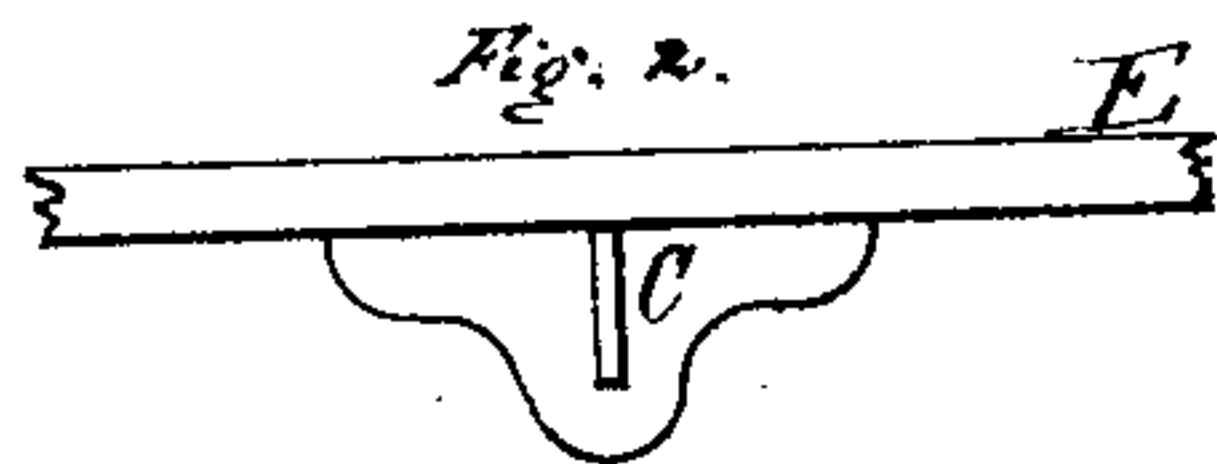
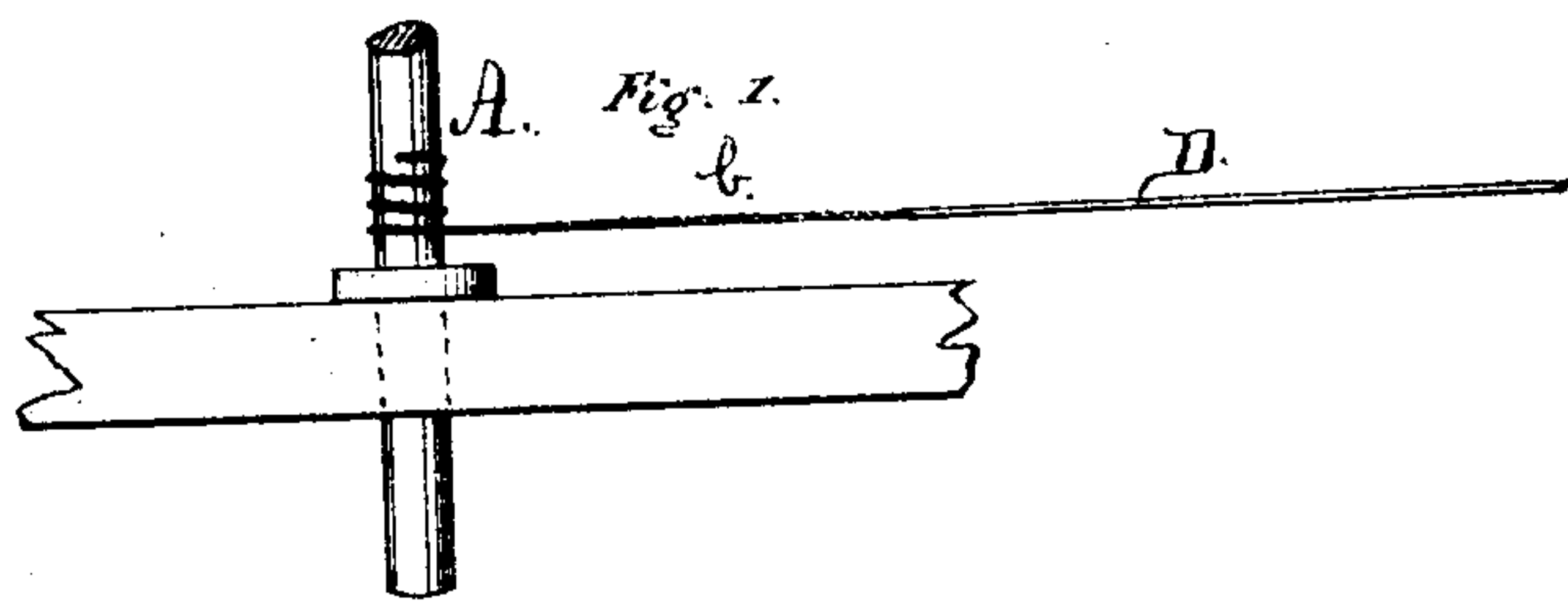


C. F. Chew,
Stringing Pianos.
No. 106,661. *Patented Aug. 23. 1870.*



Witnesses:
James L. Norris.
W. J. Peyton.

Inventor:
C. F. Chew
by *Diederichs & Louis*
Attys

United States Patent Office.

CHARLES FREDERICK CHEW, OF GEORGE STREET, CHALK-FARM ROAD,
ENGLAND.

Letters Patent No. 106,661, dated August 23, 1870.

IMPROVEMENT IN PIANOS.

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, CHARLES FREDERICK CHEW, of George street, Chalk-Farm road, in the county of Middlesex, England, have invented "Improvements in Pianofortes;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

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

My invention consists in strengthening the parts of the wire where it generally breaks by twisting another piece of wire or string with it.

It also consists in means of strengthening the sound-board.

In the drawing—

Figures 1 and 2 illustrate respectively the two parts of my invention.

A represents a pin, on which is to be wound the string D.

This string has its end twisted double at *b*, which is the part that is liable to break when wound on the pin, and by the double twist the string is rendered very strong.

The bars which support the sound-board have been heretofore made of wood; but this is objectionable from the fact that the bars lose their shape by the continued pressure of the strings on the sound-board.

I propose to remedy this defect as follows:

I form a kerf or groove at or about the middle of the bar C, and insert therein a thin piece of steel or other metal, the entire length of the bar.

It will be seen that the sound-board or belly B is greatly stiffened and strengthened in a simple and practical manner.

Having thus described my invention,

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

1. The ends of strings formed of two or more twisted pieces, as set forth.

2. Constructing the bars of pianofortes employed for stiffening the bellies thereof by combining metal with wood in the manufacture of such said bars, substantially as set forth.

C. F. CHEW

Witnesses:

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