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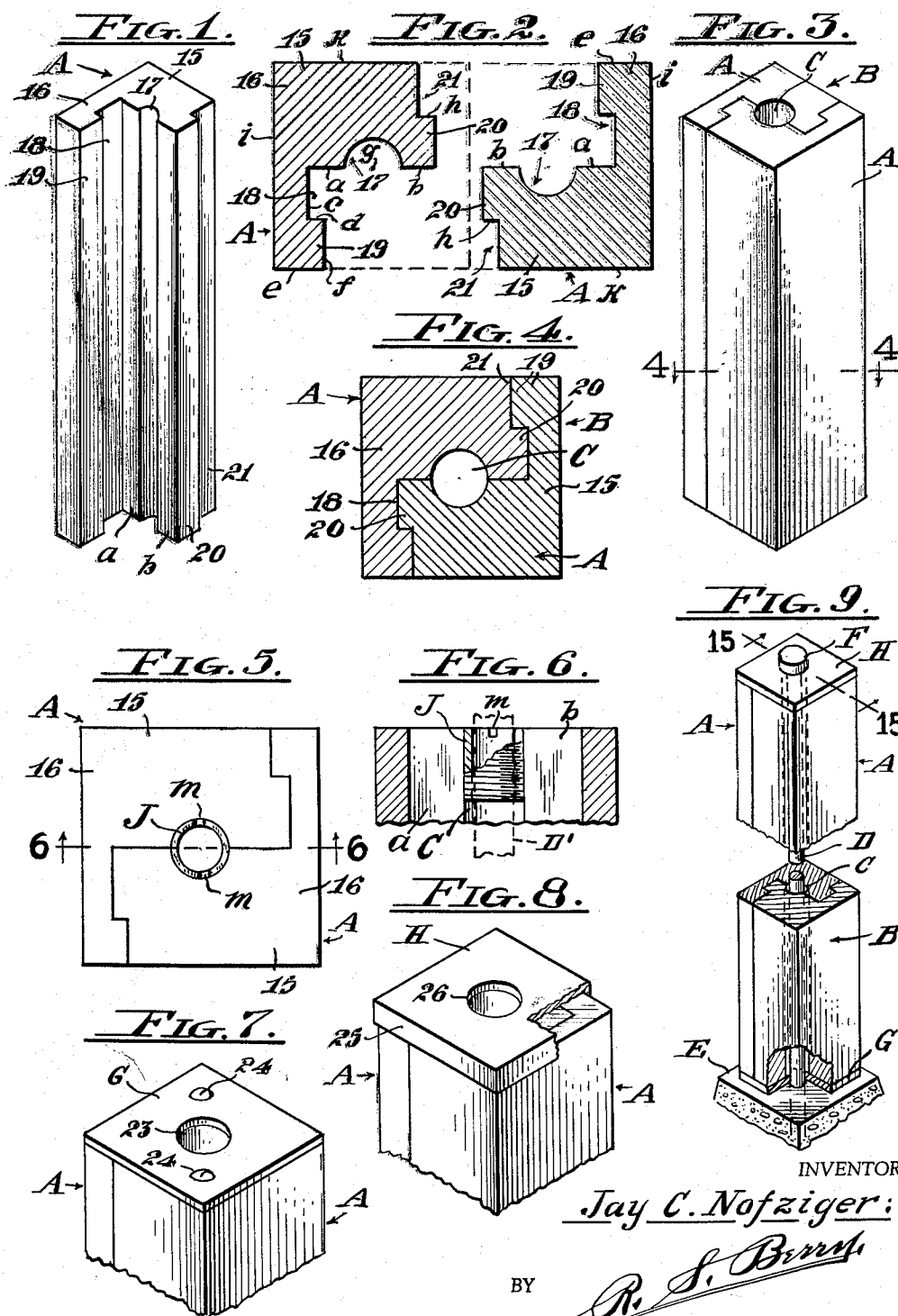
J. C. NOFZIGER

