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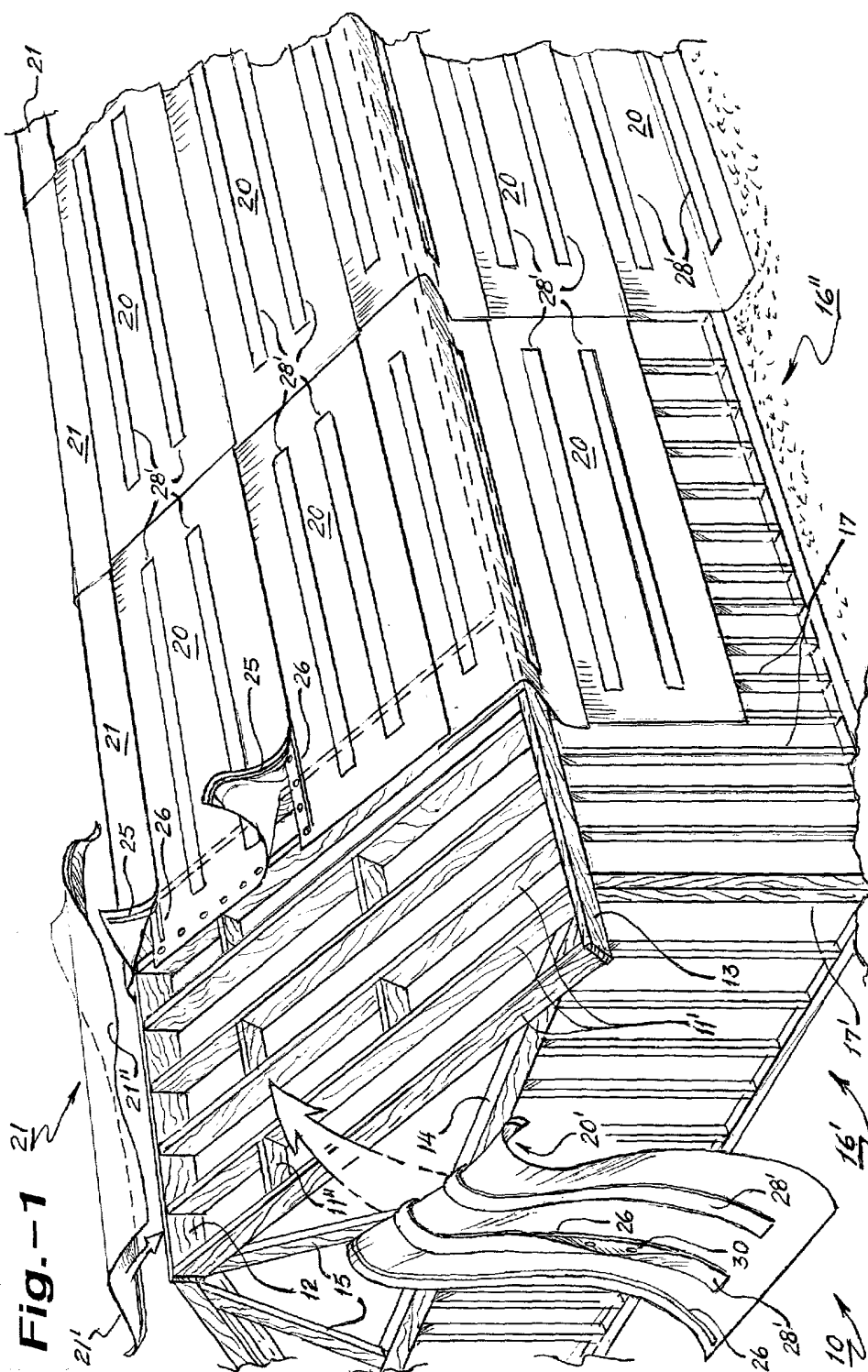


Fig.-4

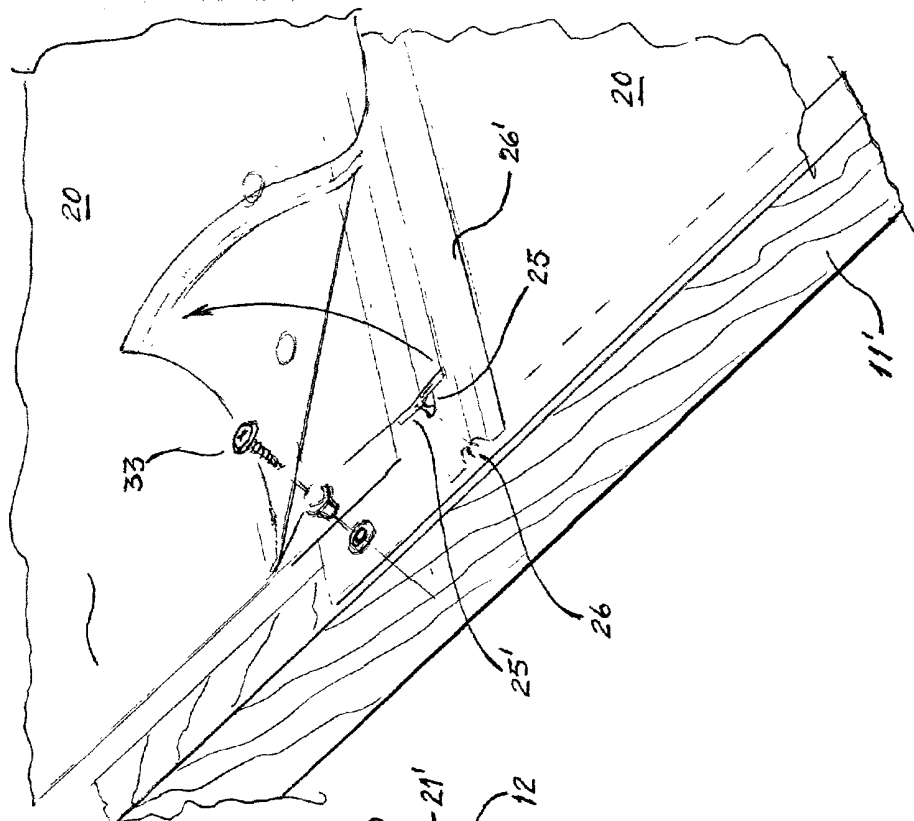


Fig.-2

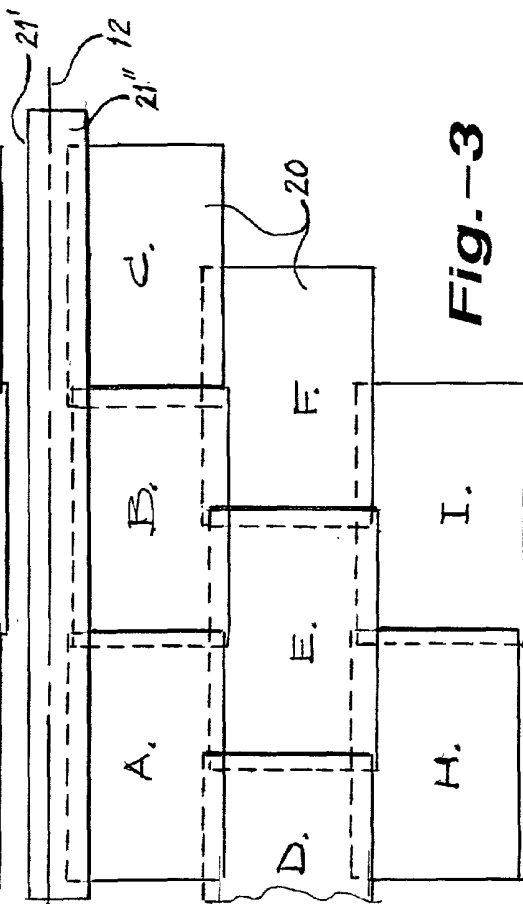
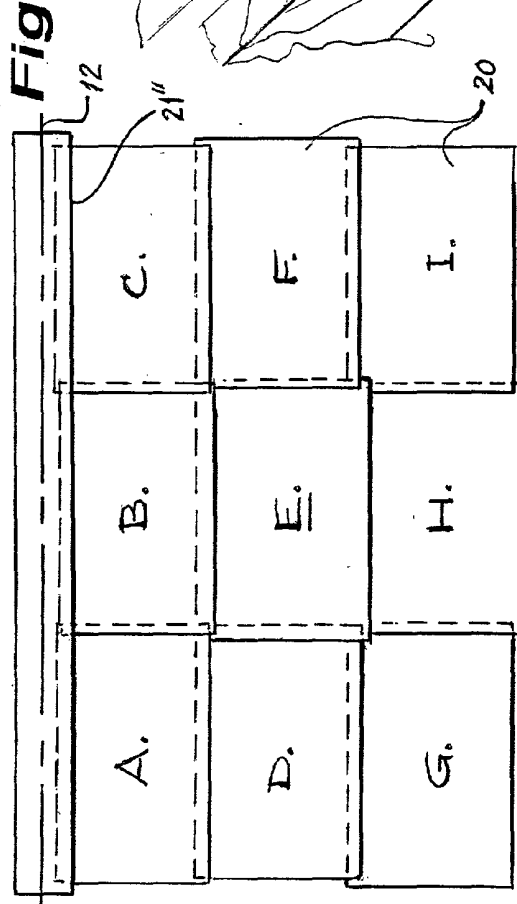


