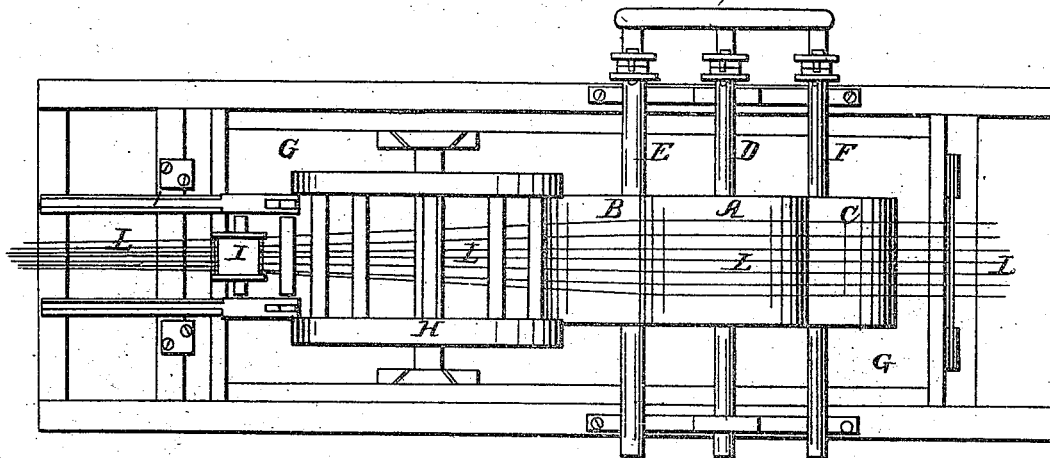


W. Montgomery.
Tarring-Rope Yarns.

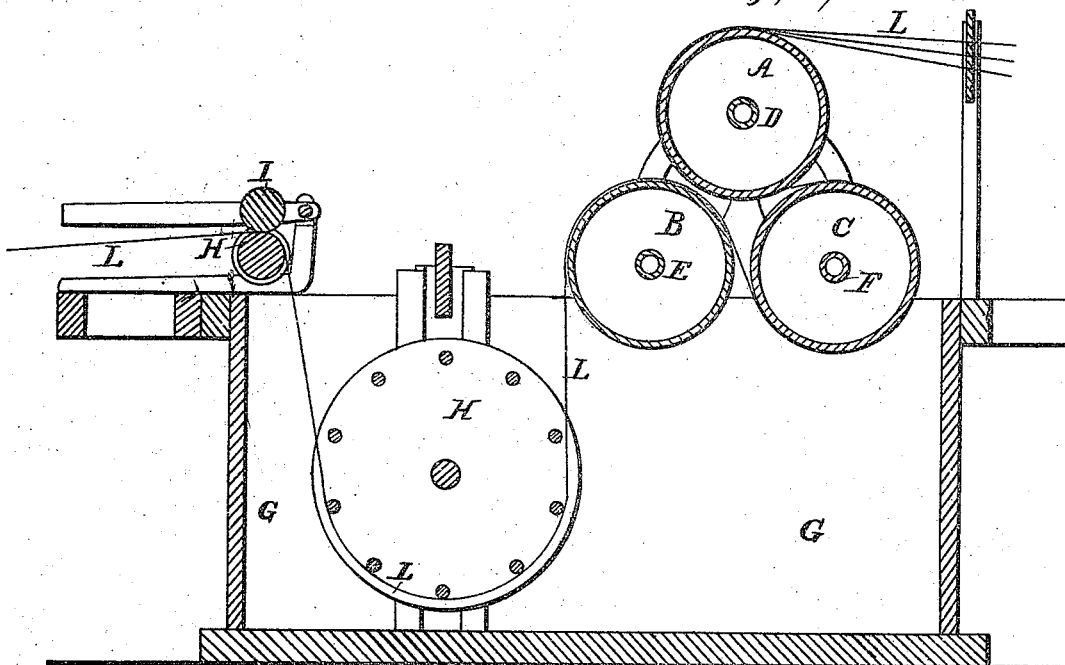
N^o 6,445.

Patented May 8, 1849.

Fig; 1;



Fig; 2,



UNITED STATES PATENT OFFICE.

WM. MONTGOMERY, OF ROXBURY, MASSACHUSETTS, ASSIGNOR TO WM. MONTGOMERY
AND GEO. H. WILLIAMS.

