

(No Model.)

G. MEACOM.

HOSE.

No. 359,222.

Patented Mar. 8, 1887.

Fig. 1.

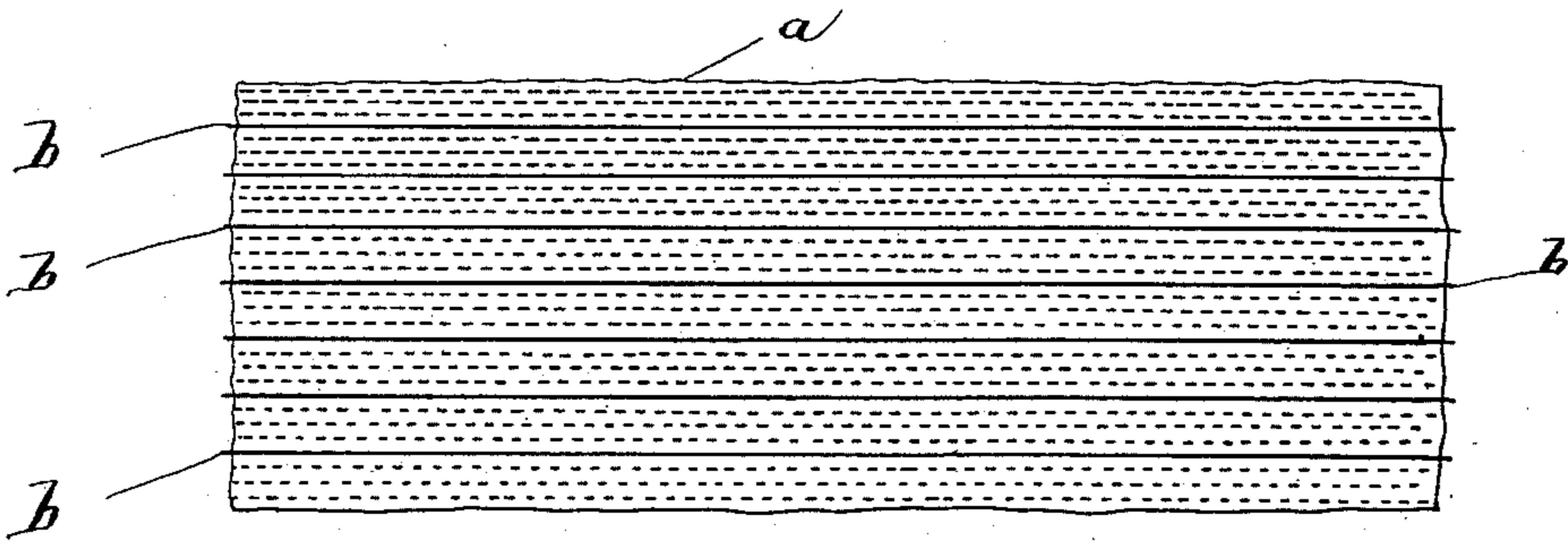


Fig. 2.

