Nov. 15, 1932. J. P. MORRIS 1,887,777

WALL CONSTRUCTION UNIT AND WALL FORMED THEREFROM

Filed Sept. 8, 1931

Fig. 1.

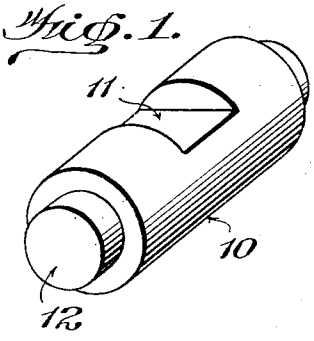



Fig. 2.

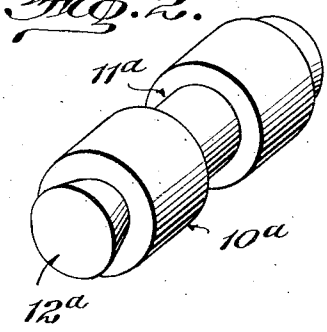



Fig. 3.

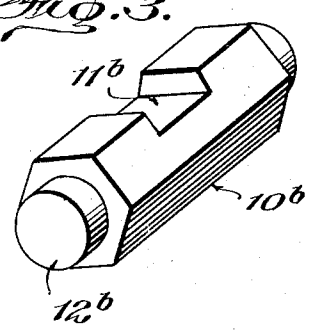



Fig. 4.

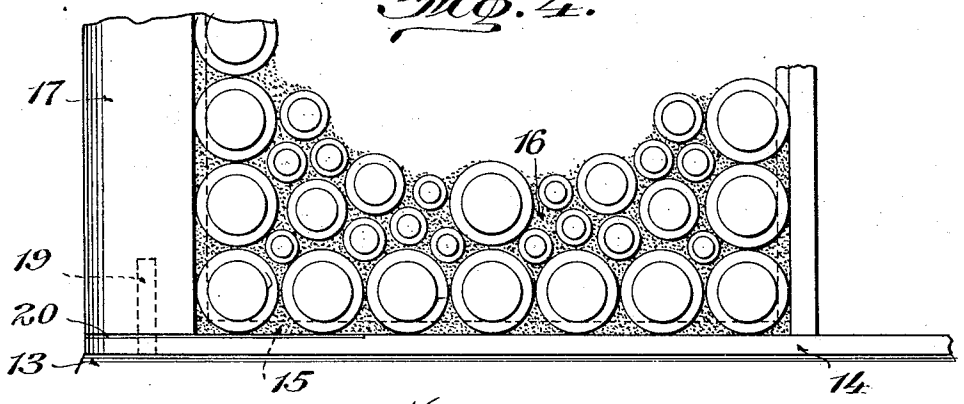



Fig. 5.

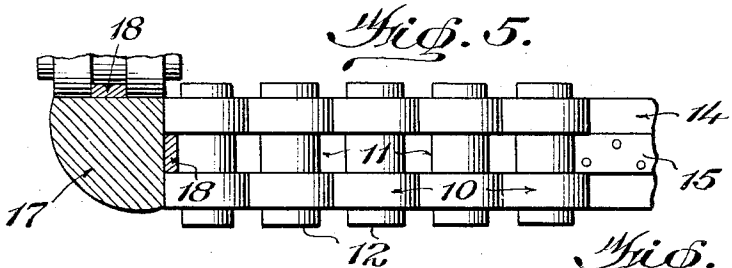



Fig. 6.

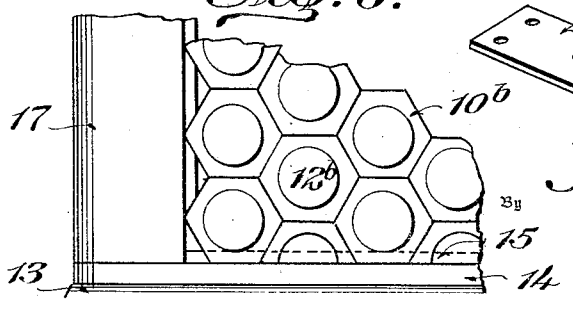
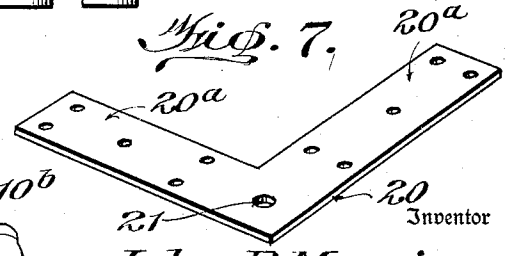



Fig. 7.