Fig.-3

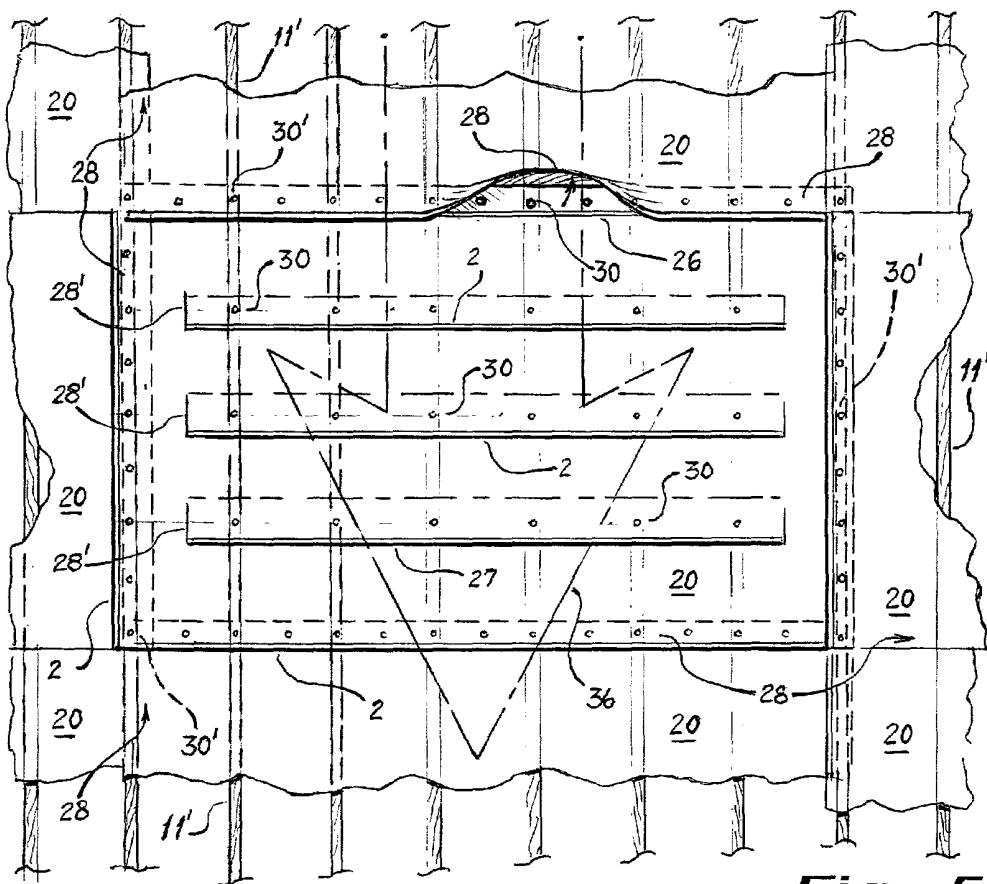


Fig.-5

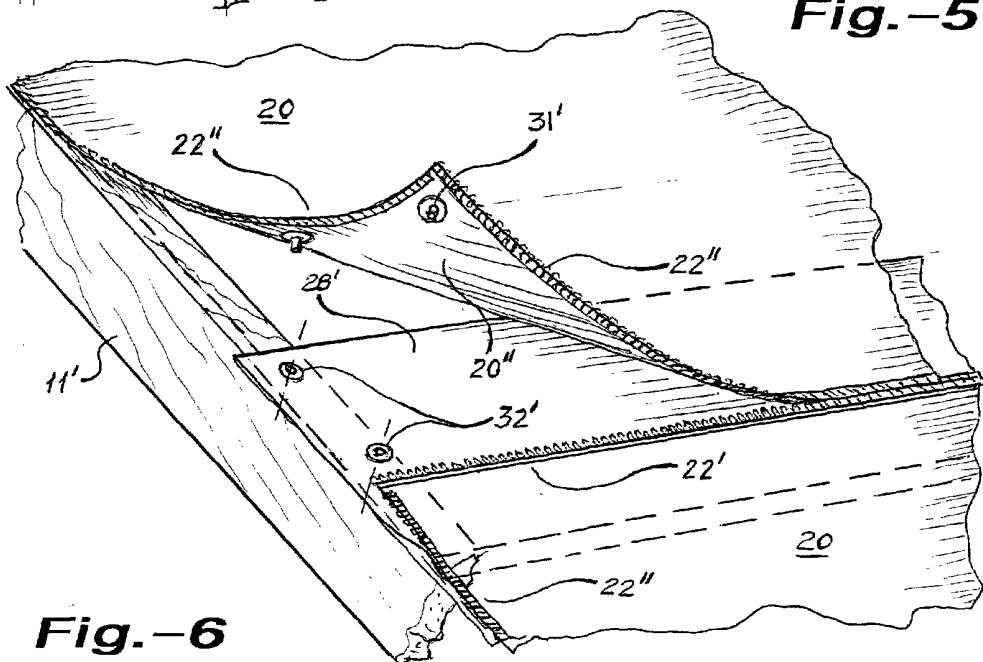


Fig.-6

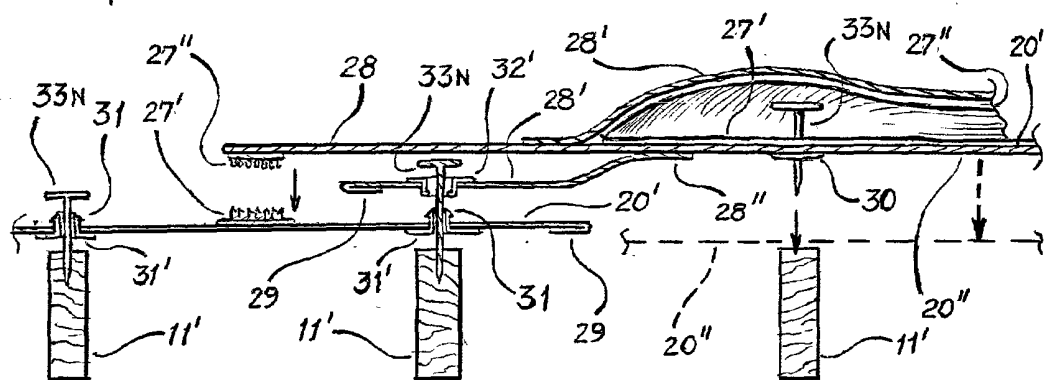
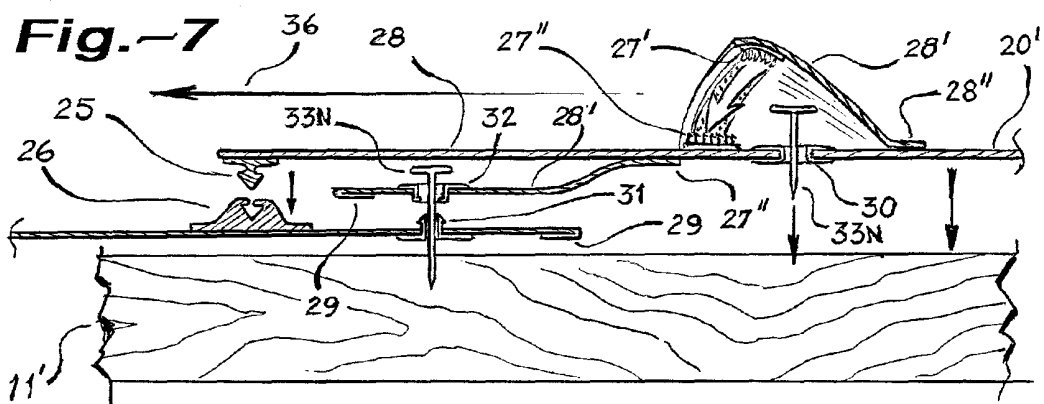
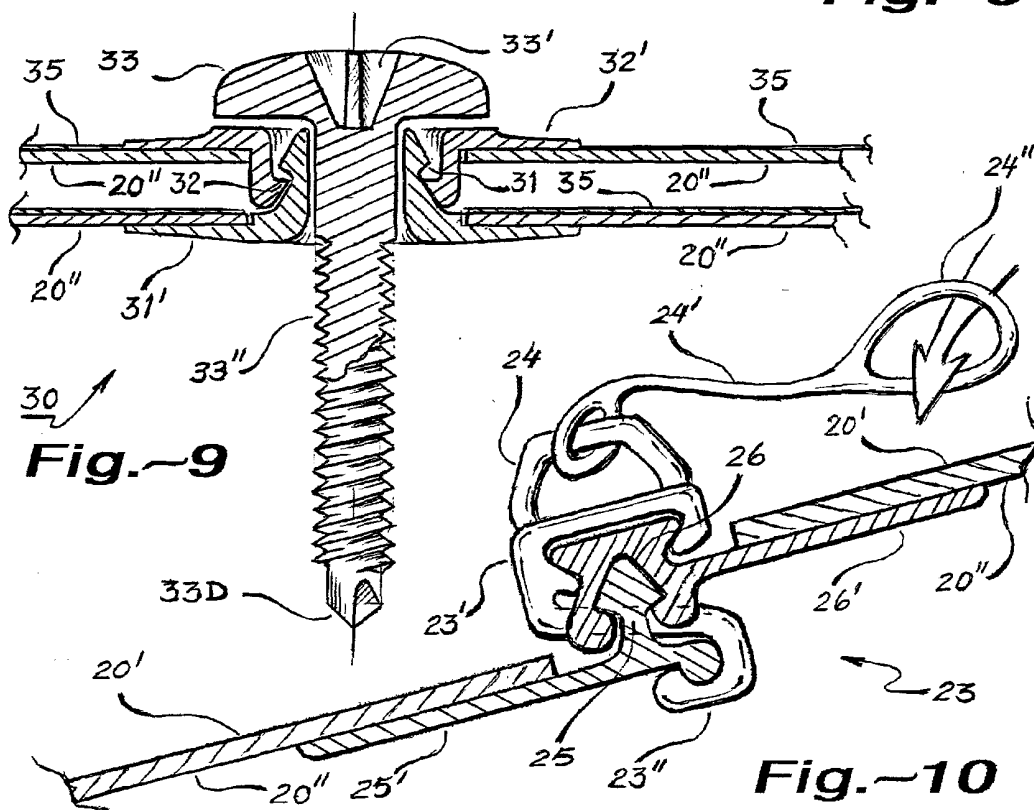


Fig.-8



MODULAR-TARP BUILDING-ROOF/WALL SHIELDING & SYSTEM

I.) BACKGROUND OF THE INVENTION:

[0001] 1. Field of Invention:

[0002] This invention relates to exteriorly protective coverings for architectural structures, and more specifically it relates to those types of water or fire protective tarp like coverings that are made of flexible material which can be compactly rolled or folded for efficient storage.

[0003] 2. Relevant Prior-Art:

[0004] Heretofore, contractors such as those engaged in installation of new or replacement roofing, would during the threat of inclement-weather, necessarily resort to the application of a generally accepted polyethylene-film (usually about 6-mill gauge sheeting) popularly known as Visqueen®. However, such 20 ft-wide×100 ft-long (2,000 sq.ft) rolled-sheet material can be ungainly awkward to install since there are no prepared anchor-points, so batten-boards must be applied over the plastic-film to better hold it in place, a procedure which becomes increasingly difficult with the addition of wind, -often acting to rip the protective sheeting from areas being protected after the workmen leave the site. Considerable costly interior water damage thus results if unfinished roof or wall areas become exposed, which can be financially and structurally destructive, and quite troublesome to the building owner. Plus, when the need for protecting the building from inclement-weather has passed and work proceeds, the Visqueen® becomes largely wasted trash to deal with; since it cannot be very effectively reused unless extreme care is exercised, because the old hold-down points where anchoring nails have penetrated would thus leak-through water if reused. Moreover, especially when considered on a national scale of gross non-reusage, owing to its bulk this refuse becomes a significant environmental waste issue.

[0005] The alternate use of heavier-gauge tarpaulins, such as commercially available in various 2-dimensional sizes, through retail-stores such as the national store-chain HomeDepot®, were also found to be an impractical solution to protecting incomplete building construction owing that these general-use tarps lack provision for preventing water-seepage in between the adjoining tarp panels; and securing grommets often included around at least part of their perimeter margins, are only arranged at spaced apart intervals facilitating tie-down points for ropes or bungee-cord hook-on's.

