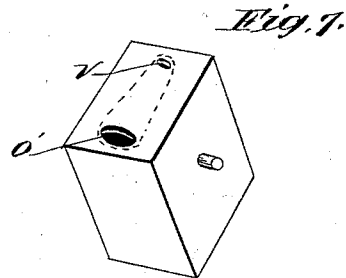
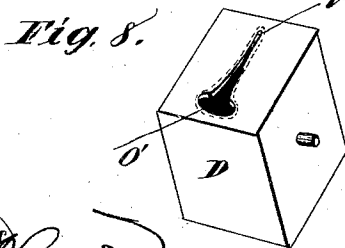
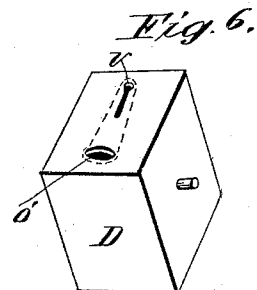
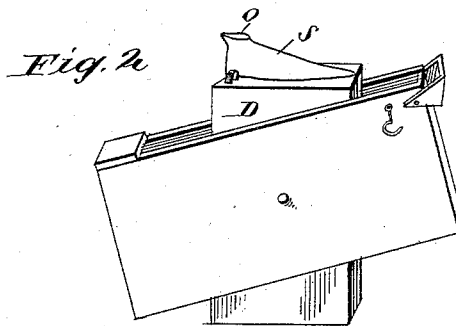
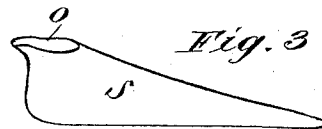
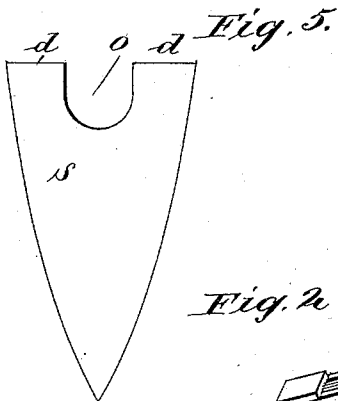
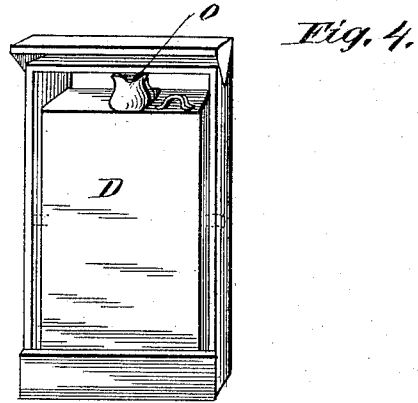
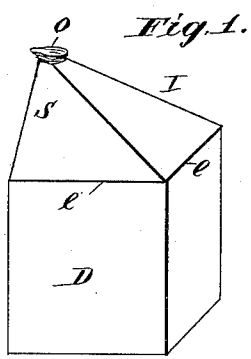


(No Model.)

H. STILES.  
SPOUT FOR CANS.

No. 474,507.

Patented May 10, 1892.



Witnesses  
Chas. A. Leonard  
Chas. A. Parsons

Inventor  
Henry Stiles  
by George C. Davis  
Attorney

# UNITED STATES PATENT OFFICE.

HENRY STILES, OF CLEVELAND, OHIO.

## SPOUT FOR CANS.

SPECIFICATION forming part of Letters Patent No. 474,507, dated May 10, 1892.

Application filed December 15, 1891. Serial No. 415,195. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY STILES, a citizen of the United States, residing in Cleveland, Ohio, have invented a new and useful Improvement in Spouts for Cans and Similar Receptacles, of which the following is a specification.

The several varieties of spouts heretofore known have been such that in whatsoever form they have been used the essential venting provision has been either entirely distinct and disconnected therefrom or, being a separate and distinct feature upon the can, it has been exteriorly connected with the spout, so as to terminate either within or without the same.

Some of the obvious disadvantages of vents of the above description are the increased cost of constructing the same as a distinctive feature from the spout, the necessity of operating them by independent action, and the liability to fracture to which such venting apparatus is exposed when special requirements call for the projection of the vent-tube above the can's surface.

The purpose of my present invention is to provide a can-spout which unites in one and the same device or construction all the functions of the ordinary discharging-spout and of a free and sufficient vent therefor. I accomplish this purpose by the device hereinafter described more particularly, and illustrated in the several drawings accompanying and forming a part of this specification.

In the said drawings similar letters are used in each to designate similar parts.

Figure I embodies my invention in its broadest form as constituting an integral portion of a can or receptacle. Fig. II shows a specific embodiment of said invention as it appears in side view in combination with a can revolving within a case. Fig. III is a side view of the device shown in Figs. I and IV, but detached from any receptacle. Fig. IV presents a front view of the device shown in Fig. II. Fig. V is a pattern-piece from which the specific form shown in Fig. III may be derived, and Figs. VI, VII, and VIII are cans presenting preferable forms of their upper surfaces when the device appearing in Fig. II is to be employed.