3,170,201

DEMOUNTABLE SECTIONAL POST

Filed May 26, 1961

2 Sheets-Sheet 1



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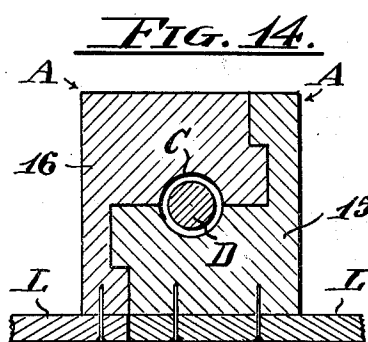
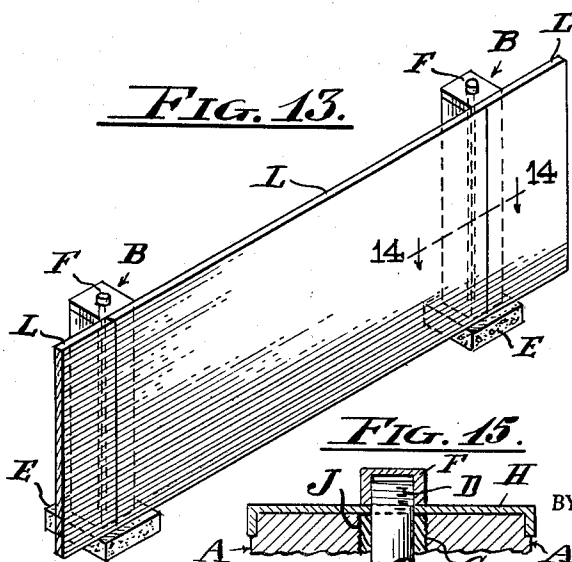
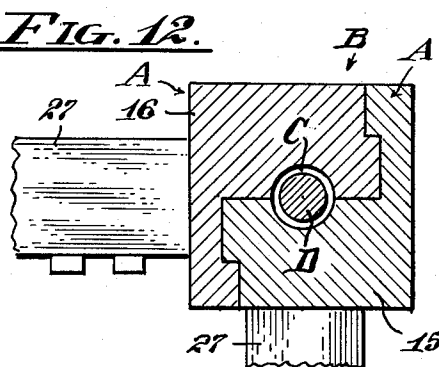
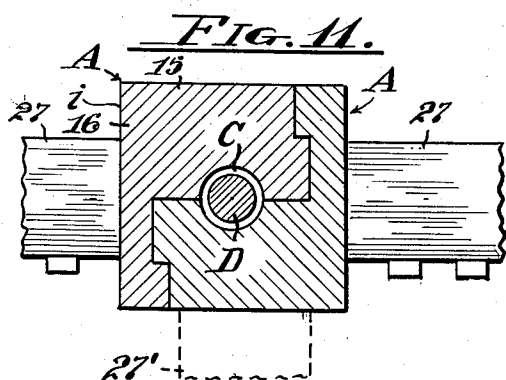
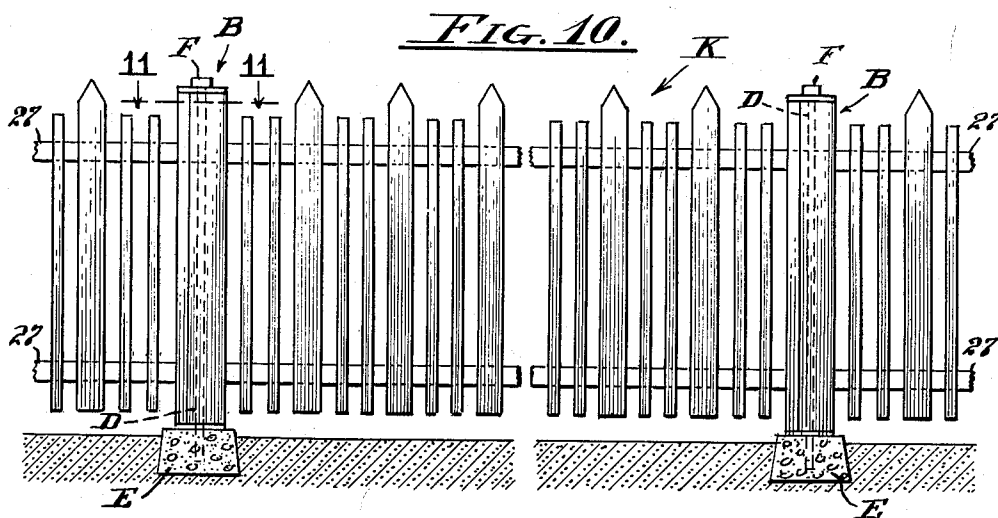
J. C. NOFZIGER

