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PANEL FENCE CONSTRUCTION

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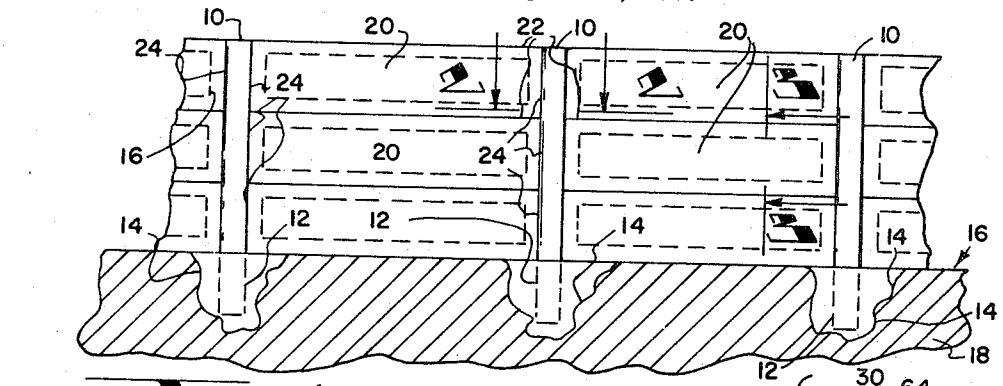


Fig. 1

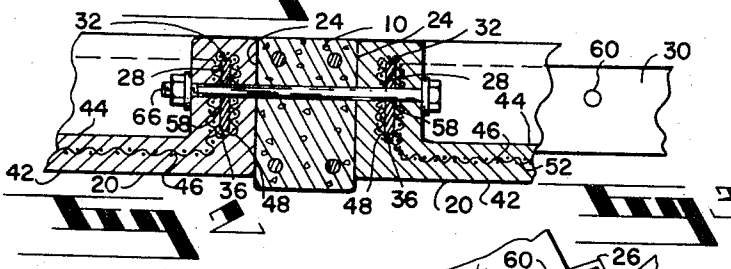


Fig. 2

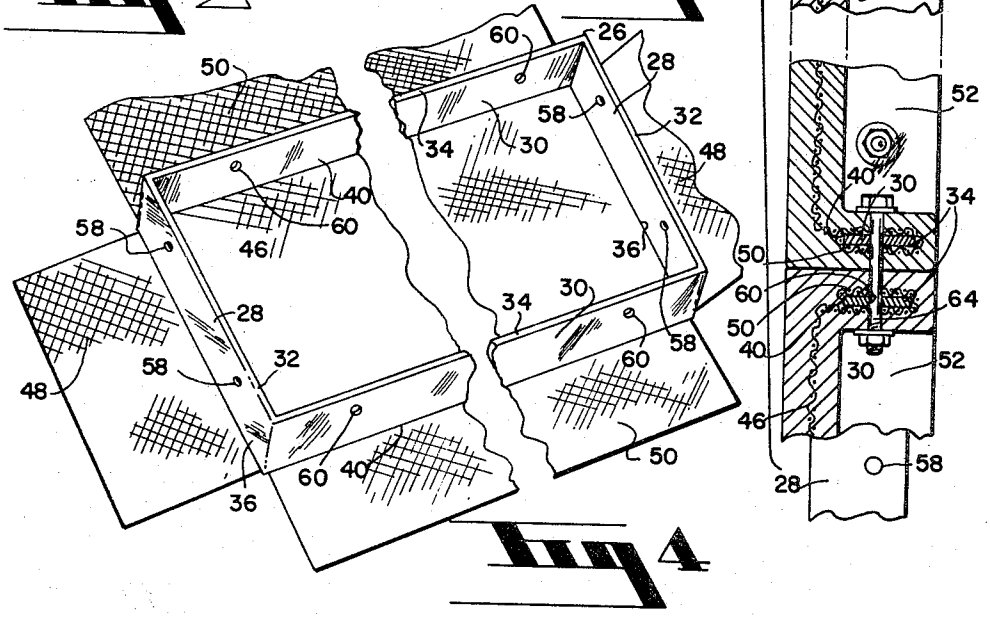


Fig. 4

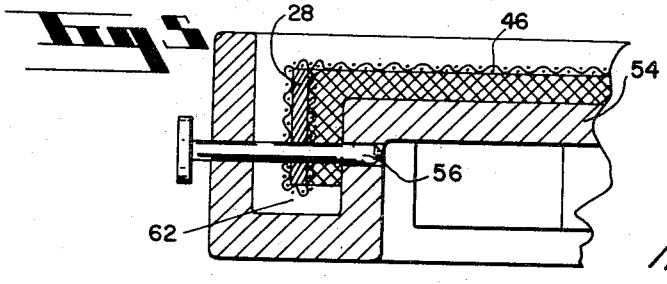


Fig. 5

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PANEL FENCE CONSTRUCTION

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This invention relates to a panel fence construction, and more particularly, to a panel fence construction, wherein vertically superimposed panels are disposed between vertical posts and wherein adjacent horizontal flange portions of the panels are bolted together and vertical flange portions of the panels are bolted to the vertical posts by common bolts extending through flange portions of the panels at opposite sides of the posts.