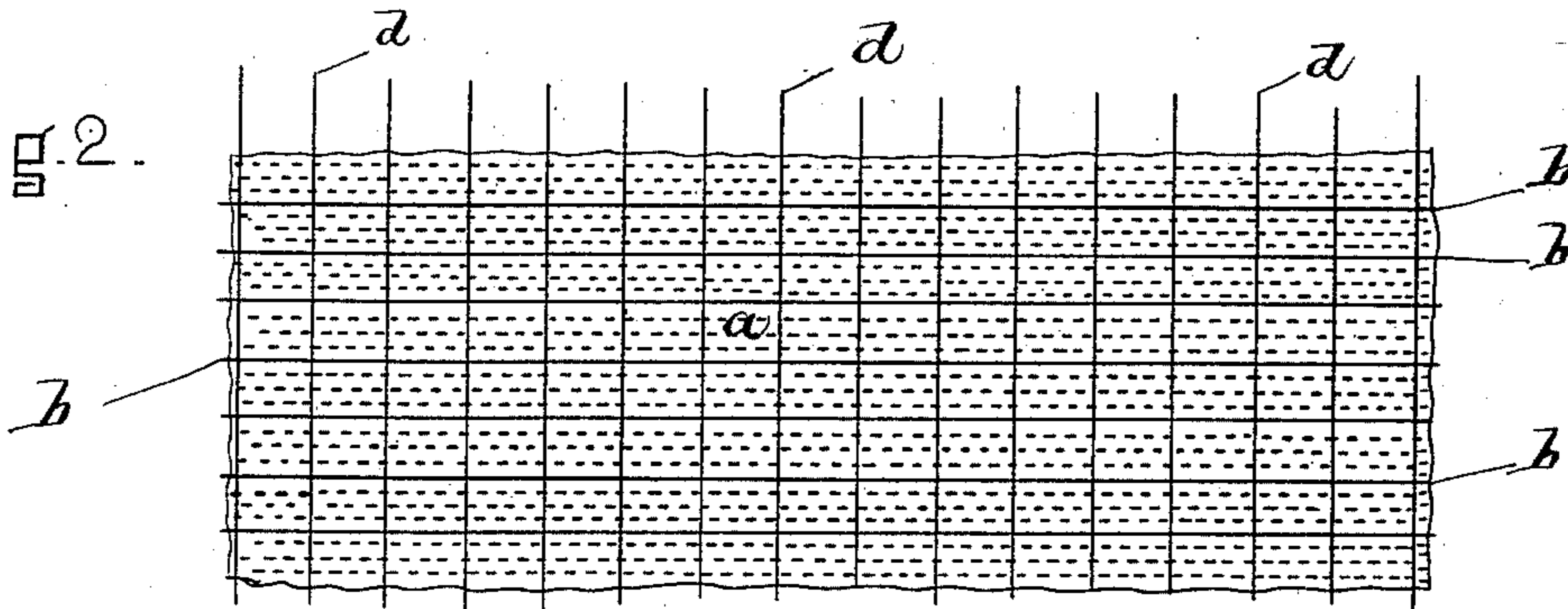


Fig. 3.