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DEMOUNTABLE SECTIONAL POST

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2 Sheets-Sheet 2



INVENTOR

Jay C. Nofziger;

R. S. Berry

ATTORNEY

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DEMOUNTABLE SECTIONAL POST

Jay C. Nofziger, 547 N. Oxford Ave., Los Angeles, Calif.

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2 Claims. (Cl. 20—99)

This invention relates to a demountable sectional post and to interlocking rabbeted elements for forming same.

The post embodying the invention is especially applicable for use in the fabrication of knock-down structures such as fences, wall-panels, boxes, crates, and the like wherein lengths of sections or panels are designed to be demountably assembled end-to-end or detachably intersected at corners.

The primary object of the invention is to provide a post of the above character comprising a pair of complementary strips of structural material adapted to be interlocked together along the lengths thereof in a fashion permitting their ready separation laterally in one direction only whereby the assembled post may be easily dismounted if need be, and wherein disengageable means are provided for holding the strips against separation until such is desired.

Another object is to provide a post composed of laterally separable strips which is adapted to be reinforced by the application thereto of a rigid rod extending throughout the length thereof and wherein the rod may be utilized in anchoring the lower end of the post to a means of support such as the ground, piers, floors, foundations and the like, and at the same time contribute in holding the strips against relative separation.

A further object is to provide a sectional post of the type above specified having a longitudinal bore extending axially thereof through which the reinforcing rod extends, wherein a clearance space is afforded between the wall of the bore and the contiguous surface of the reinforcing rod throughout the entire length of the bore or nearly so whereby the post may be readily positioned on the bar by inserting one end of the bar into one end of the bore and then advancing the assembled post longitudinally over the bar irrespective of misalignment of the bore; and wherein means are provided for fixedly interconnecting the end portions only of the post to the rod whereby the laterally separable strips are held against separation.

With the foregoing objects and advantages in view together with such other objects and advantages as may subsequently appear, the invention is carried into effect as hereinafter described and claimed and illustrated by way of example in the accompanying drawings, in which:

FIG. 1 is an isometric view of a contoured strip of material, a pair of which strips are adapted to be united in longitudinal parallel relation to each other to form a post:

FIG. 2 is a view in cross-section of a pair of the strips shown in FIG. 1 and depicting the manner of effecting their side-by-side rabbeted assemblage:

FIG. 3 is an isometric view showing a pair of the strips as assembled to form a post:

FIG. 4 is a detail in cross section as seen on the line 4—4 of FIG. 3:

FIG. 5 is an end view of the assemblage shown in FIGS. 3 and 4 showing a manner of demountably fastening the pair of strips together:

FIG. 6 is a detail in cross section taken on the line 6—6 of FIG. 5:

FIG. 7 is an isometric view of an end portion of the assembled strips depicting another mode of demountably fastening the strips together:

FIG. 8 is an isometric view with portions broken away depicting a further mode of demountably fastening the strips together:

FIG. 9 is an isometric view depicting a mode of apply-

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ing a reinforcing bar to the post assemblage and effecting anchorage of the lower end of the post:

FIG. 10 is a view in elevation showing the application of the invention to the construction of a picket fence:

FIG. 11 is a detail in horizontal section as seen on the line 11—11 of FIG. 10:

FIG. 12 is a view similar to FIG. 11 showing the invention as applied to a corner post:

FIG. 13 is an isometric view depicting the invention as applied to a panel wall construction:

FIG. 14 is a horizontal section taken on the line 14—14 of FIG. 13: and

FIG. 15 is a detail in cross section as seen on the line 15—15 of FIG. 9.