TARRING ROPE-YARNS.

Specification of Letters Patent No. 6,445, dated May 8, 1849.

To all whom it may concern:

Be it known that I, WILLIAM MONTGOMERY, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented
5 a new and useful Improvement in the Process of Tarring Rope-Yarns; and I do hereby declare that my said invention is fully described and the machinery used therein represented in the following specification and
10 accompanying drawings, letters, figures, and references thereof.

The process of tarring rope yarns, as heretofore practised has been to immerse or pass the rope yarns into tar either in a boiling
15 state or one heated nearly up to such. When common American tar, or that in general use is so heated, it loses more or less of its volatile properties, spirit or essential oil, and in consequence thereof becomes hard or brittle when cold. Rope yarns saturated in
20 such manner, are generally so stiff and unyielding, that ropes made of them cannot be used for bolt rope, or such as is applied to the edges of sails, as such rope requires to be
25 very pliable.

In my improved process of tarring rope yarns, I do not heat the tar to such extent as to volatilize or evaporate any material
30 portion of its essential oil. I only heat it to blood heat or thereabouts, and I heat the rope yarns just before they are immersed in the tar and while they are so heated I either plunge them into, or pass them through the tar so as to saturate them with it to the
35 extent required. I do not consider it absolutely essential to my process that the tar be heated at all provided it be in a sufficiently fluid state to readily enter the yarns, but as this is not always the case, a slight
40 degree of heat may be employed to good advantage.

The mechanism I have adopted or devised for heating and tarring the yarns is shown in top view in Figure 1, and in longitudinal
45 and central section in Fig. 2. I do not however limit my invention to the use of either of the precise elements constituting such machinery, as any well known substitute or equivalent may be employed in lieu of the
50 same. For instance the mode of heating the yarns I have adopted and exhibited in the drawings is to make use of hot rollers or hollow cylinders heated by steam let into them. Instead of such a form of the heat-

ing element of the machine, some other well
55 known mode of heating may be substituted. So with any of the other essential portions of the machine. I do not intend to confine my invention to the use of such element in the precise form I have represented and de-
60 scribed, as the same element in a different form, or some other equivalent for it may be used.

In the said drawings A, B, C, denote three hollow drums or cylinders, arranged with
65 respect to each other as denoted in Fig. 2, and made steam tight. They are respectively mounted on or supported by shafts or axles D, E, F, which are made tubular in part, or so as to receive and suffer hot
70 steam to pass into and through them, and into their respective cylinders or rollers, in any manner well understood and practised. The said cylinders are disposed over or near a vat or cistern G, which is for the purpose
75 of holding the tar, and is provided with a depressing reel H, a pair of squeeze rollers I, K, and a guide plate for guiding and separating the yarns, the whole being ar-
80 ranged as seen in the drawings, and made like mechanism of the same character now existing in the tarring machines in common use. The yarn in its passage between the
85 heating cylinders, through the tar cistern, and between the squeezing rollers is represented at L. By such a machine the yarns are heated by contact with the external surfaces of the hot rollers or steam cylinders, and while so heated or while in a heated
90 state, are passed into and through the tar within the cistern and thence between the pressure or squeeze rollers, which remove the superfluous tar from them. Yarns so tarred become very soft and pliable, and can be made up or twisted into rope which may
95 be used to great advantage as bolt rope.

I lay no claim to the process of tarring yarns as it is ordinarily conducted, viz, that wherein the tar is first either heated or boiled, and while so heated or boiler the
100 yarns are passed through it, they being at their entrance into the tar at the temperature of the surrounding atmosphere; but

What I do claim as by invention is—

My improvement on the said process, the
105 said improvement consisting in heating the yarns, previous to their immersion in or passage through the tar, and using the tar

either at the temperature of the atmosphere
surrounding it, or at a temperature of blood
heat or thereabouts, and not one which shall
materially volatilize, or evaporate its essen-
5 tial oil or spirit, in comparison with the
evaporating of the same which takes place
under the old process above described.

In testimony whereof I have hereto set my
signature, this twenty sixth day of Decem-
ber A. D. 1848.

WILLIAM MONTGOMERY.

Witnesses:

D. H. TILLSON,
R. H. EDDY.