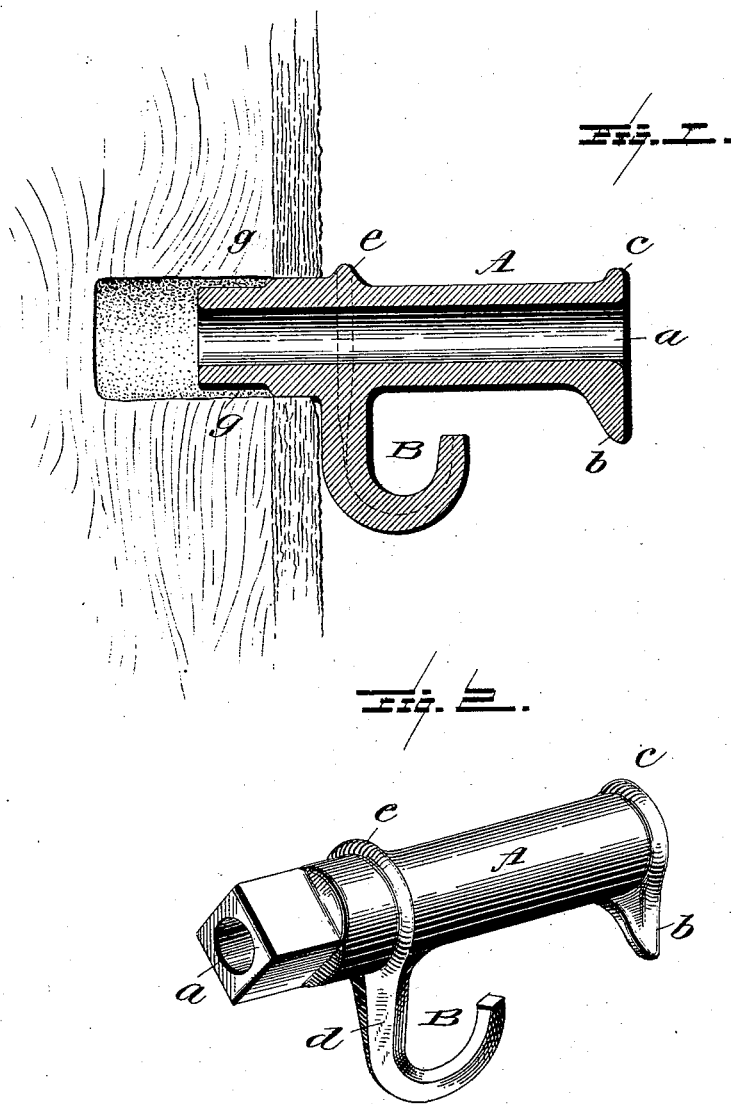


(No Model.)

E. WILLIS.  
SAP SPOUT.

No. 455,784.

Patented July 14, 1891.



Witnesses

*L. B. Hills*  
*E. A. Bond*

Inventor

*Elben Willis*  
*E. B. Stocking*  
Attorney

# UNITED STATES PATENT OFFICE.

EBEN WILLIS, OF COLTON, NEW YORK.

## SAP-SPOUT.

SPECIFICATION forming part of Letters Patent No. 455,784, dated July 14, 1891.

Application filed March 5, 1891. Serial No. 383,834. (No model.)

*To all whom it may concern:*

Be it known that I, EBEN WILLIS, a citizen of the United States, residing at Colton, in the county of St. Lawrence, State of New York, have invented certain new and useful Improvements in Sap-Spouts, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in sap-spouts; and it has for its objects among others to provide an improved spout having provision for conducting the sap directly into the bucket and to prevent its running along the under side of the spout and dripping onto the handle of the said bucket. I provide a hook at the point where its rear face will contact with the tree and serve to prevent loosening of the spout from its hold when the bucket gets full of sap. This hook terminates in a ring or rib surrounding the body of the spout and preferably inclined at the upper edge to prevent rain or snow falling against the tree from following the spout to its discharge end and falling into the bucket.