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# UNITED STATES PATENT OFFICE

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## WALL CONSTRUCTION UNIT AND WALL FORMED THEREFROM

Application filed September 8, 1931. Serial No. 561,750.

This invention relates to improvements in wall construction units and to walls constructed therefrom, and has particular reference to wall construction units and walls formed from logs.

A special object of the invention is to provide for the utilization of logs of widely varying diameters in the construction of a wall.

Another special object of the invention is to provide for the facile and economical construction of a strong, durable and rigid wall of distinctive and attractive appearance from logs of either approximately the same diameter or of widely varying diameters.

Another special object of the invention is to provide for the utilization of logs of various different lengths in the construction of a wall.

According to the invention logs of various different lengths and diameters are adapted to be sawed into short sections or units to be superimposed upon one another to form a wall, the sections or units being adapted to be laid parallel to each other transversely of the wall, and in this connection another special object of the invention is to provide for the interlocking of the units with each other and with other elements of the wall against longitudinal or endwise movement.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel features of construction, combination and arrangement of elements as will be hereinafter more fully described, illustrated in the accompanying drawing and defined in the appended claims.

In the drawing, wherein like characters of reference denote corresponding parts in the different views:

Figure 1 is a perspective view of a wall construction unit formed in accordance with one practical embodiment of the invention.

Figure 2 is a view similar to Figure 1 illustrating a wall construction unit formed in accordance with a slightly modified embodiment of the invention.

Figure 3 is a view similar to Figures 1 and 2 illustrating a wall construction unit formed in accordance with another modified embodiment of the invention.

Figure 4 is a fragmentary side elevation of a wall constructed from units having the form illustrated in either of Figures 1 or 2 of the drawing.

Figure 5 is a fragmentary horizontal sectional view through the wall shown in Figure 4.

Figure 6 is a fragmentary side elevation of a wall constructed from units having the form illustrated in Figure 3; and

Figure 7 is a perspective view of a corner plate to be used in constructing a wall according to the invention.

Wall construction units according to the present invention are formed by sawing logs of various different sizes ranging, for example, from four to twelve inches in diameter, into short sections ranging, for example, from twelve to eighteen inches in length, depending upon the height, thickness and strength of the wall desired, all of the sections or units to comprise a given wall preferably being of equal length.

The logs are sawed or otherwise cut into short sections or units in any suitable or desired manner, preferably after the bark has been removed from the logs, and either simultaneously with the cutting of the same into sections or units, or following such cutting, some or all of the sections are in any suitable manner either recessed at one side or at a plurality of circumferentially spaced points intermediate their ends, or formed, alternatively, with medial annular recesses for a purpose which will presently appear.

Referring particularly to Figure 1 of the

drawing, it will be observed that the unit or log section therein illustrated and designated as 10 is medially recessed at one side as indicated at 11 and provided at its ends with short cylindrical extensions of reduced diameter designated as 12. On the other hand, referring to Figure 2 of the drawing, it will be observed that the unit or log section therein illustrated and designated as 10*a* is provided with an annular medial recess designated at 11*a* and with reduced end extensions 12*a* of dovetail or outwardly flaring shape.

