(No Model.)

# H. STRATER.

## FUNNEL.

No. 509,966. Patented Dec. 5, 1893.

Fig. 1.

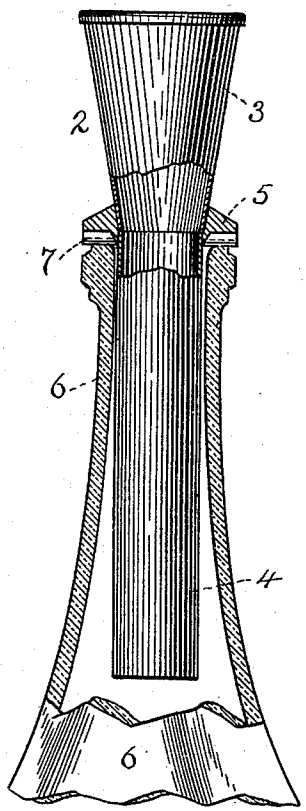



Fig. 2.

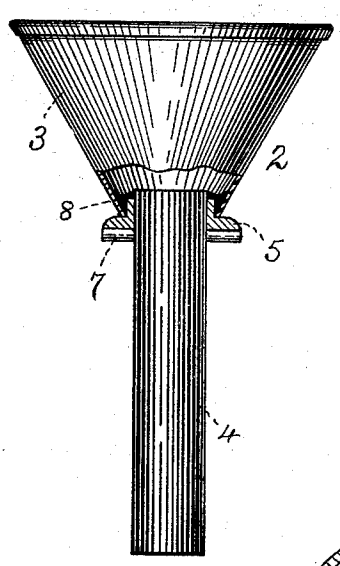
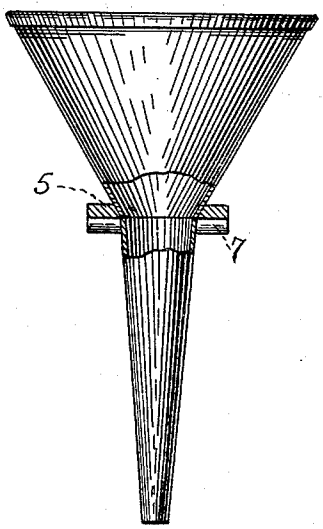



Fig. 3.



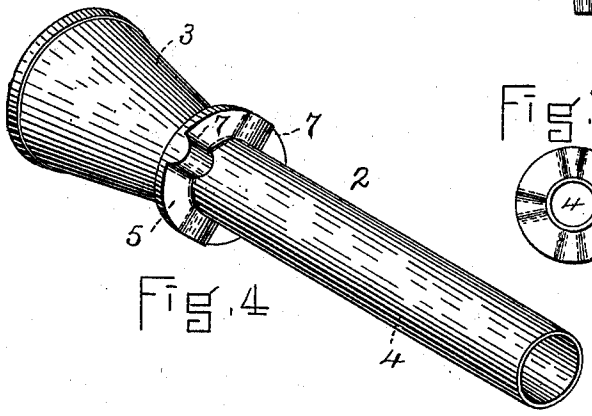
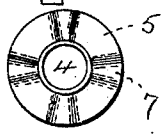




Fig. 4.

Fig. 5.




WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## FUNNEL.

SPECIFICATION forming part of Letters Patent No. 509,966, dated December 5, 1893.

Application filed December 29, 1892. Serial No. 456,683. (No model.)

*To all whom it may concern:*

Be it known that I, HERMAN STRATER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Funnels; and I do hereby declare the following to be a full, clear, and exact description of the 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to funnels, or that class of implements which is employed in decanting liquids from one vessel to another and particularly adapted, where the receiving vessel is formed with a narrow mouth.

My invention consists in the peculiar construction of the funnel by which several advantages are obtained. First, in the formation of a shoulder, bead, collar or support about the funnel or forming part of the same and upon which said funnel rests, when in the bottle. In this way the funnel is upheld within the neck of the bottle in order to allow the air displaced by the liquid to escape readily about the funnel. Secondly, in the formation of said shoulder or collar which has a series of bearing points on the top of the bottle in order to allow air to escape. Thirdly, in the formation of the spout which is cylindrical, and thus tends to prevent tipping of the funnel and holds the latter more nearly upright. Lastly in the method by which the several pieces which compose the funnel are united to form a unit.

The drawings herewith presented represent in Figure 1 a funnel in sectional elevation and in position in a bottle. Fig. 2 is a modified form of uniting the mouth-piece with the spout and collar, all embodying my invention. Fig. 3 shows the old form of funnel with a support containing my improvements. Fig. 4 is a perspective view of the funnel looking at the under side of the collar. Fig. 5 is an under side plan of the bearing points of the shoulder.

