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DEMOUNTABLE BENCH

Filed March 4, 1966

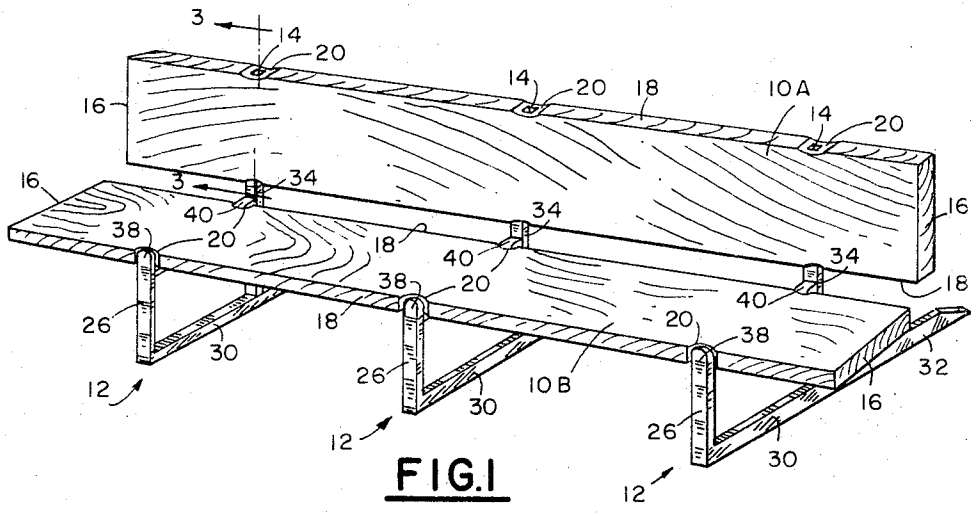


FIG. 1

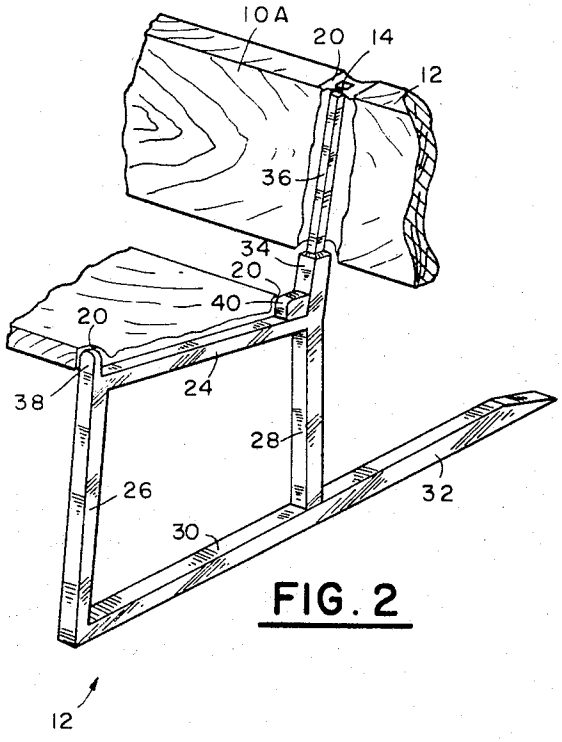


FIG. 2

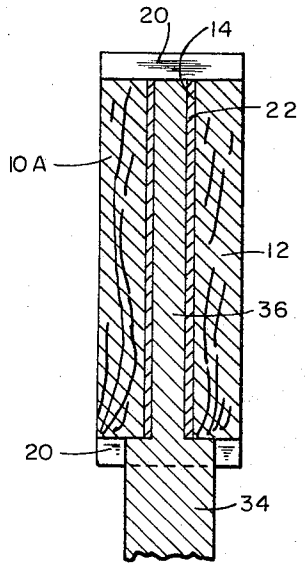


FIG. 3

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DEMOUNTABLE BENCH

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This invention relates to a demountable bench. More particularly, the invention relates to a bench design for easy mounting and demounting, the invention being characterized by extreme compactness in the demounted condition and being further characterized by the utilization of only two components in the construction of the bench, each of which in the demounted condition is of a flat configuration so that a large number of benches capable of seating a large group of people may be very easily stored and transported.