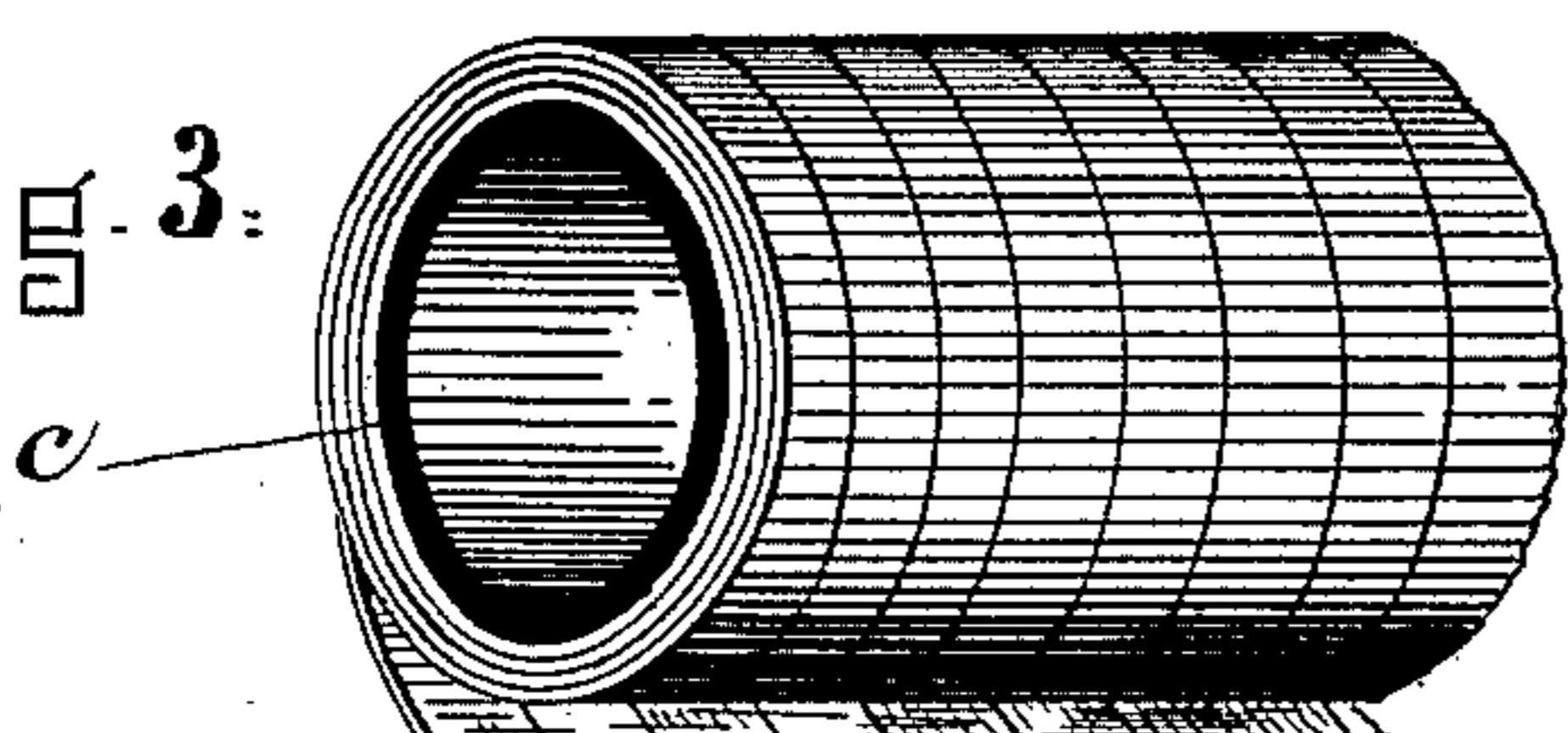
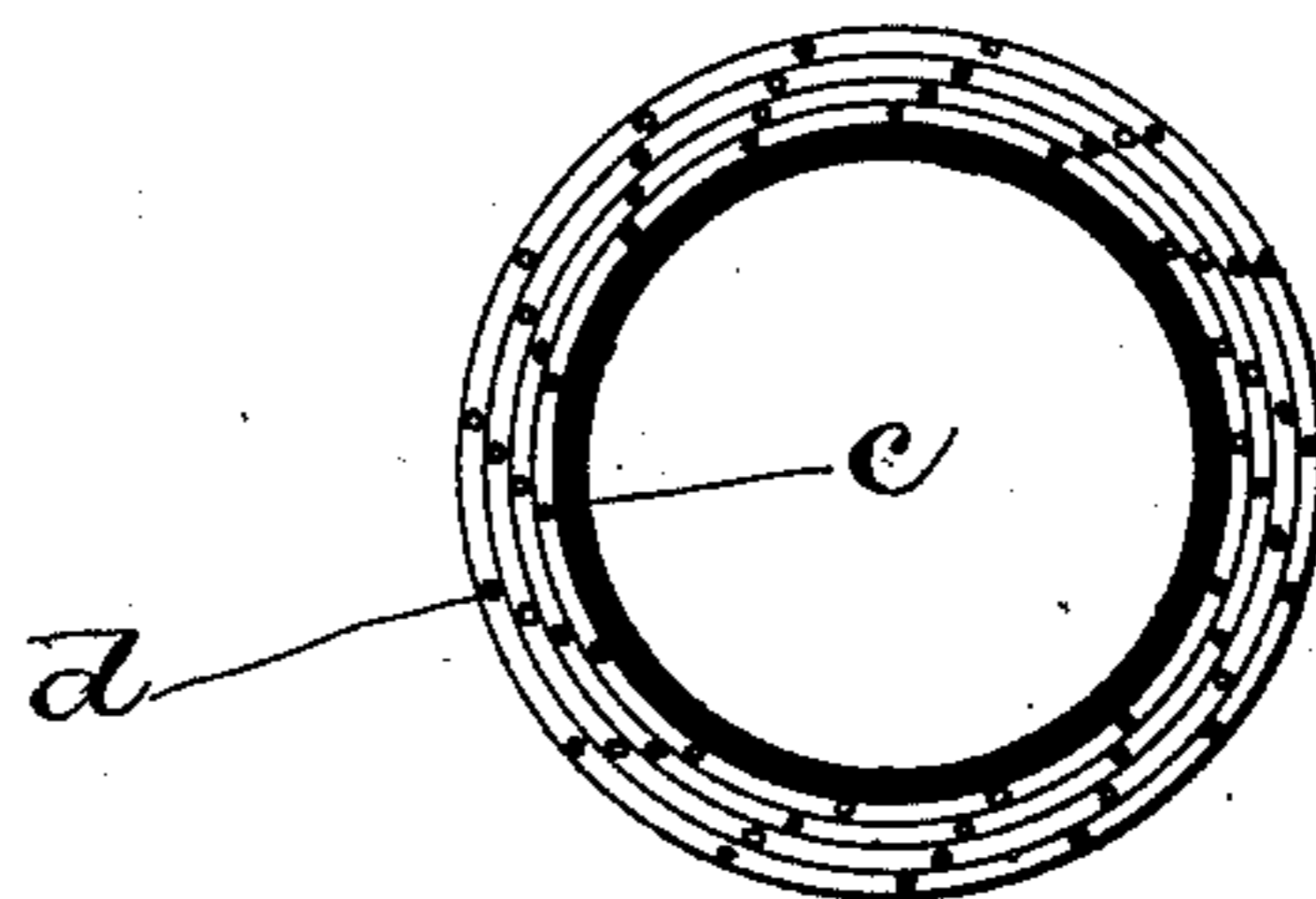


Fig. 4.



