H. G. DALE.

FOLDING CAMP STOOL.

APPLICATION FILED JULY 3, 1920.

1,355,944. Patented Oct. 19, 1920.

Fig. 1.

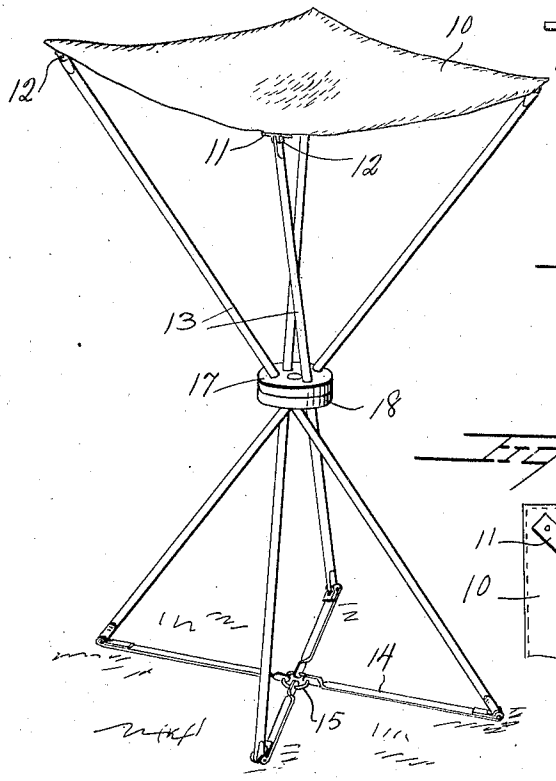


Fig. 7.

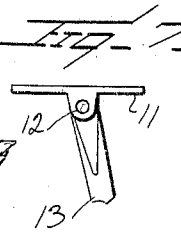


Fig. 6.

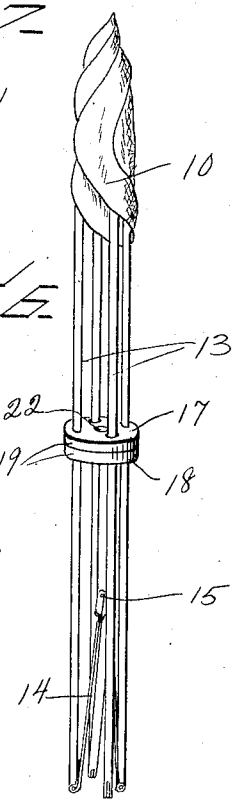


Fig. 8.

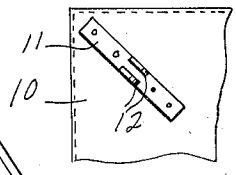


Fig. 3.

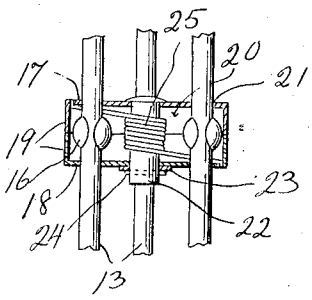


Fig. 5.

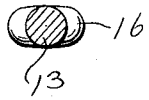


Fig. 2.

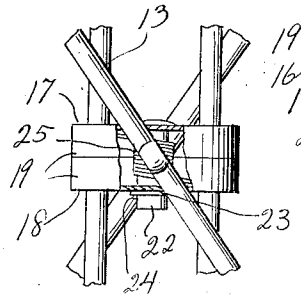
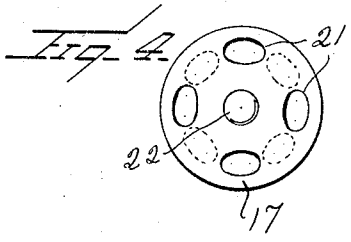


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FOLDING CAMP-STOOL.

1,355,944. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed July 3, 1920. Serial No. 393,817.

