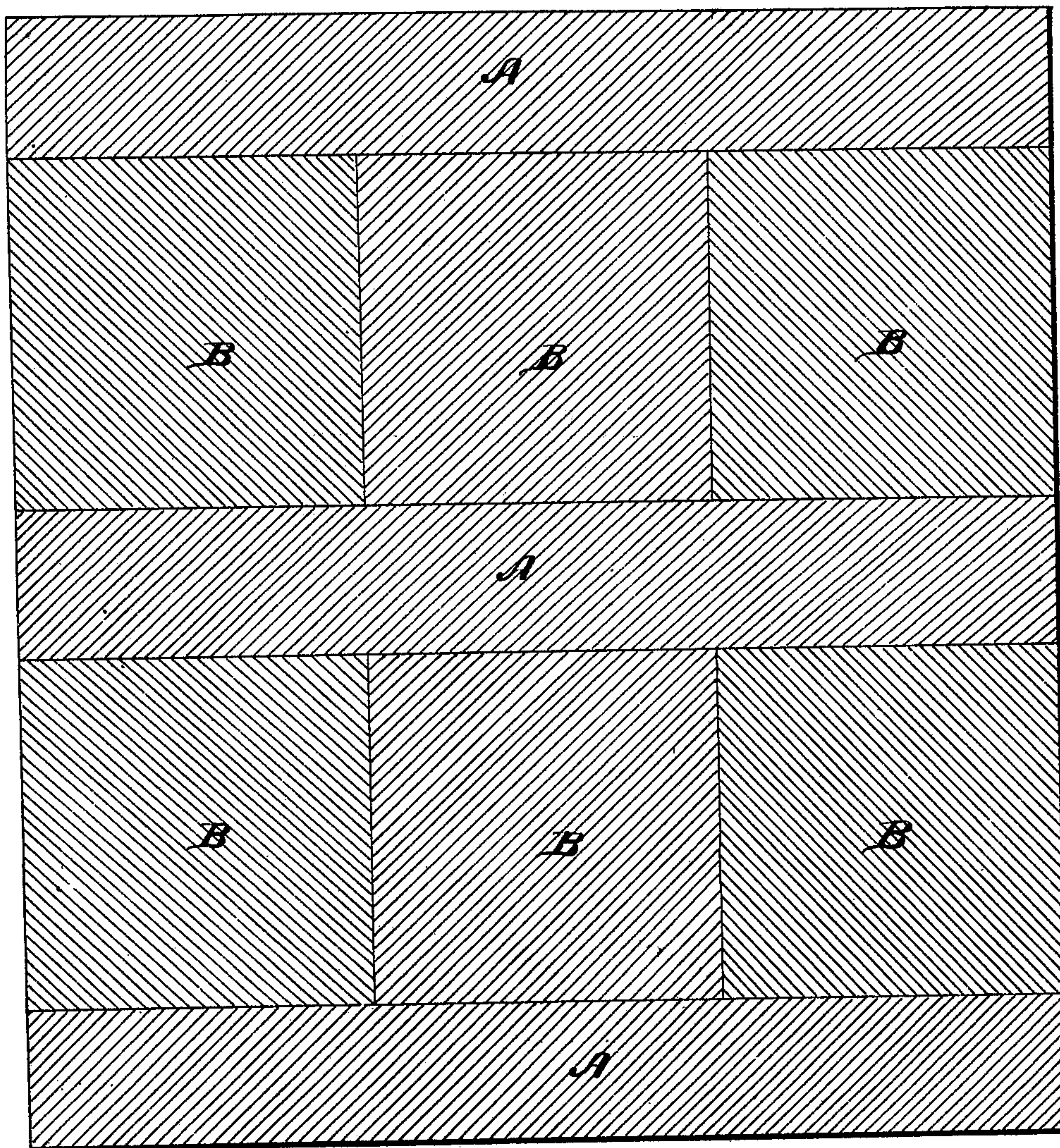


P. Roberts.

Making Axle Piles

N^o 91,486.

Patented Jun. 15, 1869.



Witnesses.

Wm. A. Steel
John Parker

Inventor

Percival Roberts
By his atty
W. H. Howson.

United States Patent Office.

PERCIVAL ROBERTS, OF PHILADELPHIA, PENNSYLVANIA

Letters Patent No. 91,486, dated June 15, 1869.

IMPROVED METHOD OF CONSTRUCTING PILES FOR FORMING AXLES, &

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, PERCIVAL ROBERTS, of Philadelphia, Pennsylvania, have invented an Improved Pile or Fagot for Rolled Axles and Shafting; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of a pile, or fagot, (for axles or shafting,) composed of flat bars and layers of square bars arranged alternately, so that the axles and shafts rolled from the said pile may have an increased transverse strength.

I will now proceed to describe the manner of carrying my invention into effect, reference being had to the accompanying drawing, which forms a part of this specification, and in which the figure represents a transverse section of my improved pile, or fagot, the said pile consisting of flat bars A A A, alternating with layers of square bars B B B.

The pile thus prepared is rolled to the desired size of the shaft or axle.

It has been a common practice to form axles or shafts of a number of flat bars of equal width and thickness, the axles or shafts rolled from such bars of superior quality; but I have found, that the pile of bars arranged in the manner described, gives the pile a transverse strength of the axle or shaft is increased.

I claim as my invention, and desire to have secured by Letters Patent—

A pile, or fagot, (for axles and shafting,) composed of flat bars and layers of square bars, arranged alternately, substantially in the manner and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two witnesses.

PERCIVAL ROBERTS

Witnesses:

JOHN WHITE,
HARRY SMITH.