Witnesses:
H. Brown
W. Rogers

Inventor:
George Meacom,
by Wright, Brown & Crossley,
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE MEACOM, OF CHELSEA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO PETER W. FRENCH, TRUSTEE, OF WEYMOUTH, MASS.

HOSE.

SPECIFICATION forming part of Letters Patent No. 359,222, dated March 8, 1887.

Application filed December 6, 1886. Serial No. 220,805. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MEACOM, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hose, of which the following is a specification.

I am aware that it is not new to form hose composed of a plurality of plies consisting of separate and distinct tubes, and wherein the outer ply is composed of warps and wefts of wire, and that it is also old to form a suction-hose composed of a multiply india-rubber and cloth tube and an interlocking knitted tube having a helically-arranged wire weft, interlocked by textile threads, and an external fibrous tube, and I therefore make no claim to these structures, but confine myself to the structure herein shown and described, wherein the hose-tube is composed of a single piece or strip of woven textile fabric having wires woven therein at suitable intervals, the whole treated or frictioned with caoutchouc or rubber cement to hold the convolutions of fabric together as one compact mass or body, the wires being thus distributed throughout the structure of the body in each convolution of the same.

In addition to the advantages of strength and flexibility, my hose is easily and cheaply manufactured.

My invention consists of a hose formed of convolutions of a single piece or strip of textile fabric having fine wires woven therein at intervals and treated with caoutchouc or similar material in the usual way.

Reference is to be had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification, similar letters indicating similar parts in all of the views.

Of the drawings, Figure 1 is a portion of a fabric from which my improved hose is constructed. Fig. 2 is a similar view showing a slight modification in the structural character of the fabric. Fig. 3 is a perspective view of a short section of rubber-lined hose formed from the fabric represented in Fig. 1, a portion of the fabric being shown as unrolled. Fig. 4 is an end view of a rubber-lined hose made from the fabric shown in Fig. 2.

In the manufacture of hose of the class upon

which my improvements have been wrought, a textile fabric of the character commonly known as "canvas" or "duck" is treated with caoutchouc, gutta-percha, or rubber cement, by coating or "frictioning" one surface thereof with such material when the fabric is rolled into the form of a tube, the frictioning material serving to cement and hold the convolutions of fabric together as one compact mass or body. Hose thus constructed are also commonly lined with rubber in a way well understood by those skilled in the hose-making art.

One of the difficulties met with in the manufacture of hose of this class is that of securing the requisite strength with lightness of weight and necessary flexibility in nature. It is the aim of my invention to overcome this difficulty, as I will now proceed to explain.

In Fig. 1 *a* represents a textile fabric, into which is woven at regular intervals, as wefts, strands of fine flexible wire *b*, (shown in full lines,) the dotted lines being designed to represent the warps and wefts of cotton, linen, hemp, or the like. This fabric is coated or frictioned with rubber cement or similar material, as hereinbefore described, and rolled into a hose-tube, as shown in Fig. 3, in such manner that the wefts of wire *b* will run therearound, as shown. *c* indicates a lining, of rubber or similar material, which may or may not be used, as desired.

In addition to weaving into the fabric strands of wire as wefts in the manner described, I may also employ wire warps *d*, at regular intervals throughout the fabric, as shown in Fig. 2, which, when the fabric is formed into a hose-tube, will run lengthwise thereof, as shown in Fig. 4, and serve to still further strengthen the hose.

By my improvements a hose-tube can be made very light and flexible, and at the same time sufficiently strong to withstand any pressure to which it need be subjected, and the bursting so frequently occurring in hose of this class as heretofore constructed is avoided.

I am aware that it is not new to incorporate strands of metal or wire into knitted and woven hose, and therefore do not broadly make claim thereto, but confine myself to the structure of hose herein shown and described.

What I claim is—

An improved hose or flexible tubing having the body portion thereof composed of convolutions of a single piece or strip of textile fabric treated or frictioned with caoutchouc or
5 rubber cement, and having strands of flexible wire woven therein at suitable intervals throughout its structure, constructed and combined substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 8th day of November, 1886.

GEORGE MEACOM.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.