Concrete fences of conventional design employ various structural arrangements, including prestressed panels, also, panels assembled of ground blocks and bolted together and many of the concrete fence structures of the prior art lack proper reinforcing structures to permit secure bolting of the panels and the posts together, such as to withstand a great variety of environmental conditions.

Many fence panels of the prior art are so constructed, that they tend to become damaged during handling and transit, whereby a substantial loss occurs.

Another problem relative to prior art panel fence structures is that the panels of such structures do not include sufficient reinforcing to permit upper and lower edges of superimposed panels to be bolted together, while at the same time, opposite vertically disposed edges of the panels may also be bolted to the vertical portions of posts without causing damage either to the posts or the panels.

Accordingly, it is an object of the present invention to provide a novel panel fence construction employing a novel rectangular strip frame in each panel which is abridged by a reinforcing mesh structure, such that when the strip frame and the mesh structure is covered by cementitious material, a very strong panel is provided, such that it includes a rectangular surrounding flange projecting from one side thereof, whereby bolts may be extended through horizontal portions of the flange structure to secure adjacent superimposed edges of panels together and whereby bolts may be extended through the vertical portions of the flanges adjacent posts to secure the panels to opposite sides of posts.

Another object of the invention is to provide a very strong and durable panel for fence construction, wherein a rectangular bandshaped frame structure is formed of four connected strips, two of them horizontally disposed and two of them vertically disposed, the flat sides of the strips being normal to the opposite sides of the panel, such that opposite edges of these strips are directed toward opposite sides of the panel for holding wire mesh in a plane of edges adjacent one side of the panel, such that the opposite edges of the strips project beyond the plane of the mesh and form a flange structure suitable for receiving bolts for bolting the panels together and bolting the panels to vertical posts.

Another object of the invention is to provide a panel fence construction, wherein each panel is provided with a completely surrounding rectangular frame tending to prevent cracking of the panels, when opposite portions thereof are bolted to posts and adjacent panels.

Another object of the invention is to provide a panel fence construction, which is particularly adapted to prefabrication of precision fence construction.

Further objects and advantages of the invention may be apparent from the following specification, appended claims and accompanying drawings, in which:

FIG. 1 is a fragmentary side elevational view of a panel fence construction in accordance with the present invention, showing posts of the construction held in poured concrete structures embedded in the earth;

FIG. 2 is an enlarged fragmentary plan sectional view taken from the line 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view taken from the line 3—3 of FIG. 1;

FIG. 4 is a perspective view of a rectangular surrounding strip frame and abridging reinforcing mesh structure used in the construction of each panel, in accordance with the present invention; and

FIG. 5 is a fragmentary sectional view of a portion of a mold in which the frame structure, as shown in FIG. 4, when completed may be placed for casting cementitious material on the mesh and around the strip frame of the invention.

As shown in FIG. 1 of the drawings, the invention comprises a plurality of vertically disposed posts **10** having lower ends **12** embedded in poured concrete base structures **14** disposed below the surface **16** of the ground **18**.

A plurality of panels **20** are disposed between adjacent posts **10** horizontal edge portions **22** of the panels **20** are in adjacent superimposed relationship with each other, while vertical edge portions **24** at the ends of the panels are disposed adjacent vertical sides of the posts **10**.

Referring to FIG. 2 of the drawings, it will be seen that a pair of panels **20** at their adjacent vertical edges **24** are disposed at opposite sides of a post **10**, which may be a conventional-type post made of concrete with reinforcing steel therein.

Referring now to the construction of each panel, it will be seen from FIG. 4 of the drawings, that a basic strip frame **26** is embedded in each panel, this frame **26** comprising a pair of strip portions **28** which are normally disposed in a vertical position along or adjacent to the edges **24**. The frame also comprising a pair of horizontal strips **30** which are normally adjacent the horizontal edges **22** of the panels **20**. These strips **28** and **30** are preferably sheet steel and are fixed together in a rectangular surrounding structure with relation to each panel. The strips **28** are provided with first edges **32** which are in substantially the same plane with edges **34** of the strips **30**. Opposite edges **36** of the strips **28** are in a common plane with the opposite edges **40** of the strips **30**. It will be seen that these flat strips have opposite sides which are disposed substantially normal to opposite sides **42** and **44** of the panels shown in FIGS. 2 and 3 of the drawings. Disposed adjacent the edges **36** and **40** of the strips **28** and **30** is a sheet of reinforcing mesh material **46** having edge portions **48** adapted to be folded over the strip portions **28** of the frame while portions **50** of the mesh sheet **46** are adapted to be folded over the strip portions **30** of the rectangular frame in a position, as shown in the sectional views FIGS. 2 and 3 of the drawings.

