C. A. M. PRAVAY, DEC'D.
C. W. PRAVAY, ADMINISTRATOR.
REINFORCED WOODEN MILL FLOOR CONSTRUCTION.
APPLICATION FILED FEB. 8, 1910.

968,512.

Patented Aug. 23, 1910.

Fig. 1.

Fig. 2.

Fig. 3.

INVENTOR:

Charles A. M. Praway Dec'd
Charles W. Praway Administrator

ATTORNEY:

J. Logan
Julia Preni
To all whom it may concern:

Be it known that Charles Ambrose Marshal Praray, deceased, late a citizen of Providence, county of Providence, and State of Rhode Island, (Charles William Praray, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, administrator of the estate of said Charles Ambrose Marshal Praray, deceased,) did invent a new and useful Improvement in Reinforced Wooden Mill-Floor Construction, of which the following is a specification.

This invention has reference to an improvement in mill construction and more particularly to an improvement in the construction of reinforced wooden mill floors or similar wooden floors.

In mill practice the products of the various machines are increased by increasing the size, weight and speed of the machines, which demands an increase in the strength of the floors and an increase in the areas of the floors between the supporting columns and necessitates placing the supporting beams and columns farther apart, thereby still further weakening the floors. This has now reached a point where the usual construction of wooden mill floors (which give the best results) is inadequate to properly support the load or weight of the machines. The sagging or warping of the floors throws the machines out of true and this is particularly so in carding engines, where the cylinders are adjusted to thousandth of an inch.

The object of this invention is to improve the construction of wooden mill floors or similar wooden floors, whereby the floors are reinforced and greatly strengthened without increasing the thickness of the floors or lengthening the floor planks and the number of floor beams and supporting columns materially reduced.

Further objects of this invention are to increase the strength of the wooden floor between the floor beams, whereby the distance between the floor beams may be increased, strengthen and stiffen wooden mill floors so as to prevent sagging of the same, under the increased weight of the machines, reinforce and strengthen larger wooden mill-floor areas so that the number of floor beams and columns are reduced and more individual machines may be placed between the columns, strengthen wooden mill-floors so that hangers and shafting may be supported directly from the underside of the floor, reduce the cost of mill construction by reducing the number of floor beams and columns heretofore required for supporting the floors and by eliminating other structure for supporting the hangers and shafting and to reduce the length of the floor planking heretofore required for wooden mill-floors, thereby reducing the cost and increasing the strength of wooden mill floors.

This invention consists in the peculiar and novel construction of a reinforced wooden mill-floor or similar wooden floor and its reinforcing members, as will be more fully set forth hereinafter and claimed.

Figure 1 is a perspective view of a portion of a reinforced wooden mill-floor embodying this invention and showing the same broken away in successive stages to more clearly show the construction. Fig. 2 is a vertical sectional view through the wooden floor taken on line 2, 2, of Fig. 1 and Fig. 3 is an enlarged and view of one of the improved metallic reinforcing floor members.

In the drawings 6, 6 indicates the usual floor supporting beams, 7, 7, the wood nailing strips, 8, 8, the improved channelled reinforcing metallic floor members, 9, 9, comparatively short lengths of floor planks of wood, 10, 10, the intermediate floor boards and 11, 11, the top floor boards of the improved mill floor construction.

The improved channelled reinforcing floor members 8, 8, each are in the form of a metal beam, shaped in cross section to have a comparatively thin vertical central web 12, merging into a straight top 13, having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side of the web, a corresponding straight bottom 14, having a uniform thickness and which extends at right angles across the web 12 and outward an equal distance on each side and central oppositely disposed horizontal webs 15, 15, which extend outward at right angles on each side of the web 12, an equal distance, forming two oppositely disposed square shape channels 16, 16, in each side of the strengthening member, each channel having a straight back 17, a straight top 18, extend-
ing at right angles from the back 17, and a straight bottom 19, extending at right angles from the back 17, as shown in Fig. 3. The floor planks 9, 9, are of wood and have the square bifurcated ends 20, 20, each end 20, having a central horizontal slot 21, for the webs 15, 15, on the reinforcing members 8, 8, whereby the bifurcated ends 19, 19, fit into the channels 16, 16, in the reinforcing members.

The wood nailing strips 7, 7, are secured to the tops of the floor beams 6, 6, and the ends of the metallic reinforcing floor members 8, 8, are supported on the nailing strips 7, 7, and floor beams 6, 6, as shown in Fig. 1. The bifurcated ends 20, 20, of the floor planks 9, 9, are inserted into the square shape side channels 16, 16, in the reinforcing floor members 8, 8, the webs 15, 15, on the reinforcing floor members entering the slots 21, 21 in the ends of the floor planks. All of the floor planks 9, 9, for the entire distance between the floor beams 6, 6, are supported independent of the floor beams 6, 6.

and strengthened by the reinforcing metallic floor members 8, 8, which extend at right angles to and across the floor beams 6, 6. The floor planks 9, 9, now extend parallel with the floor beams 6, 6, and not at right angles to the floor beams, as heretofore. The intermediate floor boards 10, 10, are secured to the floor planks 9, 9, at right angles to the floor planks and the top floor boards 11, 11, are secured to the intermediate floor boards at right angles to the same, as shown in Figs. 1 and 2.

In the use of the improved construction for mill floors, short lengths of floor planking of a superior grade can be used at a reduced cost, the floor is greatly strengthened and stiffened, the floor area between the floor beams and columns is materially increased and larger machines or more machines may be placed between the columns and also placed more advantageously as to light and other considerations, than has heretofore been done.

It is evident that the floor planks could be placed parallel with the reinforcing floor members and the reinforcing floor members could have a plurality of integral channels in their sides without materially affecting the spirit of this invention.

Having thus described this invention I claim as new and desire to secure by Letters Patent:

1. In combination, a reinforced wooden mill floor consisting of metallic reinforcing floor members supported on the floor beams at right angles to the floor beams and having a plurality of longitudinal channels formed integral in their sides, wood floor planks parallel with the floor beams and having square bifurcated ends supported in the longitudinal channels in the reinforcing floor members independent of the floor beams and floor boards over the reinforcing floor members and planks.

2. In combination, a reinforced wooden mill-floor consisting of metallic reinforcing floor members supported on the floor beams at right angles to the floor beams and shaped in cross section to have a thin vertical central web merging into a straight top having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side, a corresponding straight bottom having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side and central oppositely disposed horizontal webs which extend outward an equal distance at right angles on each side of the web, forming two oppositely disposed square shape channels in each side of the strengthening member, each channel having a straight back, a straight top at right angles to the back and a straight bottom at right angles to the back all formed integral, floor planks of wood parallel with the floor beams and having square bifurcated ends supported in the longitudinal channels in the reinforcing floor members independent of the floor beams, an intermediate floor over the floor planks and reinforcing floor members and a top floor on the intermediate floor.

3. As a new article of manufacture, a metallic reinforcing floor member adapted to extend across floor beams to support floor planks of wood independent of the floor beams and shaped in cross section to have a vertical central web merging into a straight top having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side, a corresponding straight bottom having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side and central oppositely disposed horizontal webs which extend outward an equal distance at right angles on each side of the web, forming two oppositely disposed square shape channels in each side of the strengthening member, each channel having a straight back, a straight top at right angles to the back and a straight bottom at right angles to the back all formed integral.

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

CHARLES WILLIAM PRARAY, Administrator of the estate of Charles Ambrose Marshal Praray, deceased.

Witnesses: CHAR. H. LUTHER, JOHN H. MCNULTY.