Referring to the drawings more specifically A indicates generally a contoured strip of structural material such as wood, metal or plastic, which strip may be of any suitable length and of any desired cross sectional dimensions. The strip A is of general right angular formation in cross section and is adapted to be assembled face-to-face inside foremost with a complementary strip in semi-interlocking rabbeted engagement therewith to form a post B wherein the composite pair of strips A—A are demountably interlocked together.

For the purpose of illustration, the resultant post B is shown as being square in cross section, but manifestly may be of various external configurations since the interlocking or rabbeting feature thereof is embodied in most part within the inner portion of the strip and independent of the external contour thereof.

As shown in the drawings the strip A has angularly disposed contiguous side portions 15—16 extending generally in perpendicular relation to each other throughout the length of the strip.

The side portion 15 has a longitudinal channel 17 on its inner side and has coplanar flat faces a—b leading laterally from the margins of the channel and lying on a plane extending longitudinally of the strip A perpendicular to the inner side of the side portion 16. The channel 17 and flat faces a—b extend continuously throughout the length of the strip A.

The side portion 16 has a longitudinal groove 18 on its inner side which is of rectangular cross section and has a flat bottom wall c with which the outer margin of the face a of the side portion 15 intersects thereby forming the inner side of the groove 18. The side portion 16 also embodies on its inner side a tongue 19 of rectangular cross section and extending between the groove 18 and the outer end of the side portion 16. The inner margin of the tongue 19 comprises a wall d which parallels the face a and intersects the bottom wall c of the groove 18 and constitutes the outer side of the latter. The wall d lies midway between the surface a of the side portion 15 and the outer margin e of the side portion 16. The outer face f of the tongue 19 is flat and lies on a plane paralleling that of the bottom wall c. The groove 18 and tongue 19 are continuous and uniform throughout the length of the strip A.

The channel 17 may be of any suitable cross sectional contour, but is here shown as having a semi-circular wall the radius of which leads from a point g located on the plane of the faces a—b; the point g constituting the longitudinal center or axis of the assembled post B comprising a pair of the strips A—A positioned with their inner sides in abutting nested relation to each other. The outer edge of the side portion 15 is contoured to conform to the groove 18 and tongue 19 of a companion strip A, for which purpose the inner portion of said edge is offset outwardly relative to the outer portion thereof so that said inner marginal portion will constitute a tongue 20 of rectangular cross section, and said outer marginal portion will constitute a groove 21 which is open along

its outer margin and has its inner margin comprising a shoulder *h*; the tongue 20 being conformable to the groove 18, the groove 21 being conformable to the tongue 19, and the shoulder *h* being conformable to the side wall *d* of the groove 18 and tongue 10.

As here shown the strip A is dimensioned so that when a pair of complementary strips A—A are assembled in abutting relation to each other as shown in FIG. 4, the resultant post will be of square cross section. However, it is manifest that the post may be of any desired external contour and the strip A shaped accordingly as before stated.

When the assembled post is to be of square cross section as shown, the outer face *i* of the side portion 16 has the width of the assembled post, while the outer face *k* of the side portion 15 has a width the dimension of which is that of the face *i* less the width of the outer margin *e* of the side section 16.

In producing the post B a pair of the strips A—A of corresponding lengths are initially positioned side-by-side with their ends aligned and with their inner sides presented toward each other and with the coplanar flat faces *a-b* of the strips in lateral alignment as shown in FIG. 2 whereupon the strips are advanced into rabbeted engagement with each other as shown in FIG. 4. The tongues 19—20 of each of the strips will then be seated in the grooves 18 and 21 of the companion strip with the faces *a-b* of the strips abutting and with the channels 17—17 of the strips opposing each other with their margins in register whereby the channels collectively form a central bore C leading lengthwise through the assembly.

