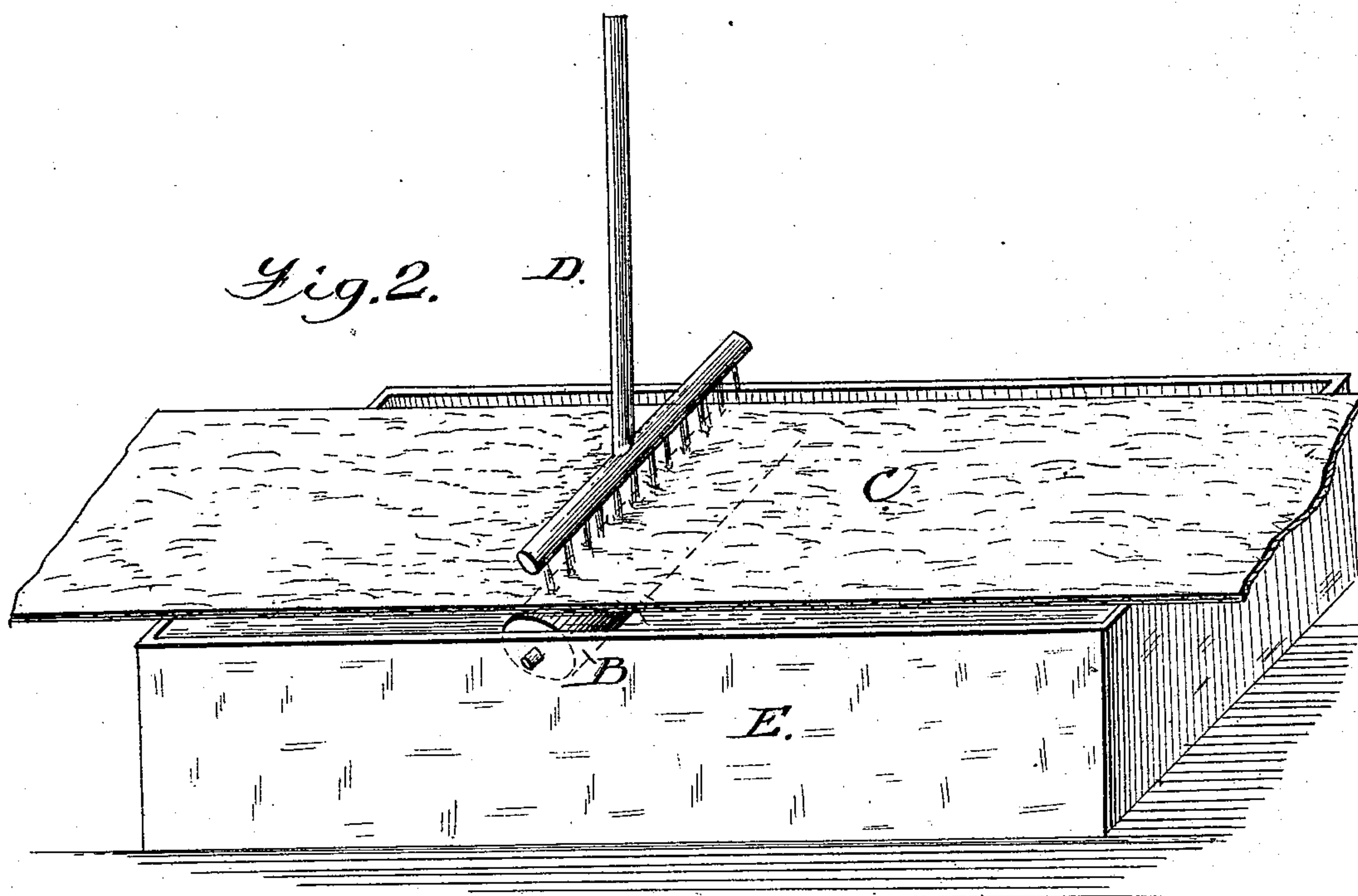
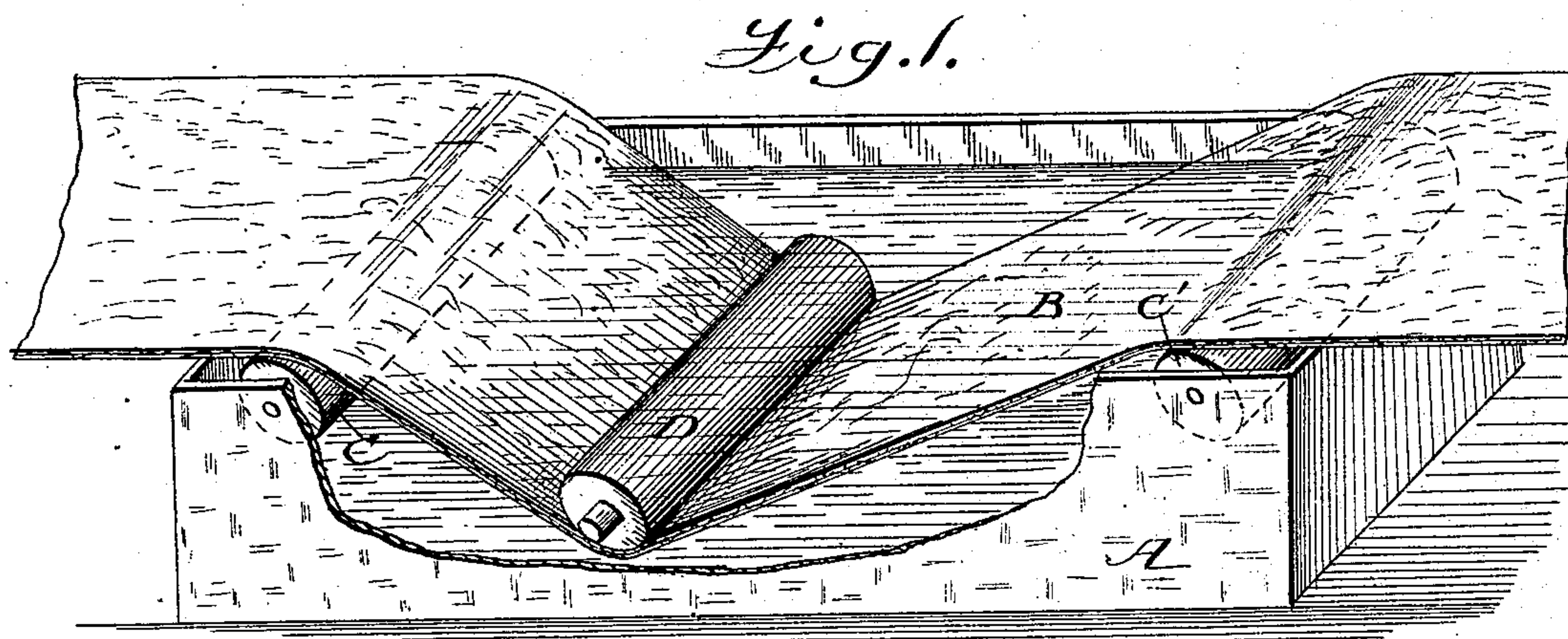