[0006] Background research discovery provides some prior patent-art regarded as germane to this disclosure, chronologically for example U.S. Pat. No. 2,848,233 (filed: 12/1956) contemplates a huge (aprox. 360 ft.×164 ft, comprising twelve tarp-panels) flexible but light-weight tarpaulin assembly deployed horizontally to cover over an athletic-field as a water-repellent apparatus during inclement weather, and employs 1-foot overlapping perimeter joints utilizing a marginally elongated flap-structure juxtaposing in cooperation with an marginally elongated receiving-pocket of the adjacent tarp-panel. However, the perimeter weather-seal provisions of this embodiment are not capable of creating a reliably weather-tight seal if an effort were made to utilize this tarpaulin (normally staked to the ground at

random intervals via perimeter aligning grommets) upon a vertical-wall or pitched-roof; since water can seep in around the pocket-flap type perimeter seal.

[0007] In U.S. Pat. No. 3,480,069 (filed: 5/1968) is shown an existing vertical-wall highrise structure of unfinished open square grid-pattern beam construction, being temporarily clad either with fire-resistant treated canvas or waterproof rip-stop polymer-sheet material. These light-weight flexible panels are suspended vertically between the buildings structural girders in order to protect construction-workers from adverse weather; the perimeter margins of the panels overlapping to block passage of wind and rain. However, there is no provision for adapting the panels in a manner suitable for application directly upon buildings constructed with standard closely spaced apart vertical wall-studs and pitched roof-rafter structures.

[0008] In U.S. Pat. No. 3,885,364 (filed: 4/1973) is shown a reusable protective temporary skeletal wall and roof structure assembly in combination with modular flexible panels, that are outset from direct contact upon the exterior of a building to which fresh masonry has been applied; thereby enabling the interior-space of the temporary weather-tight structure to be heated, so as to accelerate drying of the wet masonry. The modular panels attach to the bolted together scaffolding-like structure via special spring-clip devices; enabling the assembly to be carefully disassembled and stored until needed for another such job.

[0009] In U.S. Pat. No. 5,819,474 (filed: 3/1997) is shown a temporary workshop shelter-building such as may be installed within or without of an existing building under construction for example, and generally comprises a conventional 2x4-timber framework to which is applied a sheathing of Visqueen. This patent sets forth a special entry/exit portal employing a flexible flap like zippered closure apparatus, and does not therefore address the notion of weatherizing in a way which would enable reusing the sheathing in future work sites.

