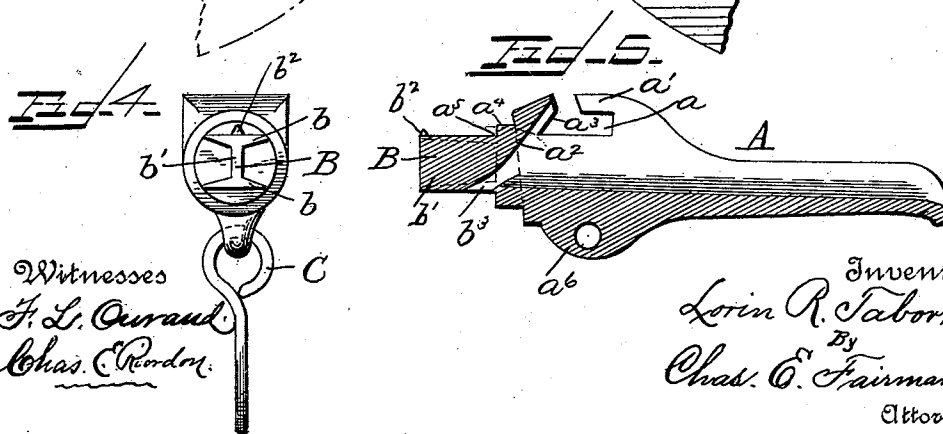
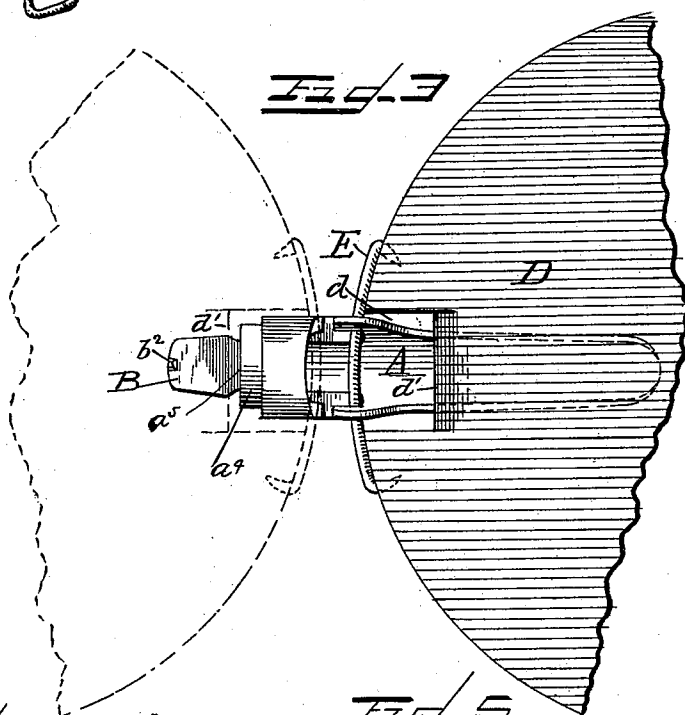
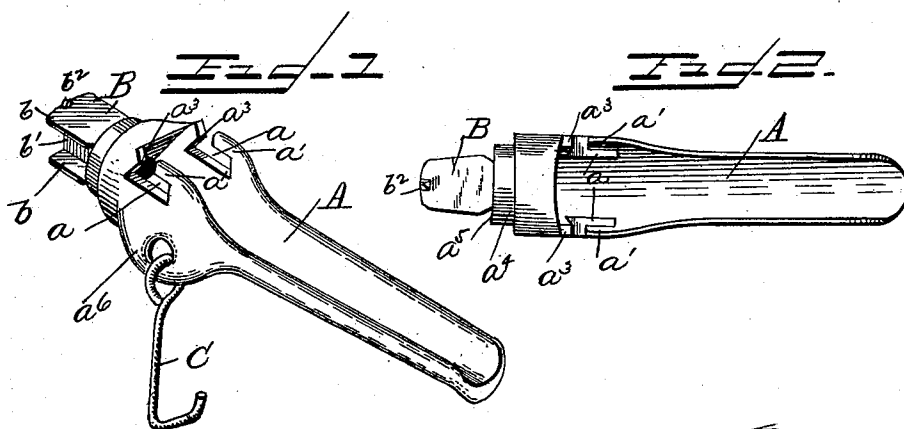


(No Model.)

L. R. TABOR.
SAP SPOUT.

No. 473,270.

Patented Apr. 19, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

LORIN R. TABOR, OF WESTFORD, VERMONT.

SAP-SPOUT.

SPECIFICATION forming part of Letters Patent No. 473,270, dated April 19, 1892.

Application filed June 26, 1891. Serial No. 397,612. (No model.)

To all whom it may concern:

Be it known that I, LORIN R. TABOR, a citizen of the United States, residing at Westford, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Sap-Spouts; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention has relation to improvements in sap-spouts particularly designed for conducting sugar-maple sap from the tap-hole to the bucket.

It is a well-known fact to those familiar with the use of devices of this character that the spout when driven into the alburnum or sap-wood of the tree very readily works loose, and consequently a leakage and waste occurs. It is one of the objects of my invention to overcome this disadvantage as far as possible.

A further object is to prevent splitting the bark and thus injuring the tree.

It is also true in most of the devices in common use that the bucket is suspended from the spout in such a manner as to communicate the motion of the bucket, caused by the action of the wind, to the spout, thus very soon loosening the spout from the tap-hole, which necessarily becomes enlarged by reason of such action. A still further object had in view, therefore, is to overcome this disadvantage; and with the above and other objects in view the invention consists in the improved construction and combination of parts, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of the device. Fig. 2 is a plan view. Fig. 3 is a similar view showing the cover in place, the dotted lines indicating the position the cover assumes when thrown back. Fig. 4 is an end elevation, and Fig. 5 is a longitudinal section.

Like letters of reference refer to like parts throughout the several views.

Referring to the drawings, the letter A indicates the spout, having the usual concave

channel for the outflow of the sap. This spout is provided toward the inlet end and upon the upper edges of its opposite sides with grooves or recesses a , partly overlapped at one end by hooks a' , while the inner wall of the extremity of the spout is inclined, as indicated at a^2 , said wall above the grooves or recesses being formed with V-shaped or angular lugs or projections a^3 , which project into the said grooves or recesses. Projecting from the inlet end of the spout is an annular lug a^4 , which, being less in diameter than the said inlet end, forms an annular shoulder a^5 . This annular lug a^4 has, furthermore, extending therefrom the spike B, which, if preferred, may be formed integral therewith. This spike consists of upper and lower horizontal blades b , connected by an intermediate strengthening strip or brace b' , which, furthermore, serves to subdivide the spike, so as to form separate channels for the flow of the sap. The upper blade b is formed at its extremity with an upwardly-extending projection b^2 , the function of which will be hereinafter explained, while below the lower blade is provided an inlet-orifice b^3 for the passage of the fluid to the spout.

The underside of the spout is provided with an eyed lug a^6 , which receives the suspension-hook C.

The letter D indicates the cover, which is provided upon its periphery with a recess d . A wire E extends across the open end of the recess and is secured to the cover by bending its ends and passing the same into the periphery. This cover is applied to the spout by passing the wire down into the grooves or recesses a , the hooks a' overlapping the same. The cover, of course, when protecting the contents of the bucket, rests upon the spout, and in order to provide a square and perfect fit the inner bordering edge of the slot d is beveled, as at d' , so as to register with the inclined upper edge of the spout at point of contact. It is obvious that by this arrangement of the cover the same cannot become disengaged, and when raised, as shown by dotted lines in Fig. 3, will not become unhooked, but may rest against the tree while the bucket is being emptied. When in this latter position, the points or angles of the V-

shaped or angular lugs a^3 a^3 engage the wire E and assist in maintaining the cover in its adjusted position.

The above being a description of my improved device, its practical application and advantages are as follows: A hole is first bored into the tree for the insertion of spike B. The spike is designed to be driven into the hole until the annular shoulder a^5 is encountered, which, having a perfectly-square and plane surface, will prevent further insertion. This is an important feature of my invention, inasmuch as the stop will tend to hold the spout secure, forming an extra-tight joint and preventing an inexperienced or careless hand from driving too far and splitting the bark and injuring the tree. The sap of course passes through the orifice b^3 into the spout and from the latter is conveyed to the suspended bucket.

It is of course a desideratum in this class of devices that a spike be employed which, while serving to hold the spout securely in position, will at the same time allow of the free outflow of the sap and also displace or mutilate as little as possible of the fibers of the alburnum or sap-wood, thereby utilizing the sap of the alburnum to the maximum. In a number of the devices now in common use the spikes are made wedge-shaped and in various other forms, all having a tendency to cut and mutilate a larger amount of the sap-wood than is necessary. By providing the two horizontal blades with the intermediate partition or web, however, this danger is to a great extent avoided. It will also be noticed that by the peculiar conformation of the spike it does not fill the bored-out hole. Hence the sap will not be checked from flowing, but, on the contrary, may flow around the spike through the passages formed by the intervening web or partition, and finally through the exit-orifice to the spout. The projecting point b^2 on the upper blade has the effect of holding the spout secure and preventing it from being loosened or drawn entirely out by the weight of the bucket and contained sirup.

In all other devices of this character of which I am aware the hook for holding the bucket is attached in such a manner that should the bucket be swayed by the wind the same motion is at once communicated to the spout, thereby quickly loosening the latter. By forming the under surface of the spout, however, with the eyed lug and pivoting the hook therein practically a universal joint is formed and the bucket may swing in any direction without necessarily disturbing the

spout. This, it is thought, in practice will be found a great improvement upon existing devices.

By the use of my hook the operator is enabled to pour the sap from the bucket into the gathering-pail without disengaging the hook from the bucket. To do this, the cover is turned up so as to rest against the tree and the bucket is then tilted so as to discharge the sap.

I am aware that a sap-spout has heretofore been provided with a hook which fitted over the spout; but this hook was liable to spread and slip off the spout, thereby dropping the bucket. Furthermore, this hook is a rigid hook and transmits the motion of the bucket to the spout, consequently loosening the spout and permitting the sap to escape from the tree.

I am also aware of a sap-spout provided with a clamp which engages the edge of the bucket; but this device can be employed only on buckets that have a beaded rim and will not permit a free movement of the bucket. Furthermore, it cannot be easily and quickly engaged with and disengaged from the bucket.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A sap-spout having the upper edges of its opposite sides provided with grooves and also provided with hooks integral with the spout overlapping said grooves, substantially as set forth.

2. A sap-spout having the upper edges of its opposite sides provided with grooves and also provided with backwardly-projecting hooks overlapping said grooves and with an inclined end wall formed with angular lugs projecting into the grooves, in combination with a cover having its periphery recessed, and a wire running across the open end of the recess, said recessed portion of the periphery registering with the grooves of the spout and confined in place by the wire engaging the hooks and angular lugs, substantially as set forth.

3. A sap-spout having the upper edges of its opposite sides provided with grooves and hooks integral with the spout overlapping said grooves and having an inclined end wall provided with angular lugs projecting into the grooves.

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

LORIN R. TABOR.

Witnesses:

NATHAN B. ALFRED,
I. F. WILCOX.