

UNITED STATES PATENT OFFICE.

FRANCIS BASCHNAGEL, OF WENHAM, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF WATER-PIPES FROM BITUMEN, PITCH, &c.

Specification forming part of Letters Patent No. 38,649, dated May 26, 1863.

To all whom it may concern:

Be it known that I, FRANCIS BASCHNAGEL, of Wenham, in the county of Essex and Commonwealth of Massachusetts, have invented a new and improved mode of making pipes for gas and water pipes, and for other purposes for which metal, rubber, gutta-percha, and composition pipes are now used; and I do hereby declare that the following is full and exact description.

The nature of my invention consists in rolling, by hand or by machinery adapted to the purpose, upon a metallic, wooden, or other axle of the size desired a composition consisting of common hair or other fibrous material saturated with melted pitch, tar, or asphaltum, or other bituminous substances, to which may be added a very small quantity of oil or any oily substance in such quantities as the purpose for which the pipe is to be used may require, (but usually the hair and the bituminous substances are of equal weight,) or in pressing the compound above named into a mold of the required size.

To enable others to make and use my invention, I will proceed to describe the manner in which these pipes are made.

I take common hair or other fibrous material and saturate it in a compound consisting of a quantity (equal in weight, or nearly so, to the hair) of melted tar, pitch, asphaltum, or other bituminous substance, to which may be added a very small quantity of oil or oily substance. I then roll the compound above described (the hair saturated with bituminous substance) into thin sheets, either by hand or by the use of machinery, using proper means to keep the compound warm while it is being rolled, which may be done by rolling it upon

a warm table, or with warm rollers or otherwise. I then roll, either by hand or by suitable machinery, the sheets prepared as above directed (and while still warm or having been made warm for the purpose) upon a wooden, metallic, or other axle of the required size—*i. e.*, as to diameter and length—rolling the sheet till the pipe is of the requisite size and thickness. I then put the pipe thus made into a warm room sufficiently long to warm the surfaces of the sheets of which the pipe is composed, and again firmly roll the pipe till the several sheets of which it is made are firmly and perfectly united; or I roll the pipe upon a warm table instead of putting it into a warm room. After the pipe is thus made it may be firmly wound with wire or cord made of cotton, flax, or other material, the pipe afterward being slightly warmed and again rolled, so as to cause the wire or cord firmly to adhere; or I take the compound above described, (nearly or quite equal weight of hair and bituminous substances,) and, when well saturated, as above described, I press it firmly into a mold of the required size; but to this process I attach less importance.

What I claim as my invention is not layers of paper or other tissues lapped together with bituminous substances between the layers, but—

The compound of hair or other fibrous substance and bituminous substances in the proportions above described, and the process of manufacture above described.

FRANCIS BASCHNAGEL.

In presence of—

GEO. W. COPELAND,
DANL. T. COPELAND.