SELF-OPENING COLLAPSIBLE STOOL

Charles E. Murcott, Valley Stream, N. Y.

Application May 21, 1953, Serial No. 356,332

2 Claims. (Cl. 155—150)

This invention relates to collapsible stools which can be conveniently carried about and used periodically as a seat. For example, in playing a game of golf, the stool may be carried with a golf bag and used from time to time when a delay in the game occurs, necessitating the player to otherwise stand around.

More particularly, the invention deals with a collapsible stool which, when released from its collapsed position, will automatically move into extended position for use and, further, which can be simply and easily collapsed from the extended position.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawings, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a front view of a stool made according to my invention in its opened position, with part of the construction broken away and in section.

Fig. 2 shows a side collapsed view of the stool turned slightly with respect to the showing in Fig. 1.

Fig. 3 is a partial section on the line 3—3 of Fig. 1 on an enlarged scale.

Fig. 4 is a broken section on the line 4—4 of Fig. 1 and showing only one of the leg members for sake of clarity and simplification; and

Fig. 5 is a plan view of the stool shown in Fig. 1, illustrating the relative position of the lower ends of the rods or leg members with respect to the triangular seat.

My improved stool comprises three basic parts, namely:

1. a frame of the stool, a solid thick walled collar or ring 11 forming the pivotal mounting of the rods and a seat 12, generally of triangular form, as shown in Fig. 5.

2. The rods 10 are pivotally coupled centrally thereof to the ring 11 on pivot screw pins 13, thus dividing the rods into lower leg portions 14 having rubber cushioned feet 15 and upper seat supporting arms 16, the rods being tubular in form and the upper ends of each rod or the seat supporting portions 16 thereof are closed by plugs 17, note Fig. 3, the plugs having domed heads 18 which overlie the ends of the rods to provide smooth rounded surfaces for engagement with the seat 12.

3. Engagement of the members 16 with the seat 12 is reinforced by strong canvas or similar shoes 19 which overlie the knobs 18, as clearly seen in Fig. 3 and these shoes are held in position by bolts 20 which also pass through the plugs 17. This construction takes up the wear and will not appreciably strain the seat 12. It will be understood that the seat 12 will be made of a strong canvas or other material having hemmed edges, as indicated at 21 in Fig. 3.

The seat 12, when in extended position and used as a seat, assumes a position substantially similar to that diagrammatically shown in Fig. 1, the drawing and, in the use of the stool, the occupant arranges the upper end of one of the members 16 between the legs. Noting, in this connection Fig. 5 of the drawing, it will appear that the leg members 14 will then provide a very sturdy triangular support for the stool with no possibility of tilting. This result is accomplished by the closing of the members 10 in the ring in the manner diagrammatically illustrated in Figs. 1 and 2 of the drawing. This will further be apparent from a consideration of Fig. 5. In other words, the upper leg 14, as appearing in Fig. 4, will extend to the front or lower corner 22 of the seat; whereas, the left leg will extend to the right corner 23 and the right leg will extend to the left corner 24.

The ring 11 or the bore thereof has inwardly contracted or bevelled walls, as noted at 25 in section in Fig. 1 of the drawing. The apex of the bevelled walls is at the thickest portion of the ring. The angles of these inwardly contracted surfaces are preferably such as to provide support for the rods or tubes 10 on upper and lower surfaces of these contractions, thus providing a substantial bearing surface of the rods in the ring or collar 11.

In Fig. 4 of the drawing, one of the three rotatably adjustable pins 13, which are employed, for pivotally coupling the rods 10, is shown in section. However, it will be understood that all of these pivotal couplings are the same, thus the brief description of the one will apply to all.

The pin 13 has a flat head 26 which seats in the ring for alignment. The pin has an inner pivot end 27 which seats in an aperture 28 of the rod 10. The terminal end of the end portion 27 has a transverse slot 29, in which one end 30 of a coil spring 31 is secured. The other end 32 of the spring 31 is preferably long and extends upwardly in the tube 10 and bears on this tube to normally throw the same outwardly on the pivot 27, in other words, to tensionally support the stool in the extended position.

In assembly, the pin 13 is rotated to apply the required tension to the spring 31, after which a pin 33 is passed through the collar or ring 11 into the pin 13 to key the same against rotation. It will be apparent that the head 26 maintains alignment of the pin for insertion of the key pin 33.

Prior to assembly of the rods 10 with the collar 11, a holding ring 34 is arranged on the rods 10 or the upper seat supporting portions 16 thereof. In other words, the ring 34 is disposed above the collar 11.

In movement of the stool from the extended position to the collapsed position shown in Fig. 2, the ring 34 is simply moved upwardly on the members 16 and passed over the portions of the seat 12 which will be gathered at the upper ends of the member 16 in the manner indicated, thus holding the parts in the collapsed position shown in Fig. 2. This results in providing a package which is of the length of the members 10 and substantially within boundaries of the collar 11. This provides a very desirable package for carrying, as well as packaging or shipment.

In moving the stool into extended position, all that is necessary is to grasp one of the ends 22, 23, 24 and then slide the ring 34 downwardly beyond the environment of the seat portions 12, whereupon the ring will drop automatically onto the collar and the other members 10 will automatically extend into operative position by reason of the action of the springs 31.

From the foregoing, it will be apparent that the tension of the springs 31 is increased in the support of the stool parts in collapsed position.

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

1. A collapsible stool, comprising three rods pivotally coupled centrally to a thick walled ring for movement from a collapsed position into an extended position, the bore of the ring having upper and lower outwardly bevelled walls, the apex of which is at the thickest part of the
ring, lower portions of the rods forming three supporting legs for the stool, upper portions of the rods forming three seat supporting members, a flexible seat generally triangular in form coupled with upper ends of said seat supporting members, a ring slidably supported on the seat supporting members of said rods for moving said rods into and holding the same in collapsed position, the pivotal coupling of the rods with said first named ring comprising slotted pins adjustable supported in said ring, and springs mounted on said pins and having ends engaging the slots of the pins and said rods to tensionally support the rods in extended position.

2. A collapsible stool comprising a ring having a plurality of circumferentially spaced slotted pivot pins, said pins forming pivotal mountings for three tubular rods having downwardly extending leg ends and upwardly extending seat supporting ends, a seat of flexible material substantially triangular in form coupled with said seat supporting ends, reinforcing means between the seat and said seat supporting ends, springs mounted on said pins, within said rods, one end of the springs engaging the slots of said pins and the other end of the springs engaging the rods to tensionally support the rods in extended position, means fixing the pins to said ring, the bore of said ring having outwardsly bevelled upper and lower walls which intersect in an apex centrally of the ring, said walls checking movement of the rods into extended positions, and means movable longitudinally of said rods for supporting the same in collapsed position against the action of said springs.

References Cited in the file of this patent

UNITED STATES PATENTS

509,005 Voelzkw Nov. 21, 1893
615,476 Chapman Dec. 6, 1898
641,710 Lemley Jan. 26, 1900
664,976 Shefey et al. Jan. 1, 1901
705,893 Antion July 29, 1902
1,274,973 Allen Aug. 6, 1918
1,338,124 Dale Apr. 27, 1920
1,355,944 Dale Oct. 19, 1920
1,776,418 DuJardin Sept. 23, 1930
2,103,874 Shwayder Dec. 28, 1937
2,620,019 Merrill et al. Dec. 2, 1952