[0010] Therefore, in full consideration of the preceding patent review, there is determined an environmentally conscious need for an improved form of apparatus to which these patents have been largely addressed. The instant inventor hereof believes their improved environmentally conservative (reusable) weather-proofing system and apparatus thereof commercially referred to as the SINGLE-SHINGLE™ or SHIELDEX™ currently being developed for production under auspices of the Bettencourt-Mfg./Mkt.Co., exhibits certain advantages as shall be revealed in the subsequent portion of this instant disclosure.

II.) SUMMARY OF THE INVENTION

[0011] A.) in view of the foregoing discussion about the earlier invention art, it is therefore important to make it pellucid to others interested in the art that the object of this invention is to provide a temporary albeit reusable modular-panel array capable of securely interlocking along their respective overlapping perimeter margins in a manner assembling into a weather-tight envelope for shielding a building's unfinished roof or wall structural areas during construction, reconstruction, or repairs such as reroofing are being conducted upon the building within. Additionally, it has been found that my modular tarp-panels also facilitate successful assembly of a temporary-structure, perhaps even

having no actual foundation, -substantially in the manner of a tent. Constructed upon cleared open ground using 2×4's and 2×6's for a skeletal-framework having vertical-framing as well as a single or double-pitched roof-framing; such a temporary-structure can be readily -erected to stage operations such as a woodmill, etc., serving while constructing the actual permanent-building.

[0012] Because of the particular modular parallelepiped configured tarp-panel dimensioning necessarily employed by the panels in this disclosure, my imperforate non-porous flexible weather-resistant paneling system is intended primarily for use upon conventional wood-framed structures having substantially consistent standardized building-code spacing of roof-rafter and wall-studs (ie- consistently 16-inches or consistently 24-inches center-to-center); although the invention disclosure can be adapted to similarly configured metal-frame buildings employing consistent rafter or stud spacing intervals, as well as concrete buildings having wooden roof-trestling. My protective coverage modular tarp-panel system is considered suitable for use even upon substantially flat-top roofs, where rainwater tends to pool; however, a minimal water runoff roof-slope of ¼"-in-12"/pitch is preferred if obtainable, and 1"-in-12" still more desirable in negating any such pooling condition.

[0013] Although various different modular paneling dimensions are possible within the purview of my modular installation system, it has been found that a basic prefabricated modular tarp-panel unit dimension of- 9 ft×12 ft, or 10 ft×16 ft, enables eight such tarp-panels installed together around a single central tarp-panel to thereby form one so-called unitized "plot" area of at least 970 sq.ft(nominal) to 1,440 sq.ft. The advantage of handling such modular sizes becomes apparent in terms of basic ease of man-handling, especially appreciated during windy or gusty conditions; or, when one-man installation is required when weather suddenly turns bad, and co-workers have already left the work-site. The tarp-panels are made of water-seepage proofed machine-sewn canvas, or more preferably of an inherently water-seepage impervious polymer sheeting material, preferably employing the well known factory machine/heat-sealing method of seam fabrication common to the construction of water-beds for example.

[0014] B.) Another object of this invention disclosure is to set forth a weatherizing tarpaulin article of modular tarp-panel design for protecting unfinished walls and roofing areas according to preceding item-A, wherein is included an essential perimeter interconnection apparatus preferably having a proximal weather sealing device thereto. The perimeter interconnecting apparatus enables individual modular (thus identical) tarp-panels to be intimately joined in a unique weather-tight interposing fashion, by employing what is generally referred to as a strip-fastener type of mating device. The strip-fastener can be of several linear configurations extending along both the generally referred to upper positioned and lower positioned margins, as well as along the right-angle oriented left and right lateral end margins of each tarp-panel.

[0015] Also considered essential to the tarp-panel configuration is an anchoring-strip device, which is preferably a linear tape-like device arranged proximal the strip-fasteners employed along all four marginal sides; and the anchoring-strip can also comprise a plurality of incrementally spaced

apart anchoring points, preferably based upon multiples of 8-inch center-to-center spacing; and thereby, divisibly (by increments of 8-inches) adapting to both the already mentioned 16-inch or 24-inch spacing of existing wall and roof members. Although these anchoring points can be made of a locally reinforced appliance, such as a permanently bonded thicker-gauge of linear tape like material referred to generally herein as an "anchoring-strip" through which a nail or screw fastener can be driven; it is also possible that the anchoring points be special grommets through which is driven a securing device such as a substantially conventional nail or screw fastener, preferably via self-tapping screws driven by a conventional hand-portable electric-screwgun, capable of automatically presenting (feeding) successive screws. Also, particularly along perimeter areas where my tarp-panels abut, it is preferred that perimeter bonded tape like anchoring-strips or a linear array of reinforcement grommets be employed, enabling a nail/screw fastener to be easily driven simultaneously through both the thus self-aligning male and female portions of the snap-together grommets; but most preferably, simply via the perimeter reinforcement anchoring-strips, which facilitate easier non-critical alignment installation upon the building's existing spaced apart roof-rafter (or equivalent floor-joist) or wall-studs, thereby providing a rapidly installed strongly integrated assembly. However, for purposes of wording herein, the term anchoring-strip is to be considered broadly referring to a linear means by which to attain an accumulative anchoring procedure; which can be more specifically defined as to particular type of anchoring-strip where considered appropriate.

[0016] In order to better resist dislocation by wind, the field-areas (that portion of my tarp-panels residing within the perimeter margin portions) preferably also include at least one field-area reinforcement tape like anchoring-strip member, or horizontal row of incremental anchoring devices, and more preferably plural (preferably four for a 9 ft-high×12 ft-wide tarp-panel) horizontally parallel tiered rows of such additional (that is, in addition to the requisite perimeter anchoring points) incremental anchoring reinforcement points, preferably in the form of linear-reinforcement anchoring-strips. These anchoring-strips can be made from a fiberglass-tape like material, or merely fabricated from approximately 1¼-inch wide vinyl or other flexible polymer material compatible with the primary tarp-panel polymer material, yet of substantially thicker gauge to perhaps ¼16th inch thickness; -thereby serving as a device by which to distribute local attachment-point stress-loads (such as can be caused by the force of strong winds) evenly along regions where the anchoring-strips are employed). It is preferred that these linear-reinforcement anchoring-strip devices be factory applied via a continuous heat-sealing bonding (or via alternate chemical adhesive or cementing) procedure both along the tarp-panel perimeter regions, as well as within the field area.

[0017] A somewhat less preferred method of achieving anchoring of the tarp-panels, is via substantially conventional single-hole grommets (preferably made from heat-sealed plastic rings which preferably circularly-overlap both sides of the tarp-panel material). Although more costly to fabricate than the afore described linear-reinforcement anchoring-strips, these rows of grommets or anchoring-strips each best include a likewise horizontally linear-flap oriented with the flapped (opening) edge of the flap leg

directed downward as to thereby facilitate water runoff to readily wash over those field-area situated grommets. Alternately, the field-area anchoring grommets can be constructed with an elastomeric (preferably neoprene-rubber) fillet spanning within the grommet body, thereby making need for a protective linear horizontal flap non-critical and essentially an optional provision; -since penetration of a nail/screw is thereby made tightly enough as to negate passage of water. The elastomeric-fillet can include a tiny pilot-hole (smaller than the nail/screw fastener's cross-section), or made unperforated with perhaps only a central reference-dimple for nail placement if preferred.