In the several figures, D is a can, which may

be of any pattern or design other than those shown which is appropriate.

O is the discharge-orifice of the spout, and O', Figs. VI, VII, and VIII, are corresponding orifices in the upper surface of the receptacle when the specific mode of constituting my spout is used which is shown in the figures other than Fig. I.

S denotes the spout in every instance.

In Fig. I, *s* comprises the portion of the can above the lines E, and in external form and contour it resembles a rectangular pyramid vertically bisected through the apex occupied by the plane of the orifice O.

In Figs. II, III, and IV the form of spout S is approximately that which a triangular-shaped plate, as in Fig. V, having an oblong semicircular excision *o* from its base will assume when the said plate is bent around until the remaining portions *d d* of the base are joined to each other through their length.

In every construction of my device the spout S has, essentially, its interior surface vertical upon the side at which the outpour is to be made and the interior surface opposite thereto sloping backward toward and to include the vent or venting-point in the can to which said spout is to be applied.

*v* indicates venting-points in the top of an ordinary square can, and O' orifices appropriately located for a surrounding spout. Dotted lines in the figures last referred to show the contact-line along which the lower edge of the spout S, Fig. III, is to be soldered or otherwise closely seated upon the top of the can D. The orifices thus comprised beneath the spout S when made as in Fig. III and attached to the top of a can are obviously not limited as to form to those shown and described herein. In practice it will doubtless be found most expedient when the spout S is to be seated upon a can-top, as in Fig. II, instead of constituting the can-top as in Fig. I, to prepare the top with two disconnected orifices, as when the familiar forms of separate and distinct spout and vent-tubes are to be affixed, as indicated in Fig. VII. By so retaining the intermediate surface between the vent *v* and the orifice O', instead of removing that portion, as in Fig. VIII, not only will the operation of draining be as efficient, but the superior position itself of the spout in

the manner specified herein will be found to incidentally strengthen the can in a desirable degree.

When, particularly, cans are to be used for shipping purposes, the insertion about the orifice O of a slight collar or cork nozzle will prove a convenient bearing for the more secure methods of closing the can that are required in such uses. A small lip to facilitate the drainage may be added with advantage to the side of the orifice O.

The principle upon which my invention depends and operates is apparent. The orifice O being at the side of the can, it at once assumes a position below the level of the liquid contents of the can when the latter is tipped forward, and of course is then in a natural position to permit the escape of said contents. In square or cylindrical topped cans, for instance, such tipping movement necessarily elevates above such level that portion of the can and its contents which is opposite to the spout portion, and the fluid equilibrium being thus disturbed an even flow from the spout will be interrupted unless a free vent-age through another avenue than the spout itself is secured.

The peculiar downward slant which characterizes my invention insures that until a sufficient volume of the can's contents has been discharged the nozzle itself will never be lower than the portion of the can opposite thereto, but that to and above this portion the atmosphere will have full and natural access as the surface of the contents in the spout and exposed gradually widens down the retreating-surface of the can's spout. As long, therefore, as the level of the can's contents is within the said slanting top or spout the can, by reason of the peculiarity of construction in question, is self-venting and without dependence upon or need of any venting provision separate from the said sloping spout. When said level is below the said top, the air volume in the unoccupied portion of the can will then be adequate to still permit of an uninterrupted flow at the spout. The latter observation is qualified, however, by the statement that there must be open communication along the interior base depth of the spout

and the interior space of the can to which it is applied. Otherwise if a diaphragm is interposed—as, for instance, in case the sloping spout shown in Fig. III were affixed over an ordinary orifice in a can-top in which there is no vent—no discharge can of course be obtained after the superimposed spout itself has become empty. Such result will not be experienced in a form of can shown in Fig. I nor when the spout as made in Fig. III is affixed upon a can-top around an elongated slit therein, as is indicated in Fig. VIII. Instead, however, of using the form of spout given in Fig. III in connection with a can-top provided with a single extended orifice, as in Fig. VIII, it will be found an equally efficient and firmer combination to use said spout upon a can-surface wherein the spout-orifice and the vent are disconnected, as in Fig. VII. A construction in the manner last recommended, it will be observed, combines the characteristic of a self-venting can-spout while discharging the portion of its contents which occupies the sloping spout; but when such portion has been discharged the portion below the can's top will depend for venting upon the small orifice *v*, as supplied down the sloping spout S, which encompasses it, and the operation will more especially resemble that where distinctive vent provision is combined with and within a spout apparatus. In either character my device has dispensed with the necessity of separate and exposed vent-tubes and without entailing additional cost or manipulation to that which is incident to the providing of a spout alone.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

A can for oil or other liquids, having in its top the pouring-opening and the vent-opening, as described, in combination with the spout having the enlarged portion near its pouring-mouth and tapering therefrom, as described, arranged to cover both openings in the can, substantially as shown and described.

HENRY STILES.

Witnesses:

CHAS. B. BERNARD,  
CHAS. H. PARSONS.