When the pair of the strips A—A are thus rabbeted together they are securely interlocked against separation in a direction perpendicular to the abutting faces *a-b* by reason of the tongues 19—20 being engaged in the grooves 18—21, but may be readily separated by relative outward movement of the strips in the direction of the plane of the faces *a-b*.

Disengageable means are provided for holding the assembled strips against separation of which various constructions may be employed. A form of such means is shown in FIGS. 5 and 6, as comprising a tubular nipple J inserted in either one or both of the outer ends of the bore C. The pair of strips A—A will then be locked together against separation by reason of the body of the nipple J within the bore C overlying the joint formed by the abutting faces *a-a* and *b-b* thereby preventing outward movement of the strips A—A relative to each other in a direction to withdraw the tongues 19—20 out of engagement with the grooves 18—20. The nipple J is mounted in the bore C so that it may be removed therefrom in event it is desired to separate the interconnected strips A—A. For this purpose the nipple may be threaded and provided with a tool engaging kerf *m* on its outer end as indicated in FIG. 6, so that the nipple may be screwed in and out of engagement with the walls of the bore C. In some instances a screw plug may be employed in lieu of the nipple J.

Where it is desired to cover the upper end of the post and seal the joints at the ends of the rabbets an end plate is employed which plate may consist of a plain flat plate G seated on the upper end of the post as shown in FIG. 7, or may comprise a flanged plate H as shown in FIG. 8. The end plate G is constructed to have its margin conform to the end margin of the post B. Screws 24 passed through the plate G engage the strips A—A to hold the plate in place. The end plate H has a marginal flange 25 adapted to extend over the sides of the strips A—A when the plate is seated on the end of the post with the flange snugly fitting the sides of the strips A—A. The end plates G or H may also be applied to the lower end of the post B if desired.

The end plates G or H when applied also serve to hold the strips A—A against separation by reason of the screws 24—24 engaging the plate G also engaging each of the

strips A—A, and the marginal flange 25 of the plate H encompassing the sides of the strips A—A so as to hold the pair of strips A—A against relative lateral movement.

In some instances the nipple J may be employed in conjunction with an end plate as indicated in FIG. 15.

Means are provided for reinforcing the post structure and also contribute in holding the pair of strips against separation which means, as shown in FIG. 9, comprises a rigid bar D positioned in the bore C and extending longitudinally therethrough. The interconnection of the bar D and the post B is effected by inserting the bar endwise into the bore C. This may be accomplished by first anchoring the bar in an upright position by imbedding the lower end thereof in a body E of concrete or otherwise, and then advancing the assembled post B with the upper end of the bar inserted into the bore C to a position wherein the lower end of the post is seated as on the body E or otherwise. The bar D is of such length that when thus assembled its upper end will project above the upper end of the post. A removable cap F, or collar, may then be applied and affixed to the upper end of the bar so as to abut the adjacent end of the post B and thereby securely hold the latter in place on the bar.

Where the tubular nipple J is employed the bar D is passed therethrough and where end plates G or H are employed such plates have apertures 23 and 26 respectively through which the bar D extends; the cap F then being seated on the nipple J or plates G or H as the case may be.

Manifestly the assembled bar D will not only serve as a reinforcement and mounting for the post B but will contribute to holding the pair of strips A—A together since the presence of the bar D in the bore C prevents separation of the strips A—A in the fashion described relative to the nipple J.

In order to facilitate assemblage of the post on the bar D, or vice versa, the relative cross sectional dimensions and contours of the bar D and bore C are such as to afford ample clearance between the surface of the bar D and the walls of the bore C as to insure against binding in assembling or disassembling the post and bar, the bore C being enlarged relative to the bar D to afford such clearance.

Manifestly the bar D may be employed either with or without the tubular nipple J or the end plates G—H, but where so employed the margins of the apertures are uniformly spaced inwardly relative to the walls of the bore C and in conforming to the side of the bar D serve to hold the bar out of contact with at least the end portions of the walls of the bore C.