[0018] Abutting modular (ie- identically interchangeable) tarp-panels can be readily added generally in only one of two 180-degree rotationally possible orientations (although there is generally considered a non-invertable exterior-side vrs. an inward-facing side of orientation as well), preferably including interposing tarp-panel edges provided with integral linear-flaps configured to close-over the linear-rows of anchoring-strips or optional incremental fasteners (grommets). These optional linear weather-flaps which extend along two of the four perimeter margins, are preferably sealed-down from wind-extend along two of the four perimeter margins, are preferably sealed-down from wind-lifting via integral strip-fasteners; while another optional type of sub/weather-flap is also preferably provided over the field-area anchoring-strip members, and the mouth of these sub/weather-flaps is also preferably closed via a strip-fastener. All of these weatherizing flaps are made readily avulsable (strip-fasteners manually undone) when weather allows, allowing extrication of the nail or screw anchoring devices, whereupon the tarp-panels are carried away for stacking and stowing in rolled-bundles for future reuse. The strip-fasteners can be of several linear arranged commercially available types; -such as hook-&-loop, tongue-&-groove polymer zipper or segmented cleat-zipper (usually assisted via a slide-clasp), or even a plurality of conventional male-&-female snap-fasteners (not recommended for the laterally arranged weather-flap members, owing the water can blow-in to such an elongated-pocket like formation).

[0019] Besides usage in protecting a building under partial construction during inclement weather, my tarpaulin system of modular tarp-panels also finds utility value in protecting buildings during non-inclement weather conditions, by providing a fire-resistant protective shroud particularly over an entire building (such as a dwelling or cabin) constructed of highly inflammable shingle wood-roof and/or wood-shingle type siding. These types of building structures are considered most vulnerable to airborne embers (versus tile-roofed stucco-walled buildings). Accordingly, the exterior surface of my flexible tarp-panels can be fabricated with a thin aluminum-foil like metalizing substrate (or other equivalent nonflammable coating), which resultant composite material is sufficiently durable as to be likewise reusable in most cases (even after mild exposure to an environmental fire condition). Still another use of my modular interposing tarp-panel apparatus and system of installation resides in its optional use as a convenient tenting-apparatus, enabling a building or dwelling to be covered-over for fumigating purposes; thereby obviating the need for traditionally huge ungainly cumbersome tarpaulins.

[0020] C.) Another object of this invention disclosure is to set forth a reusable weatherizing (ie- weather-tight) tarpaulin

system of modular tarp-panels protective of unfinished walls and roofing areas according to preceding items- A&B, by which to weatherize a building's otherwise vulnerably exposed (such as during construction, remodeling, reroofing, etc.) pitched roof and vertical wall areas. This involves installing a plurality of the flexible tarp-panels according to the surface-area of the building portion to be protected, the tarp-panels being applied directly to the exterior of the exposed building frame structure pitched-rafters or vertical wall-studs via a plurality of reinforcement grommets spaced apart corresponding to standard center-to-center spacing of existing wall-studs or roof-rafters and arranged in horizontally parallel rows. The grommets thus serving as anchor point locations by which to receive a conventional nail or screw fastener, and wherein the field-area of individual tarp-panels preferably include one to four horizontal linear-flaps with their flapped edge opening being directed substantially downwardly as to effectively facilitate water runoff over the field-area situated grommets; which anchoring procedure thus serves to also very strongly resist the dreaded dislocation of the tarp-panels by force of wind.

[0021] Once the first tarp-panel is thus positioned the installer(s) can apply neighboring modular tarp-panels in virtually any determined convenient direction from there. For example, preferably beginning at the uppermost roof-peak, the installer lays the first tarp-panel horizontally across several of the the downwardly slopping roof-rafters (a 16-foot tarp-panel would thus span nine roof-rafters typically spaced apart at 24-inch intervals) a few inches below the roof-peak. Once the preferred four corner anchor points have been installed, the installer can proceed to extend out the coverage in a manner whereby generally speaking the horizontal lower linear weather-seal portion of an upper positioned tarp-panel includes an overlapping weather-flap covering an interfacing lower positioned tarp-panel's upper horizontally mating linear weather-seal portion. Also, adjacent opposing pitched or vertical side-to-side ends of the tarp-panels include an overlapping weather-flap and interfacing linear-seal arrangement as well. Plus, to prevent any water flowing beneath the tarp-panels along the roof-peak region, a preferred narrow ridge-panel approximately 24-inches wide by preferably 16-feet long, made of the same sheeting material as the tarp-panels, is rolled-out along the roof-ridge (roof peak) to facilitate opposite installation of the uppermost tarp-panels where linear strip-fasteners such as a conventional tongue-&-groove, conventional heavy-duty mechanical cleat-zipper, or conventional hook-&-loop type device (popularly known as VELCRO®) are joined to secure an abutting seal. Hence, the completed assembly system renders all adjoining perimeter edges sealed weather-tight from rain penetration (the tongue-&-groove type zip-seal being the most effective).

[0022] Alternately, the tarp-panels can optionally be of a pre-rolled 6 ft×30-40 ft (nominally) parallelepiped configuration, whereby a lone installer could quickly and easily deploy each tarp-panel down via gravity from a roof-peak, straddling a pair of rafters and down aside the wall, thereby horizontally span only three of the roof-rafters and five of the wall-studs; still to be finalized by installation of the previously described capping-strip. However, as a practical matter, since positioning of roof-rafters and wall-studs is not necessarily coincidental, it is much preferred that the

arrangement of the tarp-panels be laid-out in the previously explained horizontal rather than vertical format of orientation.

[0023] In any case, my preferred flexible modular tarp-panels are defined as having a perimeter of four paralleled side margins, each including a proximal anchoring-strip (or grommets spaced apart along 8-inch intervals corresponding to the 16"/roof-rafter and 24"/wall-stud nominal centers) surrounding a central field area employing at least one anchoring-strip (or again, -grommets spaced apart along 8-inch linear intervals corresponding to the 16"/roof-rafter and 24"/wall-stud nominal centers). The first two right-angle adjoining margins each include a male strip-fastener member, while the second two right-angle adjoining margins both include a female strip-fastener member; thereby enabling the first two perimeter side margins to mechanically cooperate with a mating second side margin portion of an abutting modular tarp-panel, and a second side margin to likewise cooperate to mechanically engage with a like first side margin portion of another abutting modular tarp-panel, thereby forming an interdependent assemblage of such tarp-panels.

III.) DESCRIPTION OF THE PREFERRED EMBODIMENT DRAWINGS

[0024] The foregoing and still other objects of this invention will become fully apparent, along with various advantages and features of novelty residing in the present embodiments, from study of the following description of the variant generic species embodiments and study of the ensuing description of these embodiments. Wherein indicia of reference are shown to match related matter stated in the text, as well as the claims section annexed hereto; and accordingly, a better understanding of the invention and the variant uses is intended, by reference to the drawings, which are considered as primarily exemplary and not to be therefore construed as restrictive in nature; wherein:

[0025] FIG. 1, is a pictorial perspective-view showing a portion of a building's unfinished roof and supporting wall structures upon which is being overlaid my weatherizing system of specialty tarp-panels;

[0026] FIG. 2, is a plan-view of a flat grid-pattern plot of my tarp-panels, showing how eight of my tarp-panels are generally arranged in sequence to surround a ninth tarp-panel, this arrangement being generally preferred in conjunction with my use of linear zip-locking tongue-&-groove type avulsable strip-fastener margins;

[0027] FIG. 3, is an alternate flat-pattern plot of my tarp-panels, showing how my tarp-panels can also be arranged in a staggered-pattern array, considered generally more suitable for use optionally in conjunction with my linear hook-&-loop type avulsable strip-fastener margins;

[0028] FIG. 4, is an enlarged oblique pictorial-view favoring the left perimeter-edges of two tarp-panels, here showing the arrangement of interposing tarp-panel margin portions as they are installed upon a conventionally pitched roof, and wherein a phantom-outlined folded-back portion of the uppermost tarp-panel is shown enabling fastener access through the grommets normally covered by the horizontal weather-flap;

[0029] FIG. 5, is a detail plan-view of the grid-pattern substantially according to FIG. 2, which better reveals the

cooperative contiguously interposing arrangement showing the central tarp-panel within an overall plot surround of eight marginally adjoining fragmented tarp-panel intersectional portions;

[0030] FIG. 6, is an alternate oblique pictorial-view to FIG. 4, wherein is shown an arrangement of generic-variant tarp-panels in combination with a linear/strip-fastener device of the continuous conventional cleated-zipper type, and wherein the lower/left-corner portion of the upper positioned tarp-panel is shown uplifted for visual clarity;

[0031] FIG. 7, is a detail cross-sectional elevation-view typical of a horizontally extending margin, showing the arrangement of interposing tarp-panel margin portions employing the tongue-&-groove interlock method, as they are normally oriented upon a conventionally pitched roof just prior to their intimate assembly;

[0032] FIG. 8, is an alternate detail cross-sectional elevation-view typical of a vertically extending margin, showing the interposed arrangement of tarp-panel margin portions employing the hook-&-loop impingement method, as they are normally oriented across plural roof-joists just prior to their intimate assembly;

[0033] FIG. 9, is a 6x-enlargement showing a detail of the assembled preferred male/female-grommet features, as were shown separated in FIGS. 7&8; while also revealed is a thin flexible aluminum-clad outward facing substrate option, which enhancement thus enables alternate use as a fire protection apparatus effective against ambient air-borne embers and radiation from nearby burning objects.