Cementitious material **52** surrounds all of the rectangular frame and mesh structures, shown in FIG. 4, after the mesh has been folded over the strips **28** and **30** and this material may be vibrated into a mold **54**, as shown in FIG. 5 of the drawings, while pins **56** of the mold are projected into openings **58** in the strips **28** and into similar openings **60** in the strips **30** and, thus, the rectangular frame and mesh is supported in a surrounding channel-shaped in cross-section recess **62** of the mold **54** and held in juxtaposition therein, while the cementitious material **52** is firmly vibrated into the mesh and around the rectangular strip frame.

It will be seen that the edges **32** and **34** of the rectangular strip frame projects outward, as shown in FIGS. 2 and 4 of the drawings, to provide flanges, such that

bolts **64** project through the openings **60** in adjacent flange structures which are disposed horizontally, thus the superimposed adjacent edges of the panels **20** are bolted together by the bolts **64**. Likewise, bolts **66**, as shown in FIG. 2 of the drawings, project through the openings **58** in the strip portions **28** of the surrounding frame and through the flange structures of the finished panels, including the mesh and cementitious material **52**. Accordingly, as shown in FIG. 2 of the drawings, adjacent vertically disposed flanges of adjacent panels at opposite sides of a post **10** are both bolted together and clamped together at opposite sides of the post **10**, thus, opposite ends of the panels are secured together by the bolts **66** extending through the openings **58** in the strips **28** and the comparable flanges, while horizontally disposed flange portions of the panels are secured together by the bolts **64** extending through openings **60** in the strips **30** of the panel flange structures.

It will be apparent to those skilled in the art that the rectangular rigid frame, shown in FIG. 4, covered with the mesh structure provides a stress bearing reinforcing structure for each panel extending around the perimeter thereof and forming a bolt receiving flange structure which may be substantially stressed in the bolting of the panels together and the bolting of the panels to the posts **10** and, further, that this rectangular surrounding frame **26**, including the strips **28** and **30** provides a very rugged panel which may be easily handled without damage and which is capable of maintaining the panels intact when bolted together and bolted to the fence posts.

It will be obvious to those skilled in the art that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a panel fence construction the combination of: horizontally spaced vertically disposed posts; a plurality of vertically superimposed horizontally elongated panels having opposite vertical sides disposed adjacent said posts; each panel having a generally rectangular band-shaped frame provided with four substantially flat strip portions generally fixed together to form said band-shaped frame; a first pair of said strips of each panel disposed vertically adjacent said posts; a second pair of said strip portions of each panel disposed horizontally; flat sides of said strip portions disposed normally to said opposite sides of said panel; first and second opposite edges of said strip portions directed toward said opposite sides of said panels; a reinforcing mesh structure abridging the area between all of said first and second strip portions, said mesh structure engaging said first edges of said strip portions and disposed in a plane generally aligned with said first edges; peripheral portions of said mesh structure secured to and substantially surrounding said strip portions; said second edges of said strip portions projecting towards one side of each of said panel beyond a plane of said mesh structure to form a substantially rectangular surrounding panel flange at one side of each of said panels; a coat of cementitious material covering said mesh structure and said strip portions; and bolts extending through said cementitious material, said strip portions and said mesh and through said rectangular panel flange; said bolts also extending horizontally through said posts to hold said panels secured to said posts.

2. The invention, as defined in claim **1**, wherein: ends of adjacent ones of said panels are disposed at opposite vertical sides of said posts; and said bolts extend through a pair of said panel flange portions at said opposite vertical sides of said posts.

3. The invention, as defined in claim **1**, wherein: adjacent horizontal portions of said panel flanges of adjacent superimposed panels have openings disposed vertically therethrough and second bolts are disposed in said last mentioned openings and clamp said horizontal panel flange portions together.

4. The invention, as defined in claim **2**, wherein: adjacent horizontal portions of said panel flanges of adjacent superimposed panels have openings disposed vertically therethrough; and second bolts are disposed in said last mentioned openings and clamp said horizontal panel flange portions together.

References Cited

UNITED STATES PATENTS

675,648	6/1901	Beardsley	52—602
868,411	10/1907	Cilek	52—584
890,769	6/1908	Hewett	52—602
1,031,926	7/1912	Hansbrough	52—259
1,204,613	11/1916	Thomas	256—19 X
1,484,206	2/1924	Birkholz	52—602
1,576,813	3/1926	Davies et al.	52—605
1,592,070	7/1926	Blake	52—602 X
1,640,065	8/1927	Blaw	52—303 X
1,891,837	12/1932	Pittman	52—438
2,080,618	5/1937	Madsen	52—303
2,335,948	12/1943	Leemhuis	52—602 X

FOREIGN PATENTS

56,470	7/1952	France.

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