June 11, 1963 R. I. WRIGHT 3,092,843

PORTABLE STEAM CHEST

Filed Nov. 30, 1961

Fig. 1

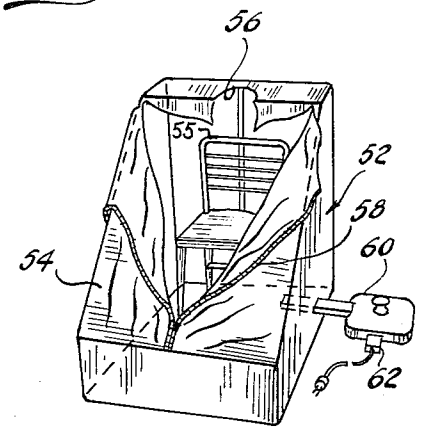
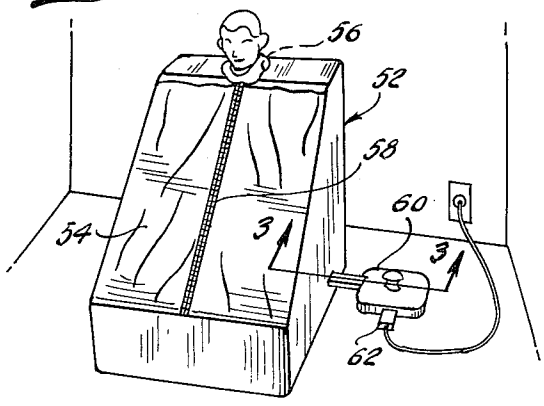


