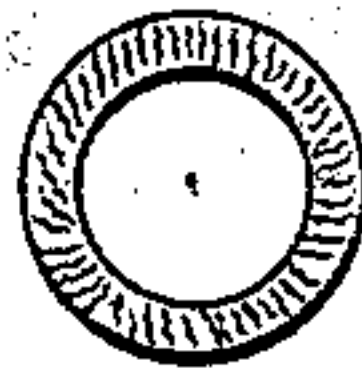


E. Allen,
Making Gun-Barrels,
Nº 48, 249, *Patented June 20, 1865.*

Fig. 1.



Fig. 2.



Witnesses.

George H. Fairfield.
Sullivan Portland.

Inventor.

Ethan Allen.

UNITED STATES PATENT OFFICE.

ETHAN ALLEN, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN CONSTRUCTING GUN-BARRELS.

Specification forming part of Letters Patent No. 48,249, dated June 20, 1865.

To all whom it may concern:

Be it known that I, ETHAN ALLEN, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Mode of Constructing Gun-Barrels; and I do declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

Figure 1 is an elevation of a portion of a barrel, and Fig. 2 is an end view of the same.

The nature of my invention consists in so arranging iron and steel and twisting the same that when formed into a barrel it produces various figures from the grain of the two metals, and also a strong, substantial barrel.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I take a number of sheets of metal, of both iron and steel, and lay them up alternately—first a sheet or bar of one and then a sheet or bar of the other—and when I have a sufficient number together they are subjected to a welding-heat, and thereby welded solidly together. I then roll this down into a small bar and again heat it, and put it into a machine and twist it,

after which it is again rolled flat or partially flattened. I then cut this flattened bar in two lengthwise through the center, and put these together, keeping the outside edges together. I then wind them spirally (after being heated) around a round rod, keeping what was the center of the bar before it was last cut in two on the outside, then weld it firmly together in the ordinary manner, thus producing a figure on the exterior of the barrel corresponding to the twist of the inside of the bar.

The figure of the barrel can be varied by the number and thickness of the layers and the twist given the bar, so almost an endless variety of figures can be produced, and make a very strong as well as a very handsome barrel.

What I claim as my invention, and desire to secure by Letters Patent, is—

Splitting a twisted rod through the center and bringing what was the inside of the rod on the outside of the barrel, substantially as specified, and for the purpose set forth.

ETHAN ALLEN.

Witnesses:

GEORGE W. FAIRFIELD,
SULLIVAN FOREHAND.