

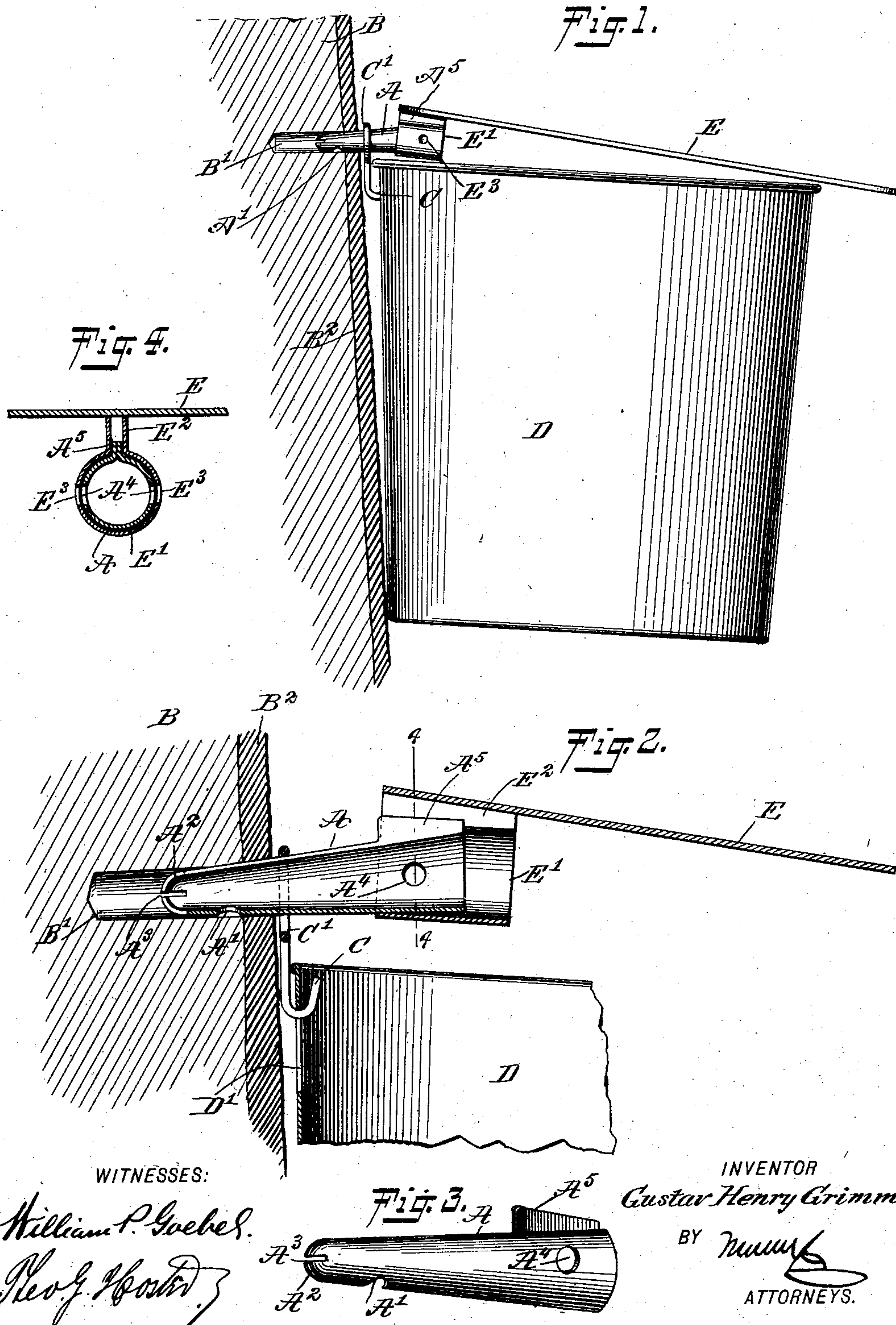
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PATENTED MAY 26, 1903.

G. H. GRIMM.
SAP SPOUT.

APPLICATION FILED JUNE 30, 1902.

NO MODEL.



UNITED STATES PATENT OFFICE.

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SAP-SPOUT.

SPECIFICATION forming part of Letters Patent No. 729,330, dated May 26, 1903.

Application filed June 30, 1902. Serial No. 113,771. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV HENRY GRIMM, a citizen of the United States, and a resident of Rutland, in the county of Rutland and State of Vermont, have invented a new and Improved Sap-Spout, of which the following is a full, clear, and exact description.

The invention relates to the gathering of sap from trees, such as sugar-maples and the like; and its object is to provide a new and improved sap-spout arranged to allow the use of but one spout in the bore of a tree during the entire season and to insure proper and full extraction of the sap from the tree without danger of forming ice in the bore or causing the formation of sour sap liable to contaminate the fresh sap.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied, the tree being shown in section. Fig. 2 is an enlarged sectional side elevation of the same. Fig. 3 is a perspective view of the spout. Fig. 4 is a cross-section of the spout and bucket-cover, the section being on the line 4 4 of Fig. 2.