Fig. 2



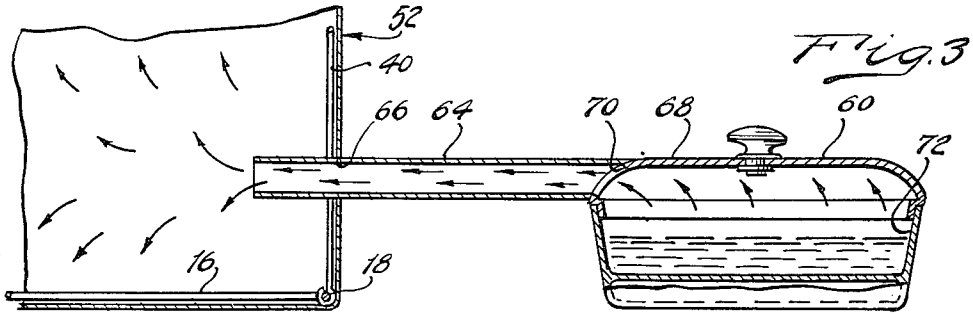


Fig. 3

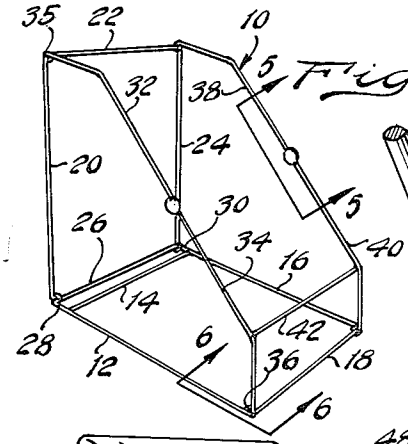


Fig. 4

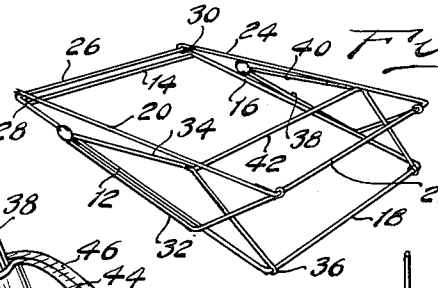


Fig. 7

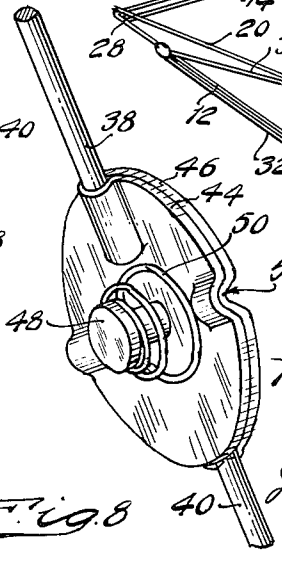


Fig. 5

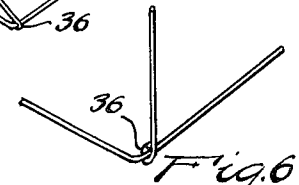


Fig. 6

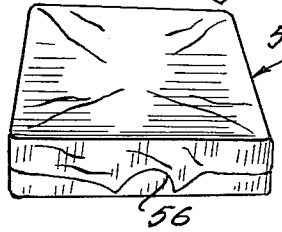


Fig. 8

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PORTABLE STEAM CHEST

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My invention relates generally to steam chests or cabinets, and more particularly to steam cabinets that are collapsible for easy storage when not in use.

The provision of such an improved steam chest being a principal object of my invention, it is a further object of my invention to provide a steam chest that is characterized by its simplicity of construction.

It is a further object of my invention to provide a steam chest that may be readily assembled and disassembled by a single person.

It is a further object of my invention to provide a steam chest wherein humid air may be supplied to the interior of a chest continuously for several hours or for any shorter period of time that is desired.

It is a further object of my invention to provide a simplified portable steam chets in which entry and egress may be accomplished without the assistance of a second person.

It is a further object of my invention to provide a steam chest that includes a simplified collapsible frame and a foldable covering for the frame that defines a chamber for the humid air.

It is a further object of my invention to provide a steam chest as set forth in the foregoing objects wherein a steam generator may be located externally of the steam chamber.

It is a further object of my invention to provide a steam chest of the type set forth in the foregoing objects wherein the steam chamber is isolated from any electrical voltage conductors to eliminate the possibility of electrical shock.

Further objects and features of my invention will become apparent from the following description and the accompanying drawings wherein:

FIG. 1 shows in isometric form a complete steam chest together with the externally located steam generator;

FIG. 2 is a view similar to FIG. 1 showing the steam chest in a closed condition;

FIG. 3 is a partial cross sectional view of the steam chest of FIGS. 1 and 2 taken along section line 3—3 of FIG. 2;

FIG. 4 is a view showing in isometric form the internal frame structure of the steam chest of FIGS. 1 and 2;

FIG. 5 is an enlarged view showing the construction of the joint located in the encircled portion of FIG. 4;

FIG. 6 is an enlarged view showing the construction of the joint of the second encircled portion of FIG. 4;

FIG. 7 is a view of the frame of FIG. 4 when it assumes a collapsed position; and

FIG. 8 is a view of the steam chest of FIGS. 1 and 2 in the completely collapsed condition.

Referring first to FIG. 4, the frame is identified generally by reference character **10**. It includes a lower frame member having side members shown at **12**, **14**, **16** and **18** arranged in the form of a rectangle. Each of these members **12** through **18** is rigidly joined at its intersections with the adjacent members. By preference, these members can be formed from a single piece of bar stock that is bent at three corners and welded or otherwise secured together at the other corner.

Vertically positioned frame members are shown at **20**, **22**, **24** and **26**. These members also are formed in the shape of a rectangle and, like the lower frame members, can be formed from a single piece of bar stock bent at each of three corners and secured together by welding or other suitable means at the fourth corner thereby forming an integral sub-assembly.

Frame members **12** and **16** include extensions **28** and **30**. These can be looped around the frame member **26** to form a pivoted joint between the members **12** and **16** with respect to member **26**. A pair of frame side members is shown at **32** and **34**. Member **32** is bent and one end thereof is looped over member **22** as shown at **35**. In a similar fashion, one end of member **34** is looped over member **18** as shown at **36**. The joint between member **34** and member **18** can be seen by referring to FIG. 6.

Another pair of side members is shown at **38** and **40**. These members are similar in shape to the members **32** and **34**, respectively. Members **34** and **40** are joined together by member **42**, and the plane of the members **42** and **18** is perpendicular to the plane of members **12** and **16** when the frame is in a fully assembled upright position as viewed in FIG. 4.

The adjacent ends of the members **32** and **34** and the adjacent ends of members **38** and **40** are hinged together. In FIG. 5 I have illustrated the hinged connection in particular detail. It includes a flat member **44** that is connected to the end of member **38**. Another member **46** is joined to the end of member **40**. Member **46** carries a pin or stud **48** that extends through a cooperating opening in the adjacent member **44**. The member **44** can be pivoted about the axis of the stud **48**.

A spring **50** is situated between member **44** and a spring seat carried by the stud **48**. This spring normally urges the members **46** and **44** into frictional engagement. Thus the members **32** and **34** can be pivoted relative to each other, although a slight degree of force is required to do this. The members will not pivot relative to each other when the frame is assembled unless the operator is in the process of folding the frame. An overcenter stop is provided as shown at **51** in the form of a projection and a cooperating recess in the members **46** and **44**, respectively.

Referring next to FIG. 7, the frame discussed with reference to FIG. 4 is shown in a fully collapsed position. Note that the hinged connections between the members **32** and **34** and the members **38** and **40** allow these members to fold one over the other. The looped connections between the members **12** and **16** relative to member **26**, between members **32** and **38** relative to member **22** and between members **34** and **40** relative to member **18** also accommodate the necessary relative motion. Each of the looped hinged connections is similar to that shown in FIG. 6.

Referring next to FIGS. 1 and 2, a flexible covering is shown generally at **52**. This covering preferably is formed of plastic or other fabric such as canvas. The covering **52** is tailored to conform in shape to the shape of the frame illustrated in FIG. 4. The front surface **54** of the covering **52** has a zipper opening to permit entry and egress. A chair **55** to accommodate the operator can be placed within the enclosure that is defined by the covering **52**.

The top of the covering **52** has an opening **56** through which the head of the operator can project.

A zipper is shown at **58** in FIG. 1. The zipper can be opened and closed by the operator from the interior of the steam chamber.

In FIG. 2, the zipper is shown in the fully closed position with the operator within the steam chamber.

A steam generator is shown in FIGS. 1 and 2 at **60**. It includes a pan for containing water and a heating element is located at the base of the pan for boiling the water. An electrical connection for energizing the heating element is shown at **62**. The connection can be connected to any suitable household electrical outlet.

In FIG. 3, there is shown a steam conduit **64** in the form of a closed channel. It extends to the interior of the steam chamber through a suitable opening **66** formed in one side of the covering **52**. The other end of the channel **64** is connected to a cover **68** for the steam generator. This cover is formed with an opening **70** to permit steam to escape from the water pan **72** and pass through the channel **64** into the steam chamber. There is no electrical connection between the heating element and the steam chamber itself, and the steam generator is located entirely on the exterior of the steam chamber to avoid the possibility of electric shock.

In FIG. 8 I have shown my improved steam chest in a fully collapsed position and folded for easy storage.

Having thus described a preferred embodiment of my invention, what I claim and desire to secure by U.S. Letters Patent is:

1. A collapsible, portable steam chest comprising a frame, said frame having base frame members rigidly connected in a horizontal plane, upright frame members rigidly connected in a vertical plane, a hinged connection between adjacent members in each plane, a pair of bipartite front frame members extending between the remote sides of said base frame members and said upright frame members, hinge structure for joining each part of said front frame members together in end-to-end relationship, said hinge structure including two friction parts, one friction part being carried by each front frame member, means for maintaining said frictional parts in frictional engagement, another frame member extending between said front frame members to hold the latter in spaced relationship, the extremities of each front frame member being hinged to said base frame member and said upright frame members, and a flexible covering tailored to the shape of the frame and enclosing said frame, said covering having a closable access opening.

2. A collapsible, portable steam chest comprising a frame, said frame having base frame members rigidly connected in a horizontal plane, upright frame members rigidly connected in a vertical plane, a hinged connection between adjacent members in each plane, a pair of bipartite front frame members extending between the remote sides of said base frame members and said upright frame members, hinge structure for joining each part of said front frame members together in end-to-end relationship, said hinge structure including two friction parts, one friction part being carried by each front frame member of the associated pair of frame members, means for maintaining said friction parts in frictional engagement, and over center detent means for resisting relative movement of the front frame members of each pair when they are aligned, another frame member extending between said front frame members to hold the latter in spaced relationship, the extremities of each front frame member being hinged to said base frame member and said upright frame members, a flexible covering tailored to the shape of the frame and enclosing said frame, said covering having a closable access opening, said covering having a steam port, a steam generator located on the exterior of said covering, said generator including a water reservoir and an electrical heating element, and a steam conduit extending from said generator through said port into the interior of said covering.

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