According to Figures 1 and 2 the units 10, 10*a* have the natural circular or approximately circular cross sectional shape of the logs from which they are cut. Alternatively, however, the units may be formed of hexagonal, octagonal or any other polygonal cross sectional shape desired, as indicated, for example, in Figure 3 of the drawing, wherein the unit designated as 10*b* is of hexagonal cross section. If the units are formed of polygonal cross sectional shape they may be provided either with a medial recess at one side thereof as indicated at 11*b* in Figure 3, or with a plurality of such recesses, or with a medial annular recess like the recess 11*a* of Figure 2. Likewise, they may be formed at their ends with reduced extensions designated as 12*b* which may be either of cylindrical shape, as shown, or of the dovetail or outwardly flaring shape of the extensions 11*a* of the units 10*a*, or, alternatively, said extensions may be eliminated altogether or be provided only at one end of each unit. The same applies to the units 10, 10*a* illustrated in Figures 1 and 2. That is to say, the end extensions 11, 11*a* of said units may be eliminated altogether or be provided at one end only of each unit, and the units 10 may have extensions like the extensions 11*a* of the unit shown in Figure 2 or the units 10*a* may have extensions like the extensions 11 of the unit shown in Figure 1.

In constructing a wall from units of the type shown in any one of Figures 1 to 3, or of the alternative types described in connection with the units illustrated in said figures, a suitable foundation designated as 13 in Figures 4 and 6 first is provided, and on this foundation is suitably secured a sill 14 which may have the form of a relatively thick and substantial board preferably of a width approximately the length of the units 10, 10*a* or 10*b* as the case may be. On top of this board, midway between the side edges thereof, is nailed or otherwise suitably fastened a lock strip 15 which is of a width approximating the width of the medial recesses in the construction units and of a thickness preferably not greater than the depth of said recesses. Upon thus preparing the foundation for the wall units, a row of the latter is laid upon the sill 14 in parallel side to side relation transversely of the sill with the recesses of the units receiving the lock strip 15, whereby the units are held effectively against longitudinal or endwise movement relative to the foundation. Units of approximately the same diameter or of different diameters may be employed to form the first row or course of the wall, and following the laying of the first row or course, the wall is erected by superimposing other units on the first row of units in the same relation to said first row of units and to each other as the units of the first row bear to each other.

During or following erection of the wall by super-imposing the construction units upon one another, cement or the like designated as 16 is employed to fill the voids formed between the sides of adjacent units and by the recesses in the units. Thus, when the cement or equivalent material hardens there results a wall construction in which the various units thereof are firmly keyed or interlocked with one another.

In applying the cement 16 it obviously may be smoothed off flush with the ends proper of the units, i. e., flush with the shoulders at the inner ends of the end extensions of the units, in which event the said extensions will appear as projections from the side of the wall, or, alternatively it may be smoothed off flush with the ends of the extensions, in which event the wall will have a smooth unbroken side surface with the units thereof manifestly more firmly keyed or interlocked than in the first instance, especially if the end extensions of the units have the dovetail or outwardly flaring shape shown in Figure 2. Of course, if the units are not provided with the end extensions, the cement may be terminated either flush with or inwardly of the ends of the units, in which connection it is apparent that by providing end extensions on only the outer ends of the units a wall of distinctive and attractive exterior appearance may be provided and the forming of a smooth interior wall may be correspondingly facilitated. On the other hand, if the interior of the wall is to be plastered it may be desirable to provide the units with dovetail extensions at their inner ends to key or lock the plaster to the wall. Also, in connection with the distinctive and attractive appearance of the wall, this obviously may be enhanced by employing wood of different colors from which to form the units or by suitably coloring the ends of the units, and by using units of various different diameters.

In instances where the units are of polygonal cross section as illustrated in Figure 3 the units obviously may be superimposed upon one another with their flat faces in surface engagement as illustrated in Figure 6, or with the corners of certain units engaging the flat faces of other units.

The foregoing deals only with the erection of a conventional wall by means of the

present units. However, it is apparent that the same general provisions heretofore discussed for interlocking the units with the foundation may be employed for interlocking the units with door frames, window frames or the like, and for interlocking the adjacent ends of angularly related walls to each other. That is to say, in the case of door frames, window frames and the like, the same may be provided on their outer faces with lock strips similar to the lock strip 15 to be received in the recesses of the units lying against said frames. On the other hand, where two or more angularly related walls meet at their ends, a post of wedge-shaped cross section, which may be formed by longitudinally splitting a log, preferably is employed as a connecting member between the wall ends. Such a post is illustrated in Figures 4 and 5 and designated as 17 and from said figures it will be observed that the two flat sides of the post facing the ends of the respective walls are provided with lock strips 18 with which the units at the ends of the walls have interlocking cooperation, respectively, through the instrumentality of their medial recesses.