The improved spout A is preferably made from a single piece of sheet metal bent into conical shape to readily pass with its apex end into the bore B' in a tree B from which the sap is to be extracted. The apex end of the conical spout A is somewhat less in diameter than the diameter of the bore B', and in the bottom of the said spout near the apex end is formed an opening A', extending a short distance inward beyond the inner face of the bark B² of the tree, as plainly illustrated in the drawings. The apex end of the spout A is rounded off and is formed by flaps A², integral with the piece of sheet metal, bent toward each other in arch shape, with the adjacent ends of the flaps spaced apart to form slits A³, preferably two in number and extending diametrically to intersect each other

at the center, as will be readily understood by reference to Figs. 2 and 3. The slits A³ in the apex end of the spout are sufficiently large to allow the sap passing into the bore to flow freely into the spout and from the latter into the bucket, and yet a slight contact of sap with slots A³ and aperture A' will hermetically seal the bore, thereby preventing the drying of the sap fibers. It is understood that the object in placing the aperture A' in the bottom of the bore is to almost completely drain the bore of all sap that flows into the bore, thus preventing any sap from remaining in the bore and becoming sour and contaminating fresh incoming sap. The almost complete draining of the bore from sap prevents freezing of sap in the bore, it being understood that such freezing of the sap tends to loosen the spout, thereby allowing the sap on subsequent thawing to leak out between the wall of the bore and the outside of the spout, and thus become lost.

The outer or base portion of the spout A, as shown in Figs. 1 and 2, is adapted to be engaged by the eye C' of a hook C, adapted to hook into an opening D' in one side of a bucket D to suspend the latter from the spout, so that the base or outer end of the spout discharges the sap into the said bucket.

In using the spout at the beginning of the season it is driven into the bore B' until the draining-opening A' is somewhat beyond the bark B², as previously described, and when the sap begins to flow slowly as the season advances then the operator removes the spout and reams out the bore B' and then drives the spout back again into the bore, but somewhat farther in, owing to the enlargement of the bore by the reaming process. This may be repeated several times during the season, so as to insure at all times a proper flowing of the sap into the bore B' and from the latter into the spout to the bucket D.

In order to permit convenient removal of the spout from the bore for the purpose above mentioned, I provide the sides of the spout near the base end with transversely-alined or registering apertures A⁴, into which a pin, nail, or like device may be inserted to form a handle for turning the spout, and thus readily loosening it for removal from the bore.

The side edges of the piece of sheet metal from which the spout is formed abut against each other at the top of the spout, thus forming a longitudinal seam which tends to close tightly on driving the spout into the bore.

By the arrangement described it is only necessary to bore a single hole in a tree, and the same spout is used during the entire season, and it is not necessary to blaze the tree by cutting off a portion of the bark, as is so frequently necessary with other spouts heretofore used. It is thus evident that the life of the tree is greatly prolonged. The operator can readily select the sappiest portion of the tree to bore the hole in for the spout A, it being understood that the spout on account of being tapering readily holds in the hard bark B² and does not compress the fibers of the tree and prevent the sap from flowing freely to the bore and into the spout.

The bucket D, as illustrated in Figs. 1 and 2, is normally covered by a cover E in the form of a flat plate provided at one end and at the under side with a socket E', fitting loosely onto the base end of the spout A, and the said socket E' is formed on its top with a longitudinally-extending slotted shank E² for securing the socket to the cover and for receiving lugs A⁵, extending integrally from the sheet metal of the spout, at the top thereof at the base end, so that the socket E' is held from turning on the spout, and consequently the cover E is securely held in position over the open or top end of the bucket D. The socket E' is preferably made cylindrical and sufficiently large to fit loosely on the base end of the spout A to allow the cover E to slant downward and outward from the spout with the outer or free end of the cover resting on the outer edge of the bucket.

In order to securely hold the socket E' in position against lengthwise disengagement on the spout, I provide the socket E' with apertures E³, registering with the apertures A⁴ in the sides of the spout A, and the said registering apertures E³ A⁴ are adapted to receive a pin, nail, or like device to hold the socket E' against slipping off the base end of the spout A. The inner edge of the lugs A⁵ forms a stop or abutment for the eyes C' of the hook C, so that the latter is not liable to slip off the spout when supporting the bucket D.

By the arrangement described the cover E can be readily lifted to inspect the contents of the bucket D, and the latter can be readily turned over, so as to empty its contents, it being understood that the hook C allows such movement of the bucket. Thus the

cover need not be removed from the spout when emptying the bucket.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A sap-spout of approximately conical form, the apex end thereof having flaps inclined toward each other, slits being formed between the adjacent flaps, said spout also having an aperture provided on its bottom near the inner end, thus forming an opening for the sap, and registering apertures also formed near the base end of said spout for the insertion of a tool to remove the spout from the tree, substantially as set forth.

2. A sap-spout of approximately conical form, whereby said spout may fit any size bore, the apex of said spout being formed with flaps separated to form transversely-arranged crossing slits, the spout also having a sap-aperture formed in the bottom thereof, and upwardly-extending lugs formed at the base end of said spout, substantially as set forth.

3. A metallic sap-spout of approximately conical form, provided with a series of flaps at the apex end thereof, the flaps of the series being bent toward each other to leave slits between the adjacent flaps, the spout being provided in its bottom portion near the inner end with an opening for the sap and also registering apertures in the side of the spout for the insertion of a tool to turn the spout, and radially-extending parallel lugs formed at the base of said spout, substantially as set forth.

4. A sap-spout made conical in shape, having an inlet at the apex end and formed at the top at its base end with integral lugs, and a cover having a socket for engaging the base end and the lugs, the socket extending on the under side of the cover and having its axis at angles to the cover, as set forth.

5. A sap-spout made conical in shape, having an inlet at the apex end and formed at the top at its base end with integral lugs, and a cover having a socket for engaging the base end and the lugs, the socket and spout having registering openings for the insertion of a pin to secure the cover in position on the spout, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV HENRY GRIMM.

Witnesses:

CHAS. KRAUS,
A. H. PIERCE.