

G. C. Smith,

Hose.

No. 92,381.

Patented July 6. 1869.

Fig. 1.

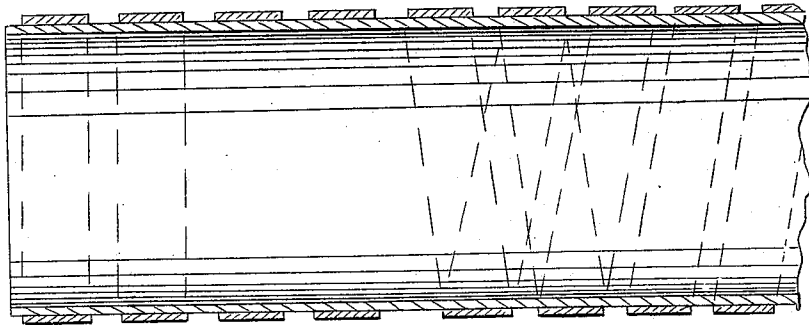


Fig. 2.

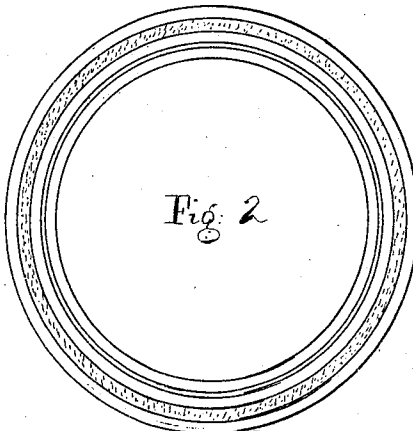
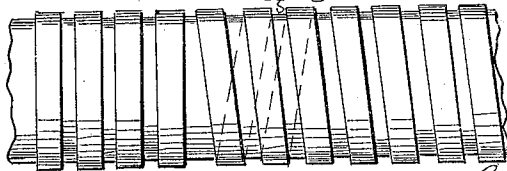


Fig. 3.



Witnesses.

R. S. Jumper.
J. A. Lehmann

Inventor:

Geo. C. Smith
per
Alexander Mason
Att'y

United States Patent Office.

GEORGE C. SMITH, OF MATTEAWAN, NEW YORK.

Letters Patent No. 92,381, dated July 6, 1869.

IMPROVED PROCESS OF MAKING SUCTION RUBBER HOSE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE C. SMITH, of Matteawan, in the county of Dutchess, and in the State of New York, have invented certain new and useful Improvements in Process for Making Suction-Hose; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention is intended as an improvement on my patent for "suction-hose," dated May 11, 1869; and consists in making suction-hose with hard-rubber or gutta-percha compound, cut in strips of suitable length and width, and wound spirally or in rings around a pipe, then covered with ordinary material for making hose, vulcanizing it all at one time, thereby making, as it were, one piece of it.

In order to enable others skilled in the art to which my invention appertains, to make the same, I will now proceed to describe the manner in which the same is or may be done, referring to the annexed drawings, in which—

Figure 1 is a section view of my hose.

Figure 2 is an end view of the same.

Figure 3 is a side elevation of the inside pipe, showing the manner of winding the strips around it.

I take, first, a pipe, of the diameter desired for the hose, and wind around it strips of hard-rubber or gutta-percha compound, either spirally, or in a ring-form. These strips are of different compound, so that the rings will alternate, one hard and one soft. This rubber lining is then covered with the ordinary material for making hose, when it is all vulcanized at one time, making almost one piece of it, only that one ring is soft, and the other hard, so that it will bend, the hard compound vulcanizing harder, and preventing external pressure.

The rubber or gutta-percha compound, which I have mentioned as being wound around the pipe, may be

placed in the centre, or any place where deemed best, as well as next to the pipe, the idea or principle of my invention being, to substitute rubber or gutta-percha supports, for the metal ones usually employed in the manufacture of suction-hose.

From long experiments, I have found that this can best be accomplished, by using strips of such compounds, of different degrees of hardness, so that when the hose is formed, and all vulcanized at one time, the rings, whether formed round or spiral, may alternate, one comparatively hard, and the other soft, thereby giving to the hose not only the required degree of stiffness, but also the necessary elasticity for bending.

It is evident that this will be the case equally as well if the rubber is placed in the centre, or even on the outside, as when it forms the inner lining of the hose.

Having thus described my invention,

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

1. The above-described process for making suction-hose, substantially in the manner and for the purpose set forth.

2. Vulcanizing rubber or gutta-percha compounds, of different degrees of hardness, in and at the same heat, thereby making of it, as it were, one piece, substantially as and for the purposes herein set forth.

3. Suction-hose, formed, as described, of strips of hard rubber or gutta-percha, of different degrees of hardness, wound either spirally or in a ring, combined with the usual material for making hose, and all vulcanized at one time, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 24th day of May, 1869.

GEO. C. SMITH.

Witnesses:

D. C. OAKLEY,
W. N. RICHARDS.