No. 617,471. Patented Jan. 10, 1899.

J. G. McMILLAN.

BRIDGE AND WHARF FLOOR CONSTRUCTION.

(Application filed Aug. 12, 1898.)

(No Model.)

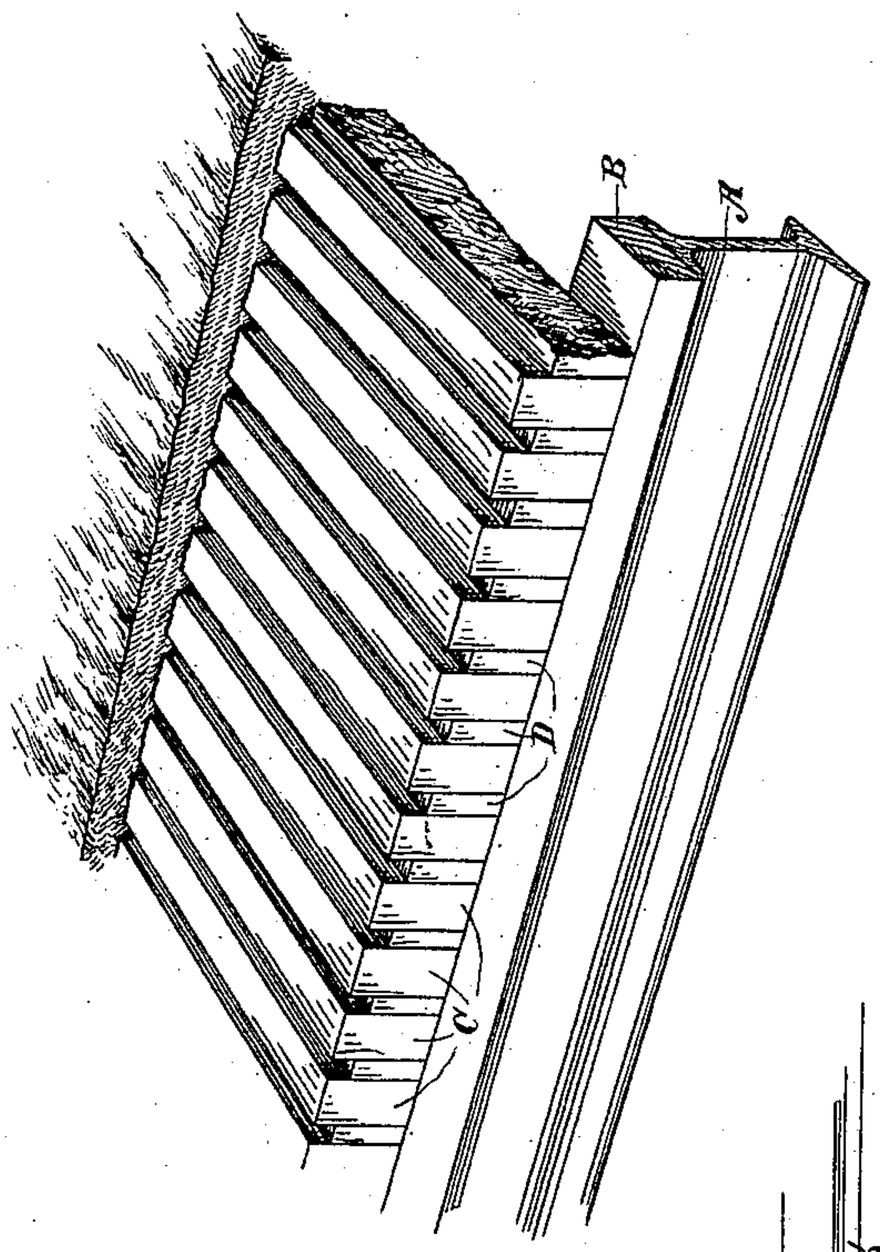

Fig. 1.