[0034] FIG. 10, is a greatly enlarged transverse cross-section view detailing an exemplified embodiment of the optional combination manual slide-clasp relative to the slidably engaged tongue-&-groove portions of a strip-fastener.

IV.) ITEMIZED NOMENCLATURE REFERENCES

- [0035] 10—overall building framing structure
- [0036] 11,11',11"—roof portion, roof-rafters, rafter-webs
- [0037] 12—ridge-beam
- [0038] 13—header-beam
- [0039] 14—ceiling-joists
- [0040] 15—diagonal-bracing
- [0041] 16'/16"—walls (left/right)
- [0042] 17,17'—wall -studs, corner-stud
- [0043] 18,18'—perimeter-reinforcement anchoring-strip, incremental-marker
- [0044] 19,19'—field-reinforcement anchoring-strip, incremental-marker
- [0045] 20,20',20"—tarp-panel (modular unit), exterior-surface side, underside-surface
- [0046] 21,21'/21"—ridge-panel (modular unit), opposed longitudinal half portions (left/right)

- [0047] 22/22"—strip-fastener cleated-zipper type: member-A/member-B
- [0048] 23,23',23"—strip-fastener: zip-seal type, slide-clasp, upper/slide-paw, lower/slide-paw
- [0049] 24,24',24",24F—slide-clasp pull-tang, pull-lanyard, pull-snare, finger entry ref.-arrow
- [0050] 25,25'—zip-seal male tongue portion, mounting-flanges
- [0051] 26,26'—zip-seal female groove portion, mounting-flanges
- [0052] 27,27',27"—strip-fastener: Hook-&-loop type, hook-strip portion, loop-strip portion
- [0053] 28,28',28"—weather-flap member, sub/weather-flap, mounting-seam
- [0054] 29—finishing fold-seam
- [0055] 30,30'—plain grommet, male/female grommet assembly
- [0056] 31,31'—grommet male-barb portion, annular-flange
- [0057] 32,32'—grommet female-barb portion, annular-flange
- [0058] 33,33',33",33D,33N—exemplified screw-head, driving-slot, screw-threads, self-drill, nail
- [0059] 34—action ref.arrow
- [0060] 35—metalized-substrate
- [0061] 36—water-flow shedding action ref.-arrow

IV.) DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0062] Initial reference is given by way of FIG. 1, wherein is exhibited an overall skeletal framing structure 10, which could be either the framework for an exemplified temporary-structure or the exemplified framework of an existing conventionally constructed permanent building perhaps in the midst of being remodeled. In any case, the exemplified roof portion 11 is typically comprised of multiple transverse roof-rafters 11' generally of nominal 2"x6" or 2"x8" cross-section) typically staged along currently standard Building-code 16-inch or 24-inch center-to-center spacing intervals, creating a longitudinal roof-peak or crest along a longitudinal ridge-beam 12, while at the outer ends of the downwardly pitched roof-rafters 11' and multiple ceiling joists 14 thereunder is a longitudinal header-beam 13 supporting the roof upon vertical perimeter-walls 16' and 16" formed by vertical corner-studs 17 and multiple vertical load-bearing wall-studs 17' (as typically staged along standard 16-inch centers). Note that some building roofs are almost horizontally-flat (having only minimal pitch for water drainage), and most modern flat or pitched roof structures are generally entirely sheathed-over with 4 ftx8 ft plywood-panels, while others are sheathed (unshown) with 1x4-inch(nominally) longitudinal(extending horizontally in length) battens spaced tiered vertically apart about every 4-inches (to promote good wood-shingle aeration); over which either natural wood or composition shingles, or slate or spanish-tile is ultimately installed. Note also, there is a small trend toward use of light-weight metal framing members instead of

wooded framing members; however, such choice of materials does not significantly alter application of my invention as it is being set forth herein, since conventional self-tapping hold-down fasteners will likewise secure into the thin-gauge metal members as well.

[0063] Thus FIG. -1 is showing how the user/installer of my temporary modular tarp-panel invention 20 generally commences installation by lifting 19 them individually to the roof (or exposed ceiling region if the roof is not yet present), laying them down quickly, often in anticipation of inclement-weather, in a preferably descending manner via the non-staggered grid-like (edge-overlapping as a generic variant embodiment) pattern arrangement represented in FIG. 2. With the first course of tarp-panels being set in place, the preferably long-narrow ridge-panels 21 are also preferably secured in place in a manner commensurate with procedures set forth for the main tarp-panels, with both lateral half portions of the flexile ridge-panels being configured according to the example set forth in FIG. 7 (excepting that no optional field area weather-flap 27 is used) the ridge-panels being of siamesed configuration; -that is, the ridge-panel 21 includes dual opposed longitudinal margins 21' & 21" made to mate compatibly with the particular type of strip-fastener employed by the main tarp-panels being installed along both opposed pitchings of the roof-rafters 11'. Here, the marginal corners of each tarp-panel meet in a four-way intersection both along a given horizontally extending course of tarp-panels such as comprising exemplified panels-A/B/C, and between the contiguously descending courses comprising panels-D/E/F and likewise further adjoining panels-G/H/I. This preferred panel layout configuration has been found to be very successfully implemented in combination with the tongue-&-groove type of linear strip-fastener device (ref. FIG. -7); which is quite imperforate and basically equivalent in design principle to the commercially available but generally smaller ZipLoc® type of packaging strip-fastener closure device (affording a substantially hermetically- sealed envelope, as when employed within a frost-free refrigerator environment for example). Alternately however, my temporary tarp-panels may also be installed according to the staggered-pattern arrangement of FIG. 3 wherein the overlapping (via optional weather-flap portions 27) corners along a given horizontal course generally cooperate in the resultant manner of a three-way intersection; which configuration has been found to be most suitable for use in conjunction with the hook-&-loop (Velcro®) type of linear strip-fastener device. Thus while intermittently spaced-apart tarp-panel joining devices such as male-female/snap-fasteners can be substituted, it is much preferred that a continuous linear type of strip-fastener be employed (ie- tongue-&-groove zipper, cleat-zipper, or hook-&-loop types), as such devices afford a superior degree of moisture barrier to migration of rain-water which is often accompanied with gusting-wind, which can otherwise manage to find circuitous entrance for water.

[0064] Reference to FIG. 4 shows the overall assembled relationship of the four interacting zipper type zip-sealing portion elements herein conveniently referred to as: T/MF-(top/male-female), B/M-F(bottom/male-female), L/M-F(left/male-female), R/MF(right/male-female); -whereto for each individual tarp-panel 20 there are necessarily the cooperating strip-fasteners, preferably two male/linear-tongue strip-fastener members 25 and two female/linear-groove strip-fastener members 26, in any case arranged

consistently as may be preferred only one along each of the four tarp-panel margins. The placement orientation of these cooperative elements being critical to the successful juxtapositioning of successive tarp-panels, whereby one achieves a totally cohesive integration of tarp-panel "E" in FIG. 2 for example. In other words, each tarp-panel is fully modular (virtually identical) relative to any other tarp-panel in the system; thereby critically facilitating total interchangeability of the tarp-panels relative to one another.