There are many types of folding chairs and similar portable devices on the market and otherwise known in the art but most of these, while foldable and thereby arrangeable in a manner to consume substantially less space than the normal chair or seat, nevertheless require a substantial amount of space. The necessary seating for a large crowd of people utilizing presently existing devices is substantially bulky and hard to transport and store.

This invention provides a unique type of demountable bench, an object of which is to provide a seating arrangement wherein the bench in demountable condition can be stored extremely compactly.

Another object of this invention is to provide a demountable bench utilizing only two components.

Another object of the invention is to provide a demountable bench having two basic components, one of which forms either a seat or back in the bench arrangement in a manner wherein the bench can be rapidly erected without any thought given to specific component interrelationships.

Another object of this invention is to provide a demountable bench of extreme simplicity, economy of construction, ease of mounting and demounting, and, most particularly, a bench which when assembled is extremely sturdy.

These and other objects of this invention and a better understanding of the invention will be had by referring to the following description and claims taken in conjunction with the attached drawings in which:

FIGURE 1 is an isometric external view of an assembled bench of this invention.

FIGURE 2 is an enlarged isometric view of the leg structure of the bench of this invention showing the seat and back portions broken away.

FIGURE 3 is an enlarged cross-sectional view taken along the line 3—3 of FIGURE 1 showing the bench back receiving the upper portion of the leg structure.

Referring now to the drawings and first to FIGURE 1, an assembled bench of this invention is shown. The bench consists of two elements, that is, an interchangeable reversible symmetrical relatively thin rectangular panel **10** and a leg structure **12**. To form one bench, two panels **10** are used, one forming a back, identified by the numeral **10A**, and the other forming the bench seat, identified by the numeral **10B**, and at least two leg structures **12**. Obviously, any number of two or more leg structures **12** may be utilized depending primarily upon the length of the bench.

The panels **10** are interchangeable. That is, the back panel **10A** and seat panel **10B** are identical so that in the erection of the bench no concern need be given as to which is the seat and which is the back. In addition, the panels forming the back **10A** and seat **10B** are reversible, that is, there is no top or bottom, which further eliminates any concern, during erection, of element relationships.

Each of the panels has at least two spaced parallel openings **14** therethrough parallel the width edge **16** and perpendicular the length edges **18**. Formed in the length edges **18** of the panels **10** are recess notches **20** at each of the openings **14**. The function of the notches **20** will be described subsequently. The panels **10** may be composed of rectangular wood members having openings **14** and notches **20** therein or such panels may be formed of plastic material. When formed of plastic, the panels may include in each of the openings **14** a tubular reinforcing member **22**, as shown in FIGURE 3. Ordinarily, such tubular reinforcing member **22** will not be required when material such as wood is utilized but when material having less structural rigidity is utilized, such reinforcing will normally be found to be necessary.

The second portion of the demountable bench of this invention, as previously indicated, is the leg structure **12**, best shown in FIGURE 2. A leg structure **12** is utilized for each of the openings **14** in the panels **10**. Thus, as illustrated in FIGURE 1, each of the panels has three openings **14** therethrough requiring three leg structures **12**.

Each of the leg structures **12** is of integral construction having a horizontal seat supporting portion **24**. Integrally affixed at each end and extending downwardly from the horizontally seat support portion **24** is a front leg portion **26** and a rear leg portion **28**, the leg portions being substantially parallel. By substantially parallel is meant that they will be in relative parallel relationship, it being obvious that a deviation from such parallel relationship will not depart from the scope of the invention. In like manner, the seat support portion **24** is described as horizontal, it being understood that horizontal is used in a relative sense and that departure from the horizontal will be within the scope of the invention. In fact, some slight rearward tilt relative to the horizontal of the seat support member **24** may be preferred. In the illustrated embodiment a horizontal base member **30** is affixed at the bottom end of the front and rear leg portions **26** and **28**. This is an optional although preferred arrangement giving increased strength and rigidity to the leg structure. In addition, the base member preferably includes a rearwardly extending portion **32** adding substantial stability to the overall structure, and particularly preventing the bench when assembled from being tilted backwards.