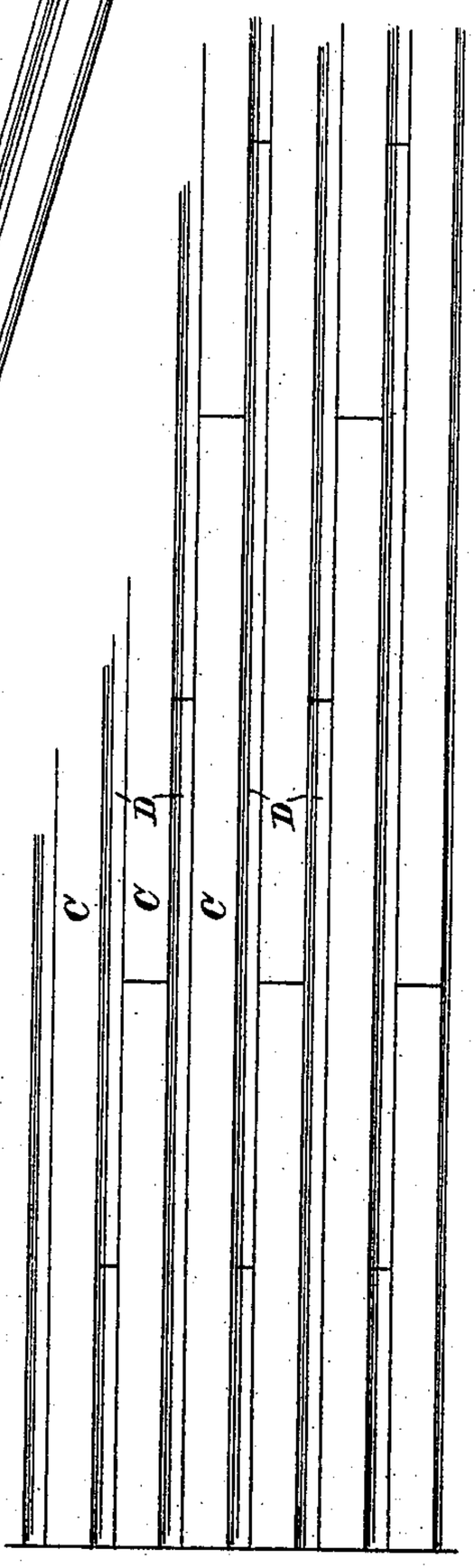

Fig. 2.

Witnesses,
H. F. Ascheck

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UNITED STATES PATENT OFFICE.

JOHN GILMORE McMILLAN, OF SAN JOSÉ, CALIFORNIA.

BRIDGE AND WHARF FLOOR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 617,471, dated January 10, 1899.

Application filed August 12, 1898. Serial No. 688,435. (No model.)

To all whom it may concern:

Be it known that I, JOHN GILMORE McMILLAN, a citizen of the United States, residing at San José, county of Santa Clara, State of California, have invented an Improvement in Bridge and Wharf Floor Constructions; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in the construction of floors for bridges and wharves; and it consists, essentially, of lengths of timber of alternately thicker and thinner material laid lengthwise upon the bridge and upon supporting-timbers which may be thicker in the center than at the sides, so as to provide a proper crown to the surface, the strips being spiked together, with the thicker ones having a greater height than the thinner ones, so as to form channels between for the reception and support of the asphalt or cement surface, which is afterward placed thereon and which forms the wearing-surface of the structure.

Referring to the accompanying drawings, Figure 1 is a general view showing the construction. Fig. 2 is a plan view of the timberwork.

In the usual construction of bridges if the plank surface is exposed to wear it is very soon destroyed and must be frequently replaced, and if it is attempted to cover this surface with cement, asphaltum, artificial stone, or other good wearing protective substance it is soon broken up and destroyed by the spring of the planks composing the bridge-floor, so that any surface of this sort which is employed soon becomes broken, disintegrated, and useless.

The object of my invention is to provide a solid continuous floor adapted to receive such a surface and so channeled as to form a lock by which the covering material is firmly united with the bridge-floor and becomes an integral part of it.

The bridge is constructed in any usual or suitable manner. In the present case I have shown it with the transverse I-beams A, which form the sills and are supported upon the bridge-stringers at each side. Upon the top of these beams are placed the timbers B, and these timbers are made tapering in each direction from the center, being thickest in the middle and having the upper surfaces beveled or tapered off toward the sides.

The bridge-floor is composed of main timbers C, which are made of any suitable height, depth, and thickness. I have found that about four inches in width by about eight inches in depth is a suitable size for ordinary highway-bridges of short span. Intermediate between these timbers are fixed the longitudinal timbers D, which are made of less height and thickness, as about two inches in thickness by six inches in height, and these timbers are solidly nailed or spiked together, so as to form a continuous structure, with longitudinal grooves or channels between the larger timbers. The channels may be rectangular, as shown, or the sides of the main timbers may be formed near the top so the channels are slightly dovetail in shape to increase the efficiency of the lock for the surface compound. The timbers are also laid so as to break joints, and the structure when secured together forms a tight unyielding floor. The surface is then completed by a covering of cement, artificial stone, asphalt, or other suitable material for a road-surface, which may be laid of any desired thickness, and it will fill the longitudinal channels between the larger timbers, the surface being level or prepared in any way to make a foothold for horses or otherwise form a suitable surface for travel. A floor thus constructed being unyielding the wearing-surface will not be cracked or broken and the whole structure is practically a unit from end to end.

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

1. A flooring for bridges and wharves, consisting of transverse I-beams forming sills, longitudinal timbers laid on edge with intermediate timbers of less height and thickness secured thereto and forming channels, and a plastic covering spread over the surface and filling said channels, said timbers arranged higher in the center than at each end.

2. A floor for bridges consisting of transverse beams, supporting-surfaces upon said beams made higher in the center than at each end, longitudinal timbers laid on edge upon said floor-beams with intermediate timbers of less height and thickness rigidly secured thereto and forming longitudinal channels, and a plastic covering spread over the surface and filling said channels, substantially as described.

In witness whereof I have hereunto set my hand.

JOHN GILMORE McMILLAN.

Witnesses:
S. W. BORING,
EDWARD HALSEY.