To all whom it may concern:

Be it known that I, HORACE G. DALE, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Folding Camp-Stools, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to camp stools, and more particularly to the folding camp stool illustrated in the patent granted me on the 27th day of April, 1920, #1,338,124. In this patent I show a camp stool having four legs passing through a pair of annuli, the annuli having registrable apertures through which the legs pass, and a spring being provided which urges the annuli into such relation that the legs are parallel to each other, a weight on the camp stool urging the annuli against the action of said springs so as to carry the apertures out of registration with each other and thus incline the legs to unfold the camp stool.

This improvement relates to the construction of these annuli, the engagement of the legs therewith, and the arrangement of the spring with relation to the annuli, and the object of the invention is to so construct the annuli that the annuli may be separately made and joined to each other and then the legs inserted and locked within the annuli, thus reducing by a third or more the time and cost incident to the construction of the camp stool and further very greatly improving the appearance of the camp stool, as the spring is entirely housed and protected.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a stool constructed in accordance with my invention;

Fig. 2 is a fragmentary elevation of the coacting annuli and the adjacent portions of the legs, the annuli being broken away and the legs being shown in their inclined positions;

Fig. 3 is a like view to Fig. 2, but showing the legs in parallel relation to each other;

Fig. 4 is a top plan view of one of the annuli;

Fig. 5 is a detail section showing the middle portion of one of the legs;

Fig. 6 is a perspective view of the camp stool in its folded condition;

Fig. 7 is a fragmentary elevation partly in section of the hinge 12;

Fig. 8 is a fragmentary plan view of the under side of the seat showing the attachment of the hinge thereto.

Referring to these drawings, it will be seen that the camp stool comprises a seat 10, illustrated as square and formed of canvas or other like material and having attached to its corners plates 11 formed with ears 12. The plates are attached to the corners of the canvas seat by sewing, as illustrated in my prior patent and in Fig. 8.

Hingedly connected to the ears 12 are the legs 13 which are inserted between the ears 12 and riveted or bolted thereto. Each of these legs at its lower end is reduced in thickness and each leg is pivotally connected to a metallic tension strap 14, each of these straps at its inner end being twisted so as to be disposed in a vertical plane and pierced for the passage of a central ring 15. As there are four legs, there are four of these tension straps. When the camp stool is folded up, these straps will fold up within the space defined by the four legs of the stool. These parts are as illustrated in my prior patent.

The legs 13 are preferably made of 1¼″ round spring steel and each leg intermediate its length, as, for instance, approximately at its middle, is formed with an enlargement or head 16. In plan, this enlargement or head 16 is elliptical or oval in form but circular in cross section.

The legs pass through a pair of annuli 17 and 18, each of these annuli being of the same diameter and having a marginal flange 19, the edges of these flanges abutting against each other when the annuli are in place. The annuli together define a chamber 20 having a depth approximately that of the diameter of the head 16. Each annulus is formed with four elliptical openings 21 adapted to be disposed in registration with each other. The legs 13 pass through these elliptical openings 21. The annuli are held together by a pin or bolt 22 which may be headed or overturned at one end, as for instance the upper end, this bolt passing downward through the two annuli

and at its lower end carrying a washer 23 and a pin 24 holding the washer in place.

Surrounding the pin 22 which forms the pivotal axis for the annuli 17 and 18 is a helically coiled spring 25. One end of this spring extends radially outward and is operatively engaged with the annulus 17, while the other end of the spring extends radially outward in an opposite direction to the first named end and is operatively engaged with the annulus 18. The spring is, of course, held upon the pin 22. This spring normally urges the two annuli in such position that the apertures 21 of the annuli are in alinement with each other, as illustrated in Fig. 3. When the upper edges of the legs are diverged, however, so as to spread the seat 10, these legs take the position shown in Fig. 2 and this acts to turn the annuli in relatively opposite directions against the force of the spring 25. The pressure on the seat holds these annuli in this position with the legs crossed or divergent, but when the pressure is relieved, the seat will automatically contract to its initial position, that is the legs will return to a parallel position. Of course, the straps 14, when the legs are unfolded and these straps lie flat, tend to keep the legs in their divergent position, but the lifting of the central ring 15 upward, provided there is no weight on the seat 10, will permit the spring to return the legs to their parallel position by rotating the annuli.

