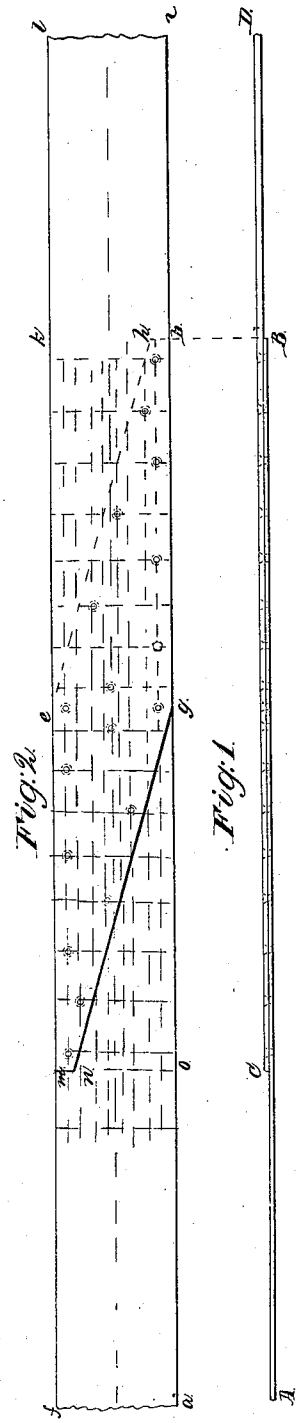
C. E. SMITH.

MANUFACTURING BELTING.

No. 24,243. Patented May 31, 1859.



Witnesses;

J. Bfenkins

H. Meyer.

Inventor;

Charles E. Smith.

UNITED STATES PATENT OFFICE.

CHARLES E. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

MANUFACTURE OF BELTING.

Specification of Letters Patent No. 24,243, dated May 31, 1859.

To all whom it may concern:

Be it known that I, CHARLES EASTWICK SMITH, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Continuous Belting or Bands, and do declare the following to be a full and exact description of the same, reference being had to the accompanying drawings.

Rolled iron bands have been found to be a very useful substitute in hoisting machines, and for other purposes, for wire rope or chains, but much difficulty has been experienced heretofore in securing the pieces together so as to make a continuous piece. Various modes have been adopted to effect this purpose, either by welding, or by riveting the pieces at the joint. The difficulty in practice is to give sufficient strength to the joint and at the same time preserve sufficient pliability at the joint to enable it to conform to the winding cylinder, and thus to avoid the fatigue or wear of the iron at the joint by its being continually strained around the cylinder, and again straightened on being unwound.

The nature of my improvement consists in uniting the pieces of belt or band in such a way that a secure joint shall be obtained, together with sufficient flexibility to avoid the evils above mentioned.

Figure 1, in the accompanying drawings, represents a vertical section or elevation of two pieces of band iron united together by my joint; and Fig. 2, a top view of the same.

A, B, in Fig. 1, represents the vertical section of the lower strip of band iron, and C, D, the upper strips. *a*, *b*, *h*, *e*, *f*, in Fig. 2, represents the extremity of the lower strip of iron, A, B. The band A, F, is generally from four to seven inches wide and from about one-eighth to three-sixteenths of an inch thick. From the line *e*, *g*, I lay off the distance *g*, *b*, which in practice I make equal to three or four times the width, *e*, *g*. I lay off *m*, *n*, on the extremity one inch, and draw a line from *n* to *g*. I then cut off from the upper piece of band iron the piece *n*, *o*, *g*, leaving the upper band iron of the shape *l*, *m*, *n*, *g*, *r*. The upper strip of band iron is then laid over the lower strip until the point *g* of the upper band is immediately transversely opposite to the point *e*, of the lower band. The line circumscribing the lap or joint will form the rhomboidal figure, *b*, *h*, *e*, *m*, *n*, *g*, which would be a pure rhomboid, were it not for the little pieces taken off at *b*, *h*, and *m*, *n*. The two pieces being thus lapped at their extremities so as to form a rhomboidal lap are to be riveted together by rivets placed at suitable distances apart along the lap, as shown in the drawings. From the inspection of the drawing, it will be seen that while a joint of considerable length, *m*, *b*, is obtained the thickness of the metal in the joint is only duplicate at or about the middle line *e*, *g*, and hence much greater flexibility is obtained than could be obtained by a more nearly rectangular shaped lap where the thickness of the metal was duplicated over the whole or greater part of the joint.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent is—

The manufacture of continuous belting or bands by uniting pieces of band iron by lapping and riveting two beveled ends so as to produce a rhomboidal joint in the manner and for the purpose substantially as described.

CHARLES E. SMITH.

Witnesses:
J. WESLEY JONES,
WM. E. C. COXE.