In the drawings 2 represents a funnel composed of a mouth-piece 3 and a spout 4, while a collar, shoulder or projection 5 is affixed to or formed at the meeting angle of the two principal members, or thereabout.

The object of my invention is to remedy some of the objections which now exist in funnels in general use. One consists in the tipping or canting of the funnel and spilling of the liquid due to the tapering form of the spout. Another difficulty occurs in the fact that ready escape for the air displaced by the liquid is frequently lacking, and liquid is carried out with such air, while another objection exits in the weak joint, where the spout and mouth-piece are united. To overcome these difficulties I construct the funnel as follows: The formation of a shoulder or collar which serves the purpose of upholding the funnel and tends to prevent the latter from resting against the bottle I consider one of the important features in my invention. In the present instance I have shown several ways of carrying out my object. The essential features of the s oulder or support consist in its being adapted to rest upon the top of the bottle, upholds the funnel, and further in such conformation, that it has a broken bearing-surface in order to permit the escape of air between said support and the bottle-neck. Furthermore in lieu of forming the spout tapering, as shown in Fig. 3, I make it cylindrical, and of considerable length, but at the same time slightly smaller than the smallest bottle in which it is to be used. By making it of uniform diameter, the funnel fits the neck of the bottle for a greater distance, and by means of the increased length of bearing is prevented from tipping and is held nearly vertical, even when another vessel rests upon the mouth-piece. The latter, shown at 3, is of conical form and in Fig. 1, appears united to the spout by a "butt" joint, the two inside surfaces being flush. In order to strengthen the joint and prevent wear at this point a collar 5 is affixed exteriorly, and not only renders the joint more rigid, but acts as a support to further assist in steadying the funnel, when in a bottle. Said collar is furnished with a series of radial lugs or projections 7; these form a series of bearing points and rest upon the mouth of the bottle, the latter being shown at 6. Thus the lower surface of the collar is kept from contact with

the mouth of the bottle. As the funnel is now held in the bottle, under this construction a free vent is furnished for the air escaping from the bottle about the spout. By such arrangement the spout and mouth-piece can be made of smooth metal, which can be cleansed readily.

In Fig. 3, a funnel of the ordinary type is shown, as provided with an exterior supporting piece embodying my invention, which, as before stated, serves three purposes; it strengthens the union between the spout and the mouth-piece, steadies the funnel when in the bottle, while it holds said funnel from general contact with the inside of the neck, and so allows the air to escape serving as a vent at the point where the air passes out under said support.

In Fig. 2 is shown one way in which the two members—the mouth-piece and spout—may be united. This is especially suited for large funnels, where a strong joint is required. The spout, as before stated is a section of a cylinder upon one end of which—the upper—is preferably forced a collar of the construction before described, that is, an annular casting with a series of knobs or projections $7^3$. This collar is to be so positioned that this end of the spout shall extend above it. The mouth-piece is now adjusted in place, and is of such size at the base, that it rests snugly against the shoulder created by the vertical and horizontal parts of the collar. Solder is now applied upon the inside, as indicated at $8^3$, until it is about level with the projecting end of the spout at this point. By this method no solder appears upon the outside of the funnel and a neat and finished article is produced, while the strength of the joint is increased.

One feature in this funnel consists in increasing the length of the spout and extending it about to the level of the liquid, when the bottle is full; thus by having the point of delivery of the liquid so far removed from the place, where the air is discharged, no liquid is carried over, as frequently occurs, when the lower end of the spout is in proximity to the mouth of the bottle.

As before premised one object of my invention is to enable the spout to be made of smooth metal without any grooves, ribs, or corrugations which extend longitudinally thereof, and consequently I do not desire to claim any such construction as is now very generally employed in articles of this particular class.

What I claim is—

1. As a new article of manufacture a funnel, composed of a mouth-piece, a spout, and an exterior collar having projections upon the under surface, said collar adapted to slip over the spout and be secured in place to form an integral part of the funnel, substantially as explained.

2. In combination with a tube or cylindrical spout, an annular collar affixed to said spout at a point below its top end, combined with a conical mouth-piece adapted to fit over the top end of said spout and to rest upon the collar, and binding material—as solder—interiorly applied to unite the three members as a unit, substantially as set forth and stated.

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

HERMAN STRATER.

Witnesses:
THEODORE G. STRATER,
H. E. LODGE.