

D. NEALE.  
COMPOSITE BUILDING MAT.

Patented Sept. 25, 1894.

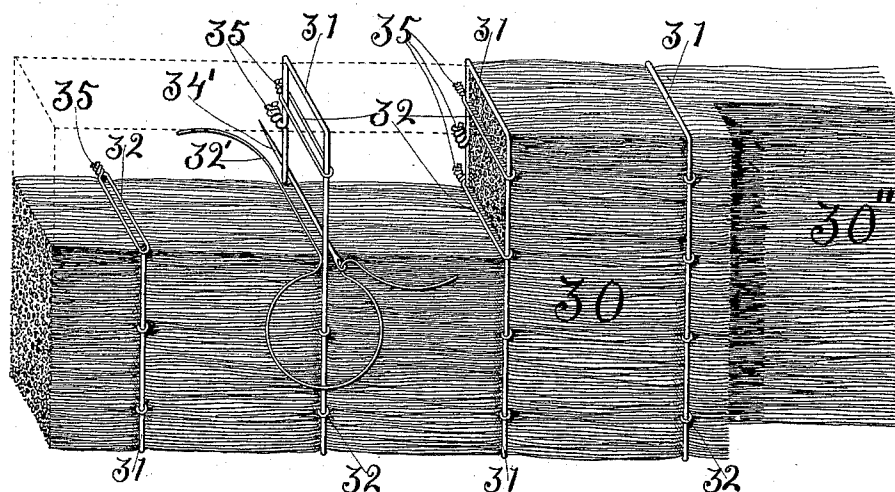


Fig. 1.

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# UNITED STATES PATENT OFFICE.

DAVID NEALE, OF FORT CALHOUN, NEBRASKA.

## COMPOSITE BUILDING-MAT.

SPECIFICATION forming part of Letters Patent No. 526,457, dated September 25, 1894.

Application filed December 26, 1893. Serial No. 494,738. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID NEALE, a citizen of the United States, residing at Fort Calhoun, in the county of Washington and State of Nebraska, have invented a new and useful Improvement in Composite Building-Mats and Methods of Making Same, of which the following is a specification.

The object of my invention is the utilization of small trees or brush, reeds, cornstalks, straw, bagasse or other like disintegrate fibrous material, for building purposes, by compressing and quilting the same into rectangular mats of convenient size and proportion. I attain this object by a process hereinafter more fully described, and illustrated by the accompanying drawing, in which the figure is a perspective view of one of the mats, a portion cut away to show the construction and manner of quilting.

The prime requisite in the manufacture of these building-mats is the filling, 30, the principal part of which is brush, or reeds, or even cornstalks where other material is not at hand, and the requirements of length and stiffness of the mat are not pertinent, arranged as nearly parallel as convenient, with, in some instances, an intermingling of finer material such as hay, straw or bagasse. The ordinary size of these mats is from four to six inches in thickness, about three feet wide, and from ten to twelve feet long; thus meeting a size of brush easy to obtain, handle and press; but these dimensions may be varied indefinitely according to requirements.

The first step in the construction of the mat, is to press the filling into a compact bale of the right dimensions. To do this it is placed in a press with a skeleton bale-box,—described and claimed in an application for a patent filed simultaneously with this,—and is pressed edgewise of the mat, thus offering less resistance in reaching the required compactness, and leaving the sides comparatively free from obstructions, to quilting. When the required compactness is reached the binders, 31, are placed and fastened. These I preferably make of wire twisting the ends together, or using any good bale tie, but withes or ropes may be used. After the binders are placed the mat is quilted with single quilt-

stitches, 32, each embracing a binder on both sides of the mat, and the ends of the wires forming the stitch, made fast together. Ordinarily these stitches are made by threading the wire, 32', in a large steel needle, 34', and thus drawing it through, as indicated where the filling is shown cut away to show the binders and stitches; but when the filling is very coarse or great compactness is required it is expedient to place them through the bale before it is pressed, leaving a large loop on one side, and the ends free on the other side to receive the binders after the mat is pressed, when they are drawn taut, and fastened with the same result. The number of binders and stitches may be varied to meet the various requirements. It is obviously the object of the quilting to retain the flat form of the mat.

The mats are sometimes made with the rabbit or projection, 30'', at the end to facilitate joining them where used in covering large surfaces or required in great lengths.

Well made, with brush or reeds, these mats have a large range of usefulness. A single course of them set on end will form the wall of a building. They are readily cut to any length to work around openings, receive and hold plastering perfectly, may be spiked to timbers or poles and cover all parts of a building from floor to roof.

In the line of greatest usefulness is the construction of corrals, roadways over marshes or sloughs, riprap, covering for large hollow fascines, saucisse and breastworks, hog pens, windbreaks, railway snow guards and fence.

As the binders are of flexible material, the mats are readily bent to cover cylindrical forms, such as occur in buildings, hollow fascines, &c.

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

1. A composite building mat consisting of a body or filling of disintegrate fibrous materials, as brush, canes, stalks, hay or bagasse, bound with flexible encompassing binders, as wire, withes or rope, and quilted with stitches to embrace said binders on opposite sides of the mat substantially as described.

2. The method of constructing composite

building-mats, which consists in compacting  
the material composing the body of the mat,  
by pressing it edgewise in a skeleton bale-  
box, then binding and quilting it to retain its  
5 compactness and form, substantially as de-  
scribed.

Signed at Blair, in the county of Washing-

ton and State of Nebraska, this 19th day of  
December, 1893.

DAVID NEALE.

Witnesses:

LOU VAUGHAN,  
T. E. STEVENS.