Affixed at the rearward end of the horizontal seat support portion **24** is an upstanding back panel support portion **34**. In the preferred arrangement, the upper portion of the back support portion **34** is of reduced cross-sectional area, indicated by the numeral **36**. The reduced cross-sectional area portion **36** is received by opening **14** in the back panel **10A**. The larger cross-sectional area portion **34** holds the back panel spaced above the horizontal seat supporting portion **24**.

The leg structure **12** is of integral flat construction in which all elements are in a single plane so that when the bench is disassembled the leg structures lie one on top of another, consuming a minimum of space.

Each of the leg structures **12** is provided with an upstanding front stop member **38** extending from the horizontal seat support portion **24** and a second or rear stop member **40** extending from the horizontal seat support portion **24** adjacent the back panel support portion **34**. Each of the stop members **38** and **40** is of a height above the horizontal seat support portion **24** less than the thickness of the panels **10A** and **10B**. When the bench of this invention is assembled, the front and rear stop members **38** and **40** are received in notches **20** in the length edges **18** of the panels **10A** and **10B**. This arrangement prohibits the leg structures **12** from rotating relative to the back panel **10A** and affords greatly increased rigidity to the assembled bench.

To assemble the bench of this invention, a panel **10** (to form the back panel **10A**) is inserted over the upstanding back support portion **34** of leg structures **12**, that is, the leg structure back support portions **34** are received by openings **14** in the back panels **10A**. The number of leg structures utilized with each bench is dependent basically upon the length of the bench. Next the seat **10** is placed upon the horizontal seat supporting portions **24** of the leg structures **12**, the notches **20** receiving the stops **38** and **40**. When the bench is assembled, it is exceedingly sturdy. During assembly, no attention or concern need be given as to which is the top or the bottom edge **18** of any panel or whether it is to be used for a seat or a back, nor if it must be placed right side up, since it is reversible. The leg structures **12** are also identical.

To demount the bench, all that is required is that the back panel **10A** be lifted straight upwardly and the components are disassembled. The panels **10** being flat can be stored very compactly and the same applies to the leg structures **12**. In this manner sufficient benches to seat a large number of people may be hauled in a pickup truck or station wagon and can be stored in a much smaller area than any known type of portable seating arrangement.

While the invention has been described with a certain degree of particularity, it is manifest that many changes can be made in the details of construction and the arrangement of components without departing from the spirit and scope of this disclosure.

I claim:

1. A demountable bench comprising:

a first and second interchangeable, reversible, symmetrical, relatively thin rectangular panel, one of which panels serves as the bench back and the other as the bench seat, each of which panels has at least two spaced parallel openings therethrough parallel the width edges and perpendicular the length edges; and

an identical leg structure for each of said openings in one of said panels of integral construction having a horizontal seat supporting portion upon which said bench seat panel rests, a leg portion extending downwardly from each end of said horizontal seat portion, a horizontal base portion affixed to the downward end of each of said leg portions, and an upstanding back panel support portion extending upwardly from said horizontal seat portion, said bench back panel openings slidably receiving in paralleled spaced relation said leg structure back panel support portion of each of said leg structures.

2. A demountable bench according to claim **1** wherein each of said panels includes in each of said openings therein a tubular reinforcing member which in turn slidably receives said back panel support portions of said leg structures.

3. A demountable bench according to claim **1** wherein each of said leg structures has an upstanding rear stop member extending from said horizontal seat support portion adjacent said back panel support portion and a second upstanding stop extending from said horizontal seat support portion at the end thereof opposite said first stop member, said stop members being of a height above said seat support portion less than the thickness of said panels, and wherein each of said panels has a notch recess in each length edge at said openings whereby when the bench is assembled said notches in the panel serve as the seat panel receiving said stops to maintain said leg structures in paralleled relation.

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