W. H. STEWART.
Manufacture of Roofing Fabrics.

No. 226,461.

Patented April 13, 1880.



Attest;
J. Walter Fowler
A. K. Evans

Inventor;
Wm H. Stewart
by *A. J. Evans & Co.*
his attys

UNITED STATES PATENT OFFICE.

WILLIAM H. STEWART, OF BROOKLYN, ASSIGNOR TO TOBIAS NEW, OF
NEW YORK, N. Y.

MANUFACTURE OF ROOFING FABRICS.

SPECIFICATION forming part of Letters Patent No. 226,461, dated April 13, 1880.

Application filed January 26, 1880.

To all whom it may concern:

Be it known that I, WILLIAM H. STEWART, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in the Manufacture of Roofing Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to make and use it, reference being made to the accompanying drawings, which form a part of this specification, in which—

Figures 1 and 2 show two convenient forms of apparatus to carry out my invention.

My invention relates to an improvement in manufacturing roofing fabrics, particularly of the kind known as "felt and composition roofing."

Heretofore such fabrics came out hot from the making-machine and were carried along through the atmosphere to the winding-up machine, and were cooled only slightly by radiation of the heat into the surrounding atmosphere while passing from the making-machine to the winding-up or cutting-off machine.

My invention consists in artificially cooling the fabric while in transit between the two machines just mentioned.

In the method heretofore employed the sheets of felt and interposed layers of hot composition of which such fabrics are usually composed were very liable, in process of rolling up, to slide upon each other—that is, the inner sheet of the roll was wrinkled or buckled up across its face, and frequently the outer sheet was pulled apart every few feet in consequence of the greater strain imposed upon the outer sheet, which formed the circumference of the roll.

The object of my invention is to prevent both these evils—the wrinkling of the inner sheet or surface and the tearing apart of the outer one.

I have found considerable benefit from the

artificial cooling of both surfaces of the fabric equally while in transit, as before stated; but I have found much greater benefit from cooling the surface that is to be the inner side of the fabric when rolled up—more than when I cool the outer side of such fabric. By this unequal cooling of the surfaces the evils of wrinkling and tearing are brought within the control of the workman.

In practice I have found a very convenient means for producing this artificial cooling in passing the fabric through water of a colder temperature, as shown in Fig. 1. A represents a tank of water; B, the fabric passing over rollers C C' and beneath roller D, through the water. This device is to be used when the surfaces are both to be cooled equally.

When the surfaces are to be cooled unequally, as is most desirable, I have found the apparatus shown in Fig. 2 very efficient. In this figure, E represents the tank; B, a roll running in the water, over the upper surface of which roll the fabric C travels; and D represents a showering-pipe of cold water.

It is obvious that the roll B in Fig. 2 may be dispensed with, if desired, and the water may be discharged directly on the fabric, or on an interposed sheet of cloth lying directly on the fabric, my object being to describe what I have found useful and convenient, and not to limit my invention to any particular apparatus and substance adapted to produce this artificial cooling.

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

The improvement in the art of making roofing fabrics herein described, consisting essentially in artificially cooling the fabric as it passes from the making-machine to the winding-up or cutting apparatus, for the purpose set forth.

WILLIAM H. STEWART.

Attest:

NATHAN DUFF,
ALFRED C. WARE.