower side of the plate 44 and has its outer end connected to the plate 44 by the spacer 52, the spacer 52 forming additional support for the plate. The socket 48 is provided with an internally threaded boss adapted to receive a correspondingly threaded setscrew 53, the sockets 49 and 50 are also provided with projecting internally threaded bosses which receive correspondingly threaded setscrews 54 and 55, respectively, and the socket 51 is likewise provided with a projecting internally threaded boss and a correspondingly threaded setscrew 56. The socket 48 is somewhat larger than the outside diameter of the upright member 12 so as to form an easy fit between these members. Above the transverse sockets 49 and 50, the socket 48 is provided with diametrically spaced openings into which pins 57 have been forced so as to be substantially rigid therewith. The pins 57 are adapted to engage the slots 43 in the upper end of the upright member 12 to hold the platform from turning when the device is assembled and in use. The connecting member 46 may be a unitary structure such as a pipe fitting, for example, and may be welded to the plate 44, or the plate 44 and the connecting member 46 may be formed integrally with each other, for example, such as by casting.

In order to complete the bench or stand as shown in Fig. 1 the lower end of the upright member 12 is inserted into the upwardly extending socket 22 of the floor-engaging frame, whose assembly has been previously described. The cutout portions or slots 42 are brought into interengagement with the pins 27 and the setscrew 26 is tightened to firmly grip the upright member 12. Thereafter the platform 13 is assembled to the structure by telescoping the socket 48 over the upper end of the upright member 12 and the platform 13 is turned until the pins 57 are interengaged with the cutout portions or slots 43 after which the setscrew 53 is tightened to hold the platform 13 in position. The cutout portions or slots 43 are so arranged in the upright member 12, and the pins 57 are so arranged in the socket 48 that the platform extends substantially in the direction of the longitudinal member 15. A vise 14 or any other desired piece of equipment may be attached to the platform 13 by suitable bolts as shown.

In the modification shown in Fig. 2, a work bench or table is eventuated which comprises the platform 13, a longitudinal member 59, a connecting member 60 and planks 58 which are supported by the upright member 12 and an upright member 61 extending vertically from the socket 39 on foot 28. Projecting laterally from the sockets 49 and 50 on the platform 13 are the transverse members 70 and 71 which are somewhat smaller in diameter than the inside diameter of the sockets 49 and 50 so as to be loosely received thereby. The members 70 and 71 serve as supports for the platform members or planks 58.

The connecting member 60 may be a conventional pipe fitting and is provided with four hollow sleeves or sockets 62, 63, 64 and 65 extending at right angles to each other, respectively. Each of the sockets 62, 63 and 64 is provided with an internally threaded boss 66 and a correspondingly threaded setscrew 67 and the socket 65 is similarly provided with a threaded boss 74 and a corresponding setscrew 75. Laterally projecting arms 68 and 69 are provided to form supports for the platform planks 58 and are somewhat smaller in diameter than the inside diameter of the sockets 62 and 64 into which the arms 68 and 69 are telescopically received. Extending between the connecting member 46 on the platform 13 and the connecting member 60 is the longitudinal member 59 which is somewhat smaller in diameter than the sockets 51 and 63 so as to be relatively loosely received thereby.

The planks 58 are supported on the transverse members 70 and 71 and 68 and 69 by the ataching fixtures 76 at each end of the planks. Each of the attaching fixtures 76 comprises a strap or plate 77 and a transverse sleeve 78 extending downwardly therefrom. The sleeves and the straps may be integrally formed, such as by casting or they may be made of separate parts and attached to each other by welding, for example. The sleeves 78 are narrower than the full extent

of the plates 77 and the plates are spaced upwardly from the cylindrical surfaces of the sleeves 78 so that when the planks are assembled to the table by passing the sleeves 78 over the transverse supporting members, the planks can move over the sockets 49 and 50 and 62 and 64 so as to bring the planks closer to the longitudinal member 59. The straps 77 are provided with holes through which screws are received to attach the fixtures to the planks. Each sleeve 78 is provided with an internally threaded boss and a correspondingly threaded setscrew 79.