[0065] In view of this requirement, it is for example preferred that only the female strip-fastener female/linear-groove member be located along the tarp-panel's uppermost perimeter margin portion, basically because if walked upon, it tends to be more durable than the single relatively protruding male/linear-tongue portion. However, the juxtapositioning of the male and female members at the generally verticalized left and right tarp-panel margins are rather inconsequential, owing that they must be in any case opposite; -that is, if the left-margin carries a female/linear-groove member 26, then the right-margin necessarily has to carry a male/linear-tongue member 25 (and conversely). Accordingly, if the tarp-panel's top-margin carries a female/linear-groove 26, then the bottom-margin necessarily has to carry a male/linear-tongue 25. It is also intended that the optional substitution of hook-&-loop type strip-fasteners (Ref. FIGS. 6 & 7) be considered so constructed at the discretion of the production factory according to engineering design orientation preference.

[0066] There remain subtle, however vital other differences which are to become herein more evident and understood as important iterations of my invention. For example, FIG. 5 (typical of protective-tarp "E" in FIG. 2) indicates how the various optional weatherizing weather-flaps 28 arranged within the field of the protective-tarps, are in any case necessarily arranged as to effectively shed water (action ref.-arrow 36) over the many individual optional grommet anchor points 30. The optional use of male 31 into female 32 grommets serves to more conveniently facilitate the physical positioning of the interposing (or overlapping) of tarp-panel portions intimately together, prior to becoming more imperforately joined together via exemplified marginal (proximal) strip-fasteners 23. Once a number of these grommets are joined substantially according to FIGS. 6, 7, 8, a nail 33N or more preferably a screw 33 (preferably driven in by a modern self-feeding screw-gun) can be inserted through the central pilot hole of a grommet and into the respective adjoining existing roof-rafter 11' (or wall-studs 17 or ceiling-joists 14); which procedure is repeated onward preferably at each of the remaining grommet locations. If grommet devices are employed in the tarp-panel construction, the actual number of such grommet securing points being dependent upon the time available to complete the job, and the severity of inclement weather being anticipated). Again, it is noted that the uppermost tarp-panels are laid over the lower positioned tarp-panels, as to achieve proper cascading gravity drainage of water from tarp to tarp. Even in the case where a substantially flat (approximately horizontal) roof or structurally exposed upper-floor or porch area is being weatherized, the installer always tries to install the tarp-panels in a cascading manner, as to gain every possible drainage advantage.

[0067] Reference to FIG. 6 reveals the optional arrangement of discrete tarp-panels 20 having dual diagonally

opposed right-angle orientations of strip-fasteners, here in the form of conventional heavy-duty industrial type cleated-zipper members 22' and 22"; the arrangement being like that of the zip-seal type strip-fasteners, -whereby a plurality of tarp-panels can be thus dependently assembled as in FIG. 2 for example.

[0068] Next, FIG. 7 depicts the proximal positioning of two adjoining tarp-panels relative to a ceiling-joist 14 (or its floor-joist equivalent), whereto a large-headed nail 34 is shown inserted entirely through the interfacing (not yet joined) male 31 and female 32 grommet portions. The field located grommets can be merely of the female type, since interlocking of overlapping tarp-panels is generally made only along their margins. Thus, another nail 34 is shown being inserted through a one of the tarp's field plain grommets 30 for anchoring of the tarp-panel's field to the exemplified existing ceiling-joist 14, while the outside field weather-flap 28 is shown lifted away so as to gain physical access to the linear plurality of field anchor fasteners being likewise driven into the adjoining ceiling-joists (reference again FIG. 5). Note also in FIG. 7 the optional use of hooked strip-fastener portion 27' in combination with its mating loop strip-fastener portion 27" (in preference to the optional tongue-in-groove type of strip-fasteners), is employed at both left and right where adjoining tarp-panels 20 margins are shown being connected. The FIG. 8 is viewing at a right angle to the same exemplified installation of FIG. 7, thus here looking at the sectional ends of the adjoining roof-rafters 11' (or ceiling-joists 14, or equivalent floor-joists), while looking into one of the longitudinally open external field weather-flap members 28 permanently affixed to the prefabricated tarp-panel at the factory along preferably continuously bonded (or sewn) mounting-seam 27", while internal marginal sub/weather-flap 28' has similar mounting-seam 28" in FIG's. 7 & 8.

[0069] The grommet installation detail of FIG. 9 exhibits the generally preferred configuration of the male 31 and female 32 portions, which are preferably heat-sealed to the primary tarp-panel material exterior-side 20' via their integral annular-flange portion 31' and 32' respectively (although they can be chemically bonded via a suitable cementing agent, or alternatively crimped-on to the tarp material around both upper and lower sides of the installation-hole, -while sewing the many grommets in place would be far to laborious a procedure. The central fastener 33 shown in FIG. 9 is of the conventional self-tapping (and self-drilling via distal portion 33D) screw-threaded type, having an oval-panhead and Phillips type driving-slot 33' which facilitates rapid installation and subsequent removal. Notice also how the male member 31 includes an annular-barb portion, which engages to hold positively into the female-barb; -however, variations of this arrangement can be arrived at without departing from the objective of the general design being set forth. When removing the screw type fastener 33, the operator generally prefers to utilize a commercially available self-centering magnetic/Phillips-bit, as it enables a worker to more readily retrieve the screw-fastener and stow it in their utility-pocket (especially efficient as compared to having to remove nails via a claw-hammer for example).

[0070] Also revealed in FIG. 9 is the optional provision of a relatively thin metalized-substrate or other heat-resistant coating 35 permanently clad to the polymer substance of the

primary tarp material, in an iteration of my invention referred to as the TherMax™ Modular-tarp. This thin substrate does not substantially increase the weight of the tarp panel, nor hamper desired flexibility of the tarp material; but is found to significantly increase ability of modular tarp-panels so coated to fend off damage from airborne embers in the presence of a menacing situations such as an uncontrolled environmental forest-fire or control-burning of ambient sage-brush for example. Thus, potentially saving a structure, such as one having a natural wood-shingle roof, from ravages of a nearby raging fire.

[0071] In FIG. 10 is a preferred more convenient and rapid type of zip-seal strip-fastener configuration, employing a dmatal or heavy plastic slide-clasp member 23, which is manually urged along the longitudinal length of the interfacing male 25 and female 26 portions by simply pulling upon attached lanyard member 24'; the substantially conventional zipping together action thereby readily attaining the desired positively interposed weather-tight engagement as is shown. Accordingly, opposite linear (reverse direction) travel of slide-clasp 23, acts to conversely readily reopen the tongue-&-groove type of strip-fastener, to a condition substantially as shown in FIG. 7. As is generally preferred, the respective male 25' and female 26' mounting flanges are permanently linearly-bonded to the tarp-panel material 20', and preferably to the underside 20". In the case of joining the separate tarp-panels, the slide-clasp 23 is initially a separate device carried in the installer's conventional utility-belt pocket (not shown), and the slide-clasp is simply manually slid along the entire length of the two initially separate male and female portions of the zip-seal type strip-fasteners to attain a completely interlocking joint between the two portions 26 and 25. When ready for disassembly of the tarp-panels, the worker can use the slide-clasp in reverse operation to avulse the interlocked male/female-portions; or, the user may prefer to simply peel the two portions apart commencing at one extreme end progressively toward the other. It is not considered practical to try to slide the two interconnecting tarp-panels together, in as much as the accumulative sliding friction becomes to great after a short distance of sliding engagement without use of the slide-clasp 23; hence, in alternate versions of the invention not necessarily employing a slide-clasp device 23, the procedure is to apply manual-pressure (as by walking along the joining male 25 and female 26 members such as is exemplified in FIG. 7, and likewise with the hook-&-loop type of strip-fasteners exemplified in FIG. 8.