The object of having the legs formed with elliptical heads 16 is to permit the annuli to be assembled and the spring placed inside the annuli before the legs are inserted. In inserting the legs, each leg is turned so that its oval or elliptical head 16 will pass through the oval or elliptical opening 21, and when the head is within the chamber 20, the leg is given a half turn so that the elliptical head 16 is turned at right angles to the opening 21. After the legs have been inserted and given a half turn as described, they are attached at their upper ends to the seat 10 and at their lower ends to the rods or straps 14, in turn connected to the ring 15 and thus prevent any rotation of the legs so that the legs thereafter always remain in a position with the heads 16 extending transversely to the major axis of the corresponding opening 21. This construction permits the member formed by the annuli 17 and 18 to be formed complete by itself with the bolt or pin 22 and the spring 25 in place, and then after this member formed by the annuli 17 and 18 has been completed, the legs may be inserted and the remainder of the stool assembled, as described.

I have found in actual practice that this manner of constructing and assembling the stool reduces the cost of making the stool by at least one-third. Thus the stool may be made in less time, made much more cheaply, and may be sold for considerably less price. Furthermore, it will be seen that the spring 25 is housed entirely within the chamber 20 instead of being upon the exterior of the chamber, as was the case in my prior patent. The spring is thus protected and the stool itself rendered more attractive. The stool, when folded as illustrated in Fig 6, is extremely compact and the stool is very light in weight, the complete stool weighing about one pound and ten ounces and having a carrying capacity of about 275 pounds.

While I have referred heretofore to the stool being made with four legs, and I believe this to be preferable, yet it is obvious that the same principle of construction might be applied to a stool formed with three legs.

I claim:—

1. A camp stool of the character described including a seat of flexible material, a plurality of legs pivotally connected to the seat, a pair of annuli disposed in confronting relation to each other mounted for independent rotation on a common axis, resilient means urging the annuli in opposite directions, each of said annuli being formed with peripheral confronting flanges and each of said annuli being formed with a plurality of marginal elongated openings, the major axis of each opening extending circumferentially of each annuli, each of said legs being formed intermediate its length with an elongated head adapted to pass through the openings in the annulus when the head is turned with its major axis coincident with the major axis of the opening, said legs being normally disposed so that the heads extend at right angles to the major axis of the corresponding opening, and means flexibly connecting the lower ends of the legs.

2. A camp stool of the character described including a seat of flexible material, a plurality of legs pivotally connected to the seat, a pair of annuli, the annuli having peripheral, confronting flanges, a central pivot pin passing through the annuli and upon which the annuli are independently rotatable, resilient means attached to the pin and disposed within the annuli, urging the annuli in opposite directions, said annuli being formed each with a plurality of marginal, elliptical openings, the major axis of each opening extending circumferentially of the annulus, each of said legs being formed intermediate its length with a substantially elliptical head adapted to be passed through the openings in the annulus, said legs being normally disposed so that the heads extend at right angles to the major axis of the corresponding opening, and means flexibly connecting the lower ends of the legs.

3. A folding camp stool including a seat of flexible material, a plurality of legs piv-

otally connected to the seat, each of said legs intermediate its ends being formed with a head having its longer axis extending diametrically through the legs, the length of the longer axis of each head being greater than the diameter of the legs, a pair of annuli having confronting, peripheral flanges and having a series of perforations through which the legs pass, the perforations in one annulus being elongated in one direction to permit the passage therethrough of the heads, said heads being normally disposed with their longer axes at right angles to the axes of the perforations through which they pass, a pivot pin passing through the center of the annuli and forming the pivotal axis thereof and having a head at one end, a washer disposed upon the opposite end of the pivot pin and bearing against the adjacent annulus, and a pin detachably passing through the pivot pin and detachably holding the washer in place, and means flexibly connecting the lower ends of the legs.

In testimony whereof I hereunto affix my signature.

HORACE G. DALE.