Enlargement of the bore C relative to the bar D compensates in a measure for misalignment of the bore C as might be occasioned by warping or shrinkage of the strips A—A.

The post B is particularly applicable for use in the construction of picket fences, as shown in FIGS. 10, 11 and 12 and in the erection of panelled walls, as shown in FIGS. 13—14, but manifestly may be employed in fabricating other structures such as boxes, crates and the like.

In the constructions shown in FIGS. 1 and 13, rods D are erected at suitable distances apart on piers E or other desired supporting means, and the posts B assembled thereon as before described. In the case of a fence as shown in FIG. 10, panels K of fencing of suitable length may be inserted between the preformed posts B—B and attached thereto at their ends in a usual manner as by nailing the ends of fence rails 27 to the outer faces *i* of the side portions 16 of the assembled strips A—A of spaced posts as indicated in FIG. 10.

In some instances a pair of oppositely presented strips A may be initially affixed to the ends of the fence rails 27 before assembling the strips on the upstanding bars D—D, in which event the panel thus formed may be initially engaged with the bars D—D by first abutting the channels of the strips A—A against corresponding sides of the bars D—D with the strips A—A seated at

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their lower ends and then rabbeting companion strips A in engagement with the applied strips by downwardly advancing the companion strips longitudinally into engagement with the applied strips into overlying relation to the bars D—D.

The resultant fence section may be removed by lifting it free of the bars D—D either with the entire assembled post or with only the end strips A—A to which the fence rails are attached.

A multiple of fence sections may be assembled in line as above described. Where a lateral fence section is to be attached to a post B, the rails 27' of the lateral section are attached to the outer face of the side portion 15 of either or both the companion strips A as indicated in dotted lines in FIG. 11, and where the post B is arranged to serve as a corner post the side portion 16 of one of the companion strips A has the ends of the rails 27 of one fence section attached thereto while the ends of the rails of the other fence section are attached to the side portion 15 of the other strip A, as shown in FIG. 12.

In producing a paneled wall structure embodying the posts B as shown in FIG. 13 the above recited procedure is followed except that a panel L is affixed at one of its ends to the outer side face of the side portion 15 of one length of the strip A while the other end of the panel is affixed to the end face of the side portion 16 of a length of another strip A as shown in FIG. 13 and indicated in FIG. 14. However it is manifest that the mode of attachment of the ends of panels L to the strips A—A may be effected in various conventional fashions as occasion may require or fancy dictate, the modes of application of the invention herein shown being for the purpose of setting forth utility of the invention and not by way of limitation.

While a specific embodiment of the invention has been herein shown and described I do not thereby limit myself to the exact construction set forth, and accordingly the invention embraces such modifications and equivalents as come within the meaning and scope of the appended claims.

I claim:

1. In a knock-down post, a pair of complementary strips of structural material each of which comprises a pair of right-angularly disposed side portions each having

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inner sides and outer edges, one of the inner sides of one side portion having a central longitudinal channel and coplanar faces extending from the margins thereof and having a tongue and groove on its outer edge and the inner side of the other side portion having a tongue and groove; said pair of strips being laterally positioned side by side in longitudinal abutting relation to each other with the tongue and groove on the outer edge of one of the side portions of each of said strips in rabbeted engagement with the tongue and groove on the inner face of the other side portion of the other of said strips whereby the coplanar faces on one of said strips abut the coplanar faces on the other strip and whereby said longitudinal channels lie opposite each other and collectively constitute a central longitudinally extending bore between the assembled strip; an end plate on at least one of the ends of the assembled strips having an aperture overlying the adjacent end of said bore, means fastening said end plate relative to said strips to hold said strips against lateral separation, and a reinforcing bar extending through said aperture and through said bore longitudinally thereof.

2. The structure called for in claim 1 in which said bore is enlarged relative to said aperture and said bar and wherein said aperture conforms to the sides of said bar.

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JACOB L. NACKENOFF, *Primary Examiner.*

HENRY C. SUTHERLAND, *Examiner.*