[0072] Thus, it is readily understood how the preferred and generic-variant embodiments of this invention contemplate performing functions in a novel way not heretofore available nor realized. It is implicit that the utility of the foregoing adaptations of this invention are not necessarily dependent upon any prevailing invention patent; and, while the present invention has been well described hereinbefore by way of certain illustrated embodiments, it is to be expected that various changes, alterations, rearrangements, and obvious modifications may be resorted to by those skilled in the art to which it relates, without substantially departing from the implied spirit and scope of the instant invention. Therefore, the invention has been disclosed herein by way of example, and not as imposed limitation, while the appended claims set out the scope of the invention sought, and are to be construed as broadly as the terminology therein employed permits, reckoning that the invention

verily comprehends every use of which it is susceptible. Accordingly, the embodiments of the invention in which an exclusive property or proprietary privilege is claimed, are defined as follows.

VI.) What is claimed of proprietary inventive origin is:

1.) A modular tarp-panel assembly for temporarily protecting otherwise vulnerably exposed building roof and wall areas from ambient weather; said apparatus comprising:

a flexile tarp-panel with a perimeter of four parallelepiped side margins each including a perimeter anchoring-strip means arranged proximally along each of said four side margins for incremental installation of nail or screw fasteners into existing spaced apart provisional roof-rafters floor-joists or wall-studs and surrounding a central field area employing at least one anchoring-strip also enabling attachment to existing incrementally spaced apart provisional roof-rafters floor-joists or wall-studs via a plurality of nail or screw fasteners; and whereto, two first right-angle adjoining said margins each include a strip-fastener member means, and two second right-angle adjoining said margins each include a strip-fastener means, said first and said second right-angle margin arrangements being thereby configured as to enable said first side margins to engagingly cooperate with a mating said second side margin portion of an abutting said modular tarp-panel, and said second side margins to engagingly cooperate with a mating said first side margin portion of an abutting said modular tarp-panel, thereby in aggregate forming an inter-dependent assemblage of said tarp-panels.

2.) The modular weatherizing tarpaulin according to claim-1, wherein said mating strip-fasteners can be of the conventional commercially available interlocking tongue-&-groove type.

3.) The modular weatherizing tarpaulin according to claim-1, wherein said mating strip-fasteners can be of the conventional commercially available interlocking cleat-zipper type.

4.) The modular weatherizing tarpaulin according to claim-1, wherein said mating strip-fasteners can be of the conventional commercially available interlocking hook-&-loop type.

5.) A weather-tight modular tarpaulin assembly providing convenient temporary weatherizing of otherwise vulnerably exposed building roof and wall areas; said apparatus comprising:

a variable plurality of flexile tarp-panels for manual installation according to surface-area of building portion to be protected, said tarp-panels being applied directly upon exposed building frame structure via a linear anchoring means provided along each of four side perimeter margins and including at least one field-area linear anchoring means, for attachment via screws or nails into provisional uniformly spaced apart roof-rafters floor-joists or wall-studs;

a marginal weather-flap means thereto arranged outwardly from each lower and adjoining said right-angle perimeter margins, whereby an abutting upper said perimeter margin portion of a lower positioned said tarp-panel is thus overlapped, and also whereby the pitched end of an abutting said tarp-panel is also overlapped via a said weather-flap means; thereby

rendering all abutting said margins of aggregate said assembled tarp-panels effectively sealed from ambient weather and wherein nine assembled said tarp-panels form a plot.

6.) The modular weatherizing tarpaulin according to claim-4, wherein said field-area linear anchoring means of each individual said tarp-panel includes a discrete full length sub/weather-flap which opening edge portion is directed downwardly as to facilitate pitched roof water runoff action over said field-area linear anchor means.

7.) The modular weatherizing tarpaulin according to claim-4, wherein said tarp-panels are made from a commercially available polymer-sheet or fabric like canvas or rip-stop type material capable of preventing seepage of water therethrough.

8.) The modular weatherizing tarpaulin according to claim-4, wherein said tarp-panels are fabricated via well known machine/heat-sealed or machine-sewn construction.

9.) The modular weatherizing tarpaulin according to claim-4, wherein said linear anchoring means is a continuous reinforcement tape like anchoring-strip permanently affixed to the tarpaulin material, and through which is inserted a conventional screw or nail fastener device.

10.) The modular weatherizing tarpaulin according to claim-4, wherein said linear anchoring means is a plurality of reinforcement grommets uniformly spaced apart corresponding to the standard building-code intervals for roof-rafters floor-joists and wall-studs, and through each of which can be inserted a conventional nail or screw fastener device.

11.) The tarpaulin anchoring grommets according to claim-10, wherein said grommets are a plurality of male into female type snap-fasteners having coaxial center-holes through which can be inserted a single screw or nail fastener.

12.) The modular weatherizing tarpaulin according to claim-4, wherein said weather-flap member portion extends downward from said upper tarp-panel and over horizontally spaced apart anchoring-grommets and user installed nail or screw fasteners thereto, and including a linear strip-fastener means arranged proximally along said weather-flap's lowermost thereby protecting said incremental anchoring point means from passage of moisture.

13.) The modular weatherizing tarpaulin according to claim-4, wherein said strip-fastener means comprises interfacing commercially available hook-&-loop type strip portions.

14.) The modular weatherizing tarpaulin according to claim-4, wherein said strip-fastener means comprises interfacing extruded-polymer linear male into linear female type strip portions.

9.) The modular weatherizing tarpaulin according to claim-4, wherein said linear anchoring means is a continuous reinforcement tape like anchoring-strip permanently affixed to the tarpaulin material, and through which is inserted a conventional screw or nail fastener device.

10.) The modular weatherizing tarpaulin according to claim-4, wherein said linear anchoring means is a plurality of reinforcement grommets uniformly spaced apart corresponding to the standard building-code intervals for roof-rafters floor-joists and wall-studs, and through each of which can be inserted a conventional nail or screw fastener device.

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12.) The modular weatherizing tarpaulin according to claim-4, wherein said weather-flap member portion extends downward from said upper tarp-panel and over horizontally spaced apart anchoring-grommets and user installed nail or screw fasteners thereto, and including a linear strip-fastener means arranged proximally along said weather-flap's lowermost thereby protecting said incremental anchoring point means from passage of moisture.

13.) The modular weatherizing tarpaulin according to claim-4, wherein said strip-fastener means comprises interfacing commercially available hook-&-loop type strip portions.

14.) The modular weatherizing tarpaulin according to claim-4, wherein said strip-fastener means comprises interfacing extruded-polymer linear male into linear female type strip portions.

15.) The modular weatherizing tarpaulin according to claim-4, wherein said strip-fastener means is a conventional commercially available cleat-zipper type device which is merged or avulsed via a slide-clasp device.

16.) The modular weatherizing tarpaulin according to claim-2, wherein said linear weather-flap securing means is a plurality of spaced apart conventional commercially available male-&-female snaps.

17.) The modular weatherizing tarpaulin according to claim-2, wherein is provided an elongate roof-ridge weatherizing ridge-panel of siamesed configuration whereby a linear strip-fastener means is arranged along both laterally opposed longitudinal margins thereof, and configured to engage with a mating linear strip-fastener means located along the upper perimeter edge of uppermost positioned said tarp-panels; thereby acting to at once intermediately adjoin the upper pitched margins of both oppositely pitched tarp-panels.

18.) The modular weatherizing tarpaulin according to claim-2, wherein said tarp-panels can be of either rectangular or square format configuration viewed in plan-view.

19.) The temporary modular tarpaulin according to claim-2, wherein said tarpaulin material includes a fire-resistant exterior substrate enabling like deployment during non-inclemental weather conditions as well, by providing advantage of shroud like direct overlaying protection for relatively inflammable wood-shingle roof and wood-siding building structures vulnerable to airborne embers.

20.) A modular reusable weather-tight tarpaulin deployment system facilitating convenient temporary covering of otherwise openly exposed building roof and wall areas; said tarpaulin deployment system comprising:

installing a variable plurality of flexile parallelepiped tarp-panels according to surface-area of building portion to be protected, said tarp-panels being applied directly over exposed building frame structure via integral linear anchoring means corresponding to standard interval spacing