It is well known that the best sap in a tree is nearest its bark, and heretofore spouts when forced into the tree have had the tendency to prevent ready flow of this sap into the opening of the spout. I provide for the ready flow of this better sap directly into the spout preferably by making the entering end of the spout square or substantially so in cross-section and of less diameter than the portion of the spout embedded in the bark. This provides sloping walls, down which the sap from nearest the bark will find its way into the opening of the spout. The opening through the body of the spout is of greater area than usual, which, with the reduced inner end of the spout, serves to prevent displacement of the spout by freezing and thawing of the sap. One or more of these features may be present without the others, but when all are present they combine to produce a far better sap-spout than heretofore devised.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

Referring to the drawings, Figure 1 is a central longitudinal section through my im-

proved sap-spout in position in a tree. Fig. 2 is a perspective view of the same removed.

Like letters of reference indicate like parts in both views.

In the drawings, A designates the spout, which consists of a body portion with a longitudinal bore or opening *a*, which is somewhat larger than usual, and at the discharge end the body portion is provided with a depending lip *b*, the front face of which is substantially perpendicular while the rear face may be tapered, as shown. This depending lip, which should extend a considerable distance downward from the outer end of the spout, serves to prevent the sap from running backward along the under side of the spout and dripping on the handle of the bucket. The projection of the lip *b* from the body of the spout should be something more than that of the bead *c*. It should preferably be a V shape to conduct the sap to a common point to form drops or a stream. At the upper edge there is preferably a raised rib *e*, as seen in both views, which serves to present a good driving-surface for driving the spout into the tree.

Toward the rear end the body portion is formed with a depending hook B, the rear face of which is preferably flat, as seen best at *d* in Fig. 2, and this is designed to bear firmly against the outer surface of the tree and serves to prevent tipping or displacement of the spout as the bucket gets full of sap. This hook may terminate in a rib *e* upon the upper surface of the body portion, as shown, and which will serve to prevent the rain and snow which fall against the tree from running along the body portion of the spout and dripping into the bucket, said rain and snow being, by reason of this rib, caused to pass down between the rib and the bark of the tree to the ground.

The entering end of the spout is slightly tapered and is substantially square in cross-section, as shown in Fig. 2. This is an important feature of the present construction. The squared portion begins just at the inner edge of the bark, so that spaces *g* are left at that point, so that the pores of the tree adjacent to the bark and where the best and sweetest sap is formed are entirely unobstructed and the sap left free to flow out and

into the spout. Where these pores are obstructed or compressed by the indriving of the spout the sap therein cannot get out, as there are no transverse passages. The advantage of my construction in this respect will therefore be readily appreciated. This also provides against displacement of the spout by the contraction and expansion caused by the freezing and thawing of the sap in cold weather.

The spout is held in place in the tree by the bark alone or substantially so, so that none of the sap-holding pores are compressed or obstructed. The bore in the tree is somewhat deeper than the entering portion of the spout, so as to form a sap-collecting chamber, as seen in Fig. 1.

What I claim as new is—

1. An integral sap-spout formed with a depending hook adapted to bear with its rear face against a tree and terminating upon the upper face in a rib surrounding the body of the spout, substantially as and for the purpose specified.

2. A sap-spout having its entering end substantially square in cross-section, with smooth right-angled sides and a longitudinal opening, as and for the purposes specified.

3. A sap-spout having a longitudinal bore, a depending lip at its discharge end, and a substantially square entering end with right-angled straight sides, with the bore extending through the same, substantially as specified.

4. The improved sap-spout described, consisting of a body portion formed with a depending lip at its outer end, a depending hook, a substantially square entering end with right-angled sides, and a rib upon its upper face over the hook, said spout having a longitudinal bore extended from end to end, as shown and specified.

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

EBEN WILLIS.

Witnesses:

E. B. STOCKING,  
H. SUTHERLAND.