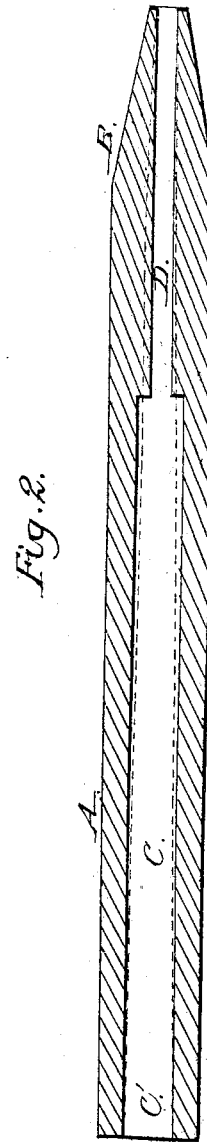
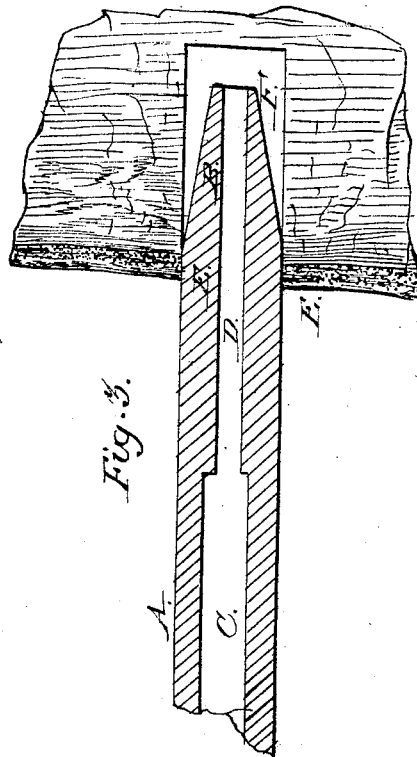
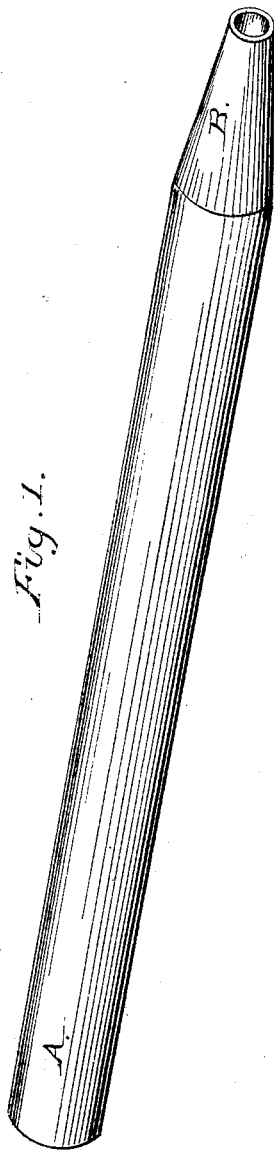


J. McCOMBS.

Sap-Spout.

No. 45,163

Patented Nov. 22. 1864.



Witnesses:  
Curtis Goddard  
Gripes Mowen

Inventor:  
John M. Combs.

# UNITED STATES PATENT OFFICE.

JOHN McCOMBS, OF EDINBURG, OHIO.

## SAP-SPOUT.

Specification forming part of Letters Patent No. **45,163**, dated November 22, 1864.

### *To all whom it may concern:*

Be it known that I, JOHN McCOMBS, of Edinburg, in the county of Portage and State of Ohio, have invented new and useful Improvements in Sap-Spouts; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal section, and Fig. 3 a section of the spout and tree into which the spout is shown inserted.

Like letters refer to like parts in the several views.

The nature of my invention relates to constructing a sap-spout of a cylinder of wood turned to the proper form, being nearly straight and about three-fourths of an inch in diameter, the end which enters the tree being tapered, the spout having a hole running the whole length through the center, the hole being contracted to a smaller diameter at the tapering end.

A, Fig. 1, is the body of the spout. In Fig. 2 the same part is shown in section.

B in the several figures shows the tapering end of the spout. This taper is true and cone-shaped, so that it will fit any hole within the limits of its largest and smallest diameters.

C represents the bore in the outer or straight end of the spout, and D represents the bore at the tapering end of the spout. The object in making the hole in the outer end the largest

is to enable the sap to run out freely, while the bore D is like a capillary tube, which is not readily freed from sap, and hence the atmosphere is excluded from the incision in the tree. Another advantage in making the hole in the outer end of the spout the largest is that the sap is prevented from freezing as long as the temperature of the atmosphere is sufficient to cause the sap to flow.

By having the end B tapering and smaller at the point than the hole at C', two or more spouts may be connected by inserting the tapering end into the hole C' of another spout. By this means a long spout is obtained, and thereby one pail may receive the sap of two or more trees in some cases. As the tapering point will fit various-sized holes and will fit the tightest in the bark, as indicated at F, leaving a chamber, E, to receive the sap, the pores or cells are uninjured by the spile. The spout, by its length and inclosed hole, prevents the pores or cells from exposure to drying winds and sun as in the ordinary spile. Hence with my spout the sap will flow longer and more freely.

What I claim as my improvement, and desire to secure by Letters Patent, is—

A sap-spout consisting of the cylinder A, cone B, and bore C D, the whole being constructed as and for the purpose herein specified.

JOHN McCOMBS.

Witnesses:

CURTIS GODDARD,  
GRIPPES MOWEN.