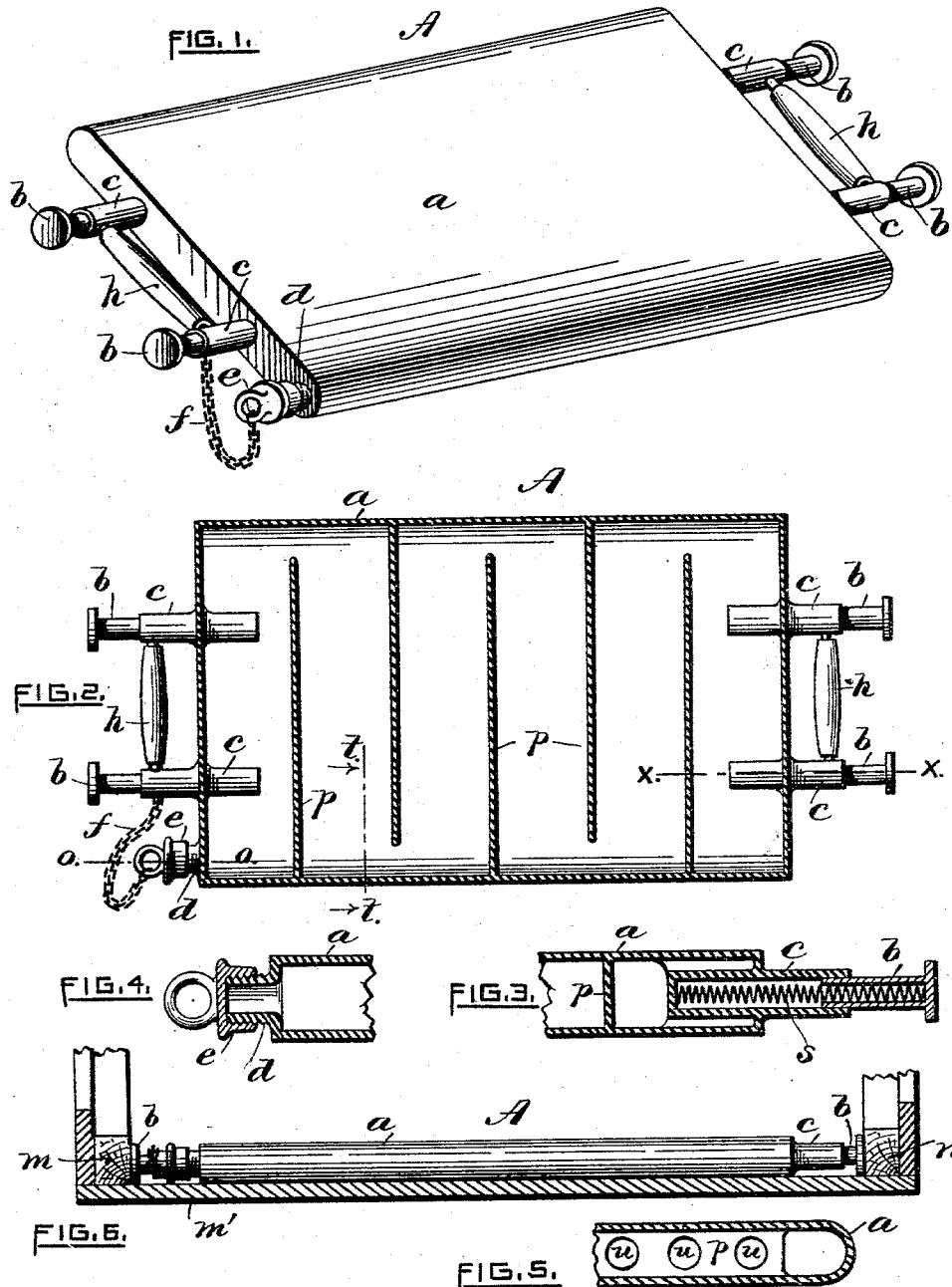


(No Model.)

A. A. WHIPPLE.
PORTABLE FOOT WARMER, &c.

No. 490,091.

Patented Jan. 17, 1893.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ALICE A. WHIPPLE, OF PROVIDENCE, RHODE ISLAND.

PORTABLE FOOT-WARMER, &c.

SPECIFICATION forming part of Letters Patent No. 490,091, dated January 17, 1893.

Application filed February 29, 1892. Serial No. 423,266. (No model.)

To all whom it may concern:

Be it known that I, ALICE A. WHIPPLE, a citizen of the United States, residing at Providence, in the county of Providence and State 5 of Rhode Island, have invented certain new and useful Improvements in Portable Foot-Warmers or Hot-Water Vessels for Carriages, &c.; and I do hereby declare the following to be a full, clear, and exact description of the 10 invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of 15 this specification.

In the device forming the subject of my present invention the object I have had in view is to produce an improved portable hot-water vessel, the novelty of its construction 20 and arrangement being such as to render it more especially adapted as a foot-warmer to be used in carriages, &c.