While any suitable means may be employed to fasten the corner post 17 against movement away from the wall ends, this purpose may be accomplished in a simple efficient manner by embedding one end of a pin or bolt 19 in the foundation 13 with the upper end portion of the pin or bolt projecting vertically above the foundation to be received in a hole bored in the lower end of the post. In this connection it is contemplated that the tops of the walls will be finished by a cap plate or sill similar to the sill 14 and that a pin similar to the pin 19 will be provided to anchor the upper end of the post 17 to said cap plate or plates. Also in this connection it may be desirable to employ metallic angle plates of the character illustrated in Figure 7 and designated as 20 to connect and reinforce the adjacent ends of any sills such as 14 which may be embodied in a wall, the leg portions 20$a$ of said plates being superimposed upon and fastened to the sill ends in any preferred manner. When such plates are employed they will be provided with an opening 21 to accommodate the lock pins 19 or the like for the corner posts, thus also to reinforce said pins. Moreover, reinforcing bands of metal may, if desired, be applied to the corner posts to hold them against splitting, and in this connection it is pointed out that it is desirable to treat the various wood elements of the invention with some suitable preservative before placing them in a structure in order to guard against decay.

From the foregoing description considered in connection with the accompanying drawing it is believed that the invention will be fully understood. It is desired to point out, however, that while certain specific structural details and arrangements have been illustrated and described, the salient features of the invention are readily capable of embodiment in other structural arrangements within the spirit and the scope of the invention as defined in the appended claims.

I claim:

1. A wall construction unit comprising a wooden log section approximating in length the thickness of a wall to be erected by superimposing a plurality of said units upon one another in parallel relation transversely of the wall, and an integral reduced extension at one end at least of said unit.

2. A wall construction unit comprising a wooden log section approximating in length the thickness of a wall to be erected by superimposing a plurality of said units upon one another in parallel relation transversely of the wall, said unit having a medial recess opening through the side thereof for interlocking cooperation with another wall element, and an integral reduced extension at one end at least of said unit.

3. A wall construction unit as set forth in claim 1 in which the reduced end extension thereof is of dovetail outwardly flaring shape.

4. A wall construction unit as set forth in claim 1 in which the recess extends circumferentially around the unit.

5. A wall construction unit as set forth in claim 1 in which the unit is of polygonal cross section.

6. A wall comprising a plurality of wooden log sections superimposed upon one another in parallel relation transversely of the wall, at least some of said log sections having recesses intermediate their ends opening through the sides thereof, and a binding material filling the voids between said sections and extending into said recesses.

7. A wall comprising a plurality of wooden log sections superimposed upon one another in parallel relation transversely of the wall, a binding material filling the voids between said sections, and reduced end extensions integral with the sections projecting outwardly beyond the binding material.

8. A wall comprising a plurality of wooden log sections superimposed upon one another in parallel relation transversely of the wall, integral reduced extensions of dovetail shape at the ends of said sections, and a binding material filling the voids between the sections and extending at least partially over said end extensions.

9. A wall inclusive of a terminal element, a lock strip secured to said terminal element, and a plurality of wooden log sections superimposed upon one another in parallel relation transversely of the wall, said log sections having medial recesses receiving said lock strip.

10. A wall inclusive of an end post, a lock strip carried by said end post, a plurality of wooden log sections superimposed upon one another in parallel relation transversely of the wall, said sections having medial recesses receiving said lock strip, and means interlocking the end post with other elements of the wall against movement outwardly from the end of the wall.

11. A wall as set forth in claim 10 in which the end post locking means includes a pin rigid with the wall and extending into a hole in the end of the post.

In testimony whereof I hereunto affix my signature.

JOHN P. MORRIS.