In order to assemble the bench the transverse arms 70 and 71 are inserted into the sockets 49 and 50, respectively, and the setscrews 54 are tightened after which one end of the longitudinal member 59 is inserted into the socket 51 of the connecting member 46 and the setscrew 56 is tightened. Thereafter the socket 63 of the member 60 is engaged with the other end of the member 59 following which the transverse members 68 and 69 are inserted into the sockets 62 and 64 of the connecting member 60 and setscrews 67 are tightened so as to hold the members tightly with respect to each other. The fitting 60 is connected with the floor-engaging frame 11 by inserting the upright member 61 into the socket 39, thereafter placing the downwardly extending sockets 48 and 65 over the upright members 12 and 61, respectively, and tightening the setscrews 53 and 75. The planks 58 are then placed in position by pushing the sleeves 78 over the transversely extending arms 68, 71, 69 and 70 and tightening the setscrews 79 to complete the assembly. The bench may be disassembled simply by loosening the various setscrews and removing each part from the other.

The construction is one which is made up largely of conventional parts, such as pipes and pipe connections which may be easily assembled and temporarily secured in place quickly. It is one also which may be as easily disassembled and transported from place to place by the user. When set up it presents a firm and rigid construction. Moreover, the construction is such as to permit of manufacture at a low cost.

While particular embodiments of the invention have been shown it will be understood, of course, that the invention is not limited thereto since many modifications may be made, and it is, therefore, contemplated by the appended claims to cover any such modifications as come within the true spirit and scope of the invention.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A demountable stand comprising a floor-engaging frame, said frame including a series of members adapted to lie parallel to the floor and extending angularly with respect to each other and connecting means telescopically receiving said angularly extending members, feet members each of which includes a horizontal member telescopically receiving the ends of said angularly extending members, an upright member, means associated with said connecting means telescopically receiving said upright member at its lower end, interengaging means associated with said connecting means and said upright member at the lower end thereof for preventing rotation of said upright member, said interengaging means including a pin in one of said connecting means and upright member and a slot in the other of said connecting means and upright member, a platform, and means associated with said platform telescopically receiving said upright member at its upper end.

2. A demountable stand comprising a floor-engaging frame, said frame including a series of members adapted to lie parallel to the floor and extending angularly with respect to each other and a four-part connecting member, three parts of said four-part connecting member telescopically receiving said series of members and the fourth part of said four-part connecting member extending vertically, an upright member telescopically received at the lower end thereof by said fourth part, interengaging means associated with said fourth part and the lower end of said upright member for preventing rotation of said upright member, a platform, a connecting member extending perpendicularly from said platform, said perpendicular connecting member being telescopically received by said upright member at the upper end thereof and interengaging means associated with said perpendicular connecting member and the upper end of said upright member for preventing rotation of said platform.

3. A demountable stand comprising a floor-engaging frame, said frame including a series of members adapted to lie parallel to the floor and extending angularly with respect to each other and a four-part connecting member, three parts of said four-part connecting member telescopically receiving said series of members and the fourth part of said four-part connecting member extending upwardly, pin means extending transversely of said fourth part, an upright member having cutout portions at each of its upper and lower ends, said upright member being telescopically received by said fourth part and said fourth part pin means being received by said cutout portion at the lower end of said upright member to prevent rotation of said upright member, a platform, a connecting member extending downwardly from said platform, and pin means extending transversely of said downwardly extending member, said downwardly extending member telescopically receiving the upper end of said upright member and the pin means extending transversely of said downwardly extending member being received by said cutout portions at the upper end of said upright member whereby rotation of said platform is prevented.

4. A demountable stand comprising a floor-engaging frame, said frame including a longitudinal member, a transverse member, a connecting member having three parts telescopically receiving said longitudinal and said transverse members and having a fourth part extending upwardly and floor-engaging members associated with said longitudinal and transverse members, an upright member telescopically received at the lower end thereof by said fourth part, interengaging means associated with said fourth part and the lower end of said upright member for preventing rotation of said upright member, a platform, a connecting member extending perpendicularly from said platform, said perpendicular connecting member being telescopically received by said upright member at the upper end thereof and interengaging means associated with said perpendicular connecting member and the upper end of said upright member for preventing rotation of said platform.

5. A demountable stand comprising a floor-engaging frame, said floor-engaging frame including a series of members extending angularly

with respect to each other, means loosely connecting said angularly extending members, said connecting means having a vertically extending part and a vertically extending connecting member associated with one end of one of said series of members, an upright member telescopically received by said vertically extending part and an upright member telescopically received by said vertically connecting member, interengaging means comprising a pin and slot connection between said vertically extending connecting member and the lower end of said first mentioned upright member for preventing rotation thereof, a platform, a downwardly extending connecting member associated with said platform telescopically receiving said first mentioned upright member at the upper end thereof, interengaging means comprising a pin and slot connection between said downwardly extending connecting member and the upper end of said first mentioned upright member for preventing rotation of said platform, a horizontal connecting member associated with said platform, a supporting member having a downwardly extending connecting member telescopically receiving said second mentioned upright member at the upper end thereof, a horizontal connecting member associated with said supporting member, and a member telescopically received by each of said horizontal connecting members.

6. A demountable stand comprising a floor-engaging frame, said frame including a series of members lying parallel to the floor and extending angularly with reference to each other and connecting means telescopically receiving said series of members, upwardly extending connecting means associated with said frame, a supporting frame spaced above said floor-engaging frame, said supporting frame including a platform having a horizontal connecting member, a supporting member having a horizontal connecting member, and a member telescopically received by said horizontal connecting members, said supporting frame having downwardly extending means associated therewith, and upright means telescopically received by said upwardly extending connecting means and said downwardly extending connecting means for spacing said supporting frame, interengaging means comprising a pin and slot connection between said upright means at its lower end and said upwardly extending connecting means, and interengaging means comprising a pin and slot connection between said upright means at its upper end and said downwardly extending connecting means.

7. A demountable stand comprising a floor-engaging frame, said floor-engaging frame including a series of members extending angularly with respect to each other, means telescopically connecting said angularly extending members, said connecting means having a vertically extending part and a vertically extending connecting member associated with one end of one of said series of members, an upright member telescopically received by said vertically extending part and an upright member telescopically received by said vertically extending connecting member, a platform, a downwardly extending connecting member associated with said platform telescopically receiving said first mentioned upright member at the upper end thereof, a pair of transverse connecting members associated with said downwardly extending connecting member telescopically receiving a pair of transversely extending arms, a horizontal connecting member associated with said platform, a supporting member having a downwardly extending connecting member telescopically receiving said second mentioned upright member at the upper end thereof, a horizontal connecting member associated with said supporting member, a pair of transverse connecting members associated with said supporting member telescopically receiving a pair of transversely extending arms, a member telescopically received by each of said horizontal connecting members, and a pair of planks having sleeves at each end, said sleeves being loosely received by said pairs of transversely extending arms.

8. A demountable stand comprising a floor-engaging frame, said frame including a series of members adapted to lie parallel to the floor and extending angularly with respect to each other and a four-part connecting member, three parts of said four-part connecting member telescopically receiving said series of members and the fourth part thereof extending vertically, an upright member telescopically received at the lower end thereof by said fourth part, interengaging means associated with said fourth part and said upright member for preventing rotation of said upright member, said interengaging means including a pin in one of said fourth part and upright member and a slot in the other of said fourth part and upright member, a platform, a connecting member extending downwardly from said platform, said downwardly extending connecting member telescopically receiving said upright member at the upper end thereof, and interengaging means associated with said downwardly extending connecting member and upright member for preventing rotation of said platform, said interengaging means including a pin in one of said downwardly extending connecting member and upright member and a slot in the other of said downwardly extending connecting member and upright member.

9. A demountable stand comprising a floor-engaging frame, said floor-engaging frame including a series of base members and a connecting member telescopically receiving said base members, said connecting member including a vertically extending member, an upright member telescopically received at its lower end by said vertically extending member, interengaging means associated with said vertically extending member and the lower end of said upright member for preventing rotation thereof, a platform, a downwardly extending member rigid with said platform, said downwardly extending member telescopically receiving said upright member at its upper end, and interengaging means associated with said downwardly extending member and the upper end of said upright member for preventing rotation of said platform.

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