Heretofore, it has been usual in heaters of the class just referred to to employ rubber bottles or bags adapted to contain hot water. 25 There are objections to such rubber vessels because the action of hot water soon destroys the "life" of the rubber or holder so that after a while it becomes inelastic, the seams 30 are liable to open and the walls are easily fractured. Even at their best such rubber vessels when filled cannot withstand much external pressure without bursting. While, as just stated, it is usual to employ water 35 bottles made of rubber or other suitable flexible material, yet I am aware that a portable warming apparatus, cylindrical in form and made of metal has been devised for the use of persons traveling, &c. By means of my 40 improved vessel or heater the disadvantages resulting from the use of rubber bottles are overcome. It will retain the heat longer than rubber vessels; it occupies but little room when in use; it is readily adjustable to carriages varying in width; it is adapted and intended to sustain the weight of persons while 45 they are entering or alighting from the carriage; it can be quickly filled with hot-water; it can be handled with ease and safety, and it 50 is more efficient and serviceable than carriage-heaters of this class heretofore produced. In order to accomplish the advantages just

enumerated I have devised a heater or foot-warmer consisting essentially of a flattened and stiffened sheet metal shell arranged to 55 be charged with hot water and provided with means whereby the heater can be adjustably fitted to the carriage, all as will be more fully hereinafter set forth and claimed.

In the drawings, illustrating my invention, 60 Figure 1 is a perspective view of a heater or foot-warmer embodying my improvement; Fig. 2 is a plan view, in horizontal section, showing the interior arrangement; Fig. 3 is an enlarged longitudinal sectional view, taken on 65 line *x x* of Fig. 2, showing means for adjusting the length of the heater; Fig. 4 is a similar sectional view, taken on line *o, o*, of Fig. 2, showing the filling nozzle and cap screwed thereon; Fig. 5 is a partial transverse sec- 70 tional view, taken on line *t, t*, of Fig. 2, showing perforated stays or partitions, and Fig. 6 is a transverse sectional view, taken through the bottom of a carriage, showing the heater 75 in position, as in use.

It will be seen upon referring to the drawings that the water-tight shell or body portion *a* of my improved heater *A* presents a comparatively large heating surface or area although its depth is quite small, thereby occupying but little floor space. In order to reduce its weight I preferably make the shell of thin sheet metal, say copper having a bright or planished surface, and provide the interior or water-holding chamber with a series of suitable stays or ties uniting the upper and lower sides of the shell. 80 85

In the drawings I have represented a number of thin partitions *p* arranged in a zigzag manner, these serve to prevent the sides from 90 collapsing while the heater is being subjected to considerable external pressure, as when supporting the weight of a person. These stays or partitions may be perforated, as at *u* Fig. 5, or constructed and arranged in any 95 other suitable manner to facilitate the circulation of water throughout the interior of the shell *a*. One end of the shell is provided with a screw-threaded charging nozzle *d* communicating with the interior chamber; a similarly threaded cap-nut *e* being used to close the nozzle after the vessel is filled. The cap is attached to the heater by a chain *f*. 100

As drawn the ends of the heater are pro-

vided each with two laterally separated projecting guide-tubes *c* united by a tie *h* which also serves as a convenient handle for carrying the heater about. The inner ends of these tubes are closed; the outer ends are open and are provided each with an adjusting pin or hollow stop *b* fitted to move endwise therein. An expansion spring *s* is attached to both the tube and stop, see Fig. 3. The purpose of these yielding stops is to hold the heater in position when in use.

In service the heater A is, after first being filled with hot water, placed upon the floor m' (shown sectionally in Fig. 6) of a carriage, the spring-resisted holding pins or stops b then bearing against the inner side of the carriage frame m , as indicated. The shell a may be covered with cloth or felting or other suitable material if desired. The ends of the pins b may be similarly covered or roughened to prevent the heater from being accidentally moved when in position. It can be readily detached from the carriage by pressing the heater endwise and at the same time lifting it.

add that when it is used in a carriage I prefer to place it upon the floor just in front of the carriage seat so that a person's feet can rest directly upon its surface.

I claim as my invention—

1. A portable foot-warmer for carriages, the same consisting of a flattened and stayed sheet-metal vessel having a charging inlet communicating with the interior, and provided with yielding ends arranged to hold the heater in position when in use, substantially as described.

2. The portable heater or foot-warmer hereinbefore described, the same comprising a flattened interiorly-stayed sheet-metal vessel provided with handles and having a stoppered charging inlet, and one or more spring-resisted retaining pins mounted in each end of the vessel, all combined and adapted for operation substantially as and for the purpose set forth. 45

In testimony whereof I have affixed my signature in presence of two witnesses.

ALICE A. WHIPPLE.

Witnesses:

CHARLES HANNIGAN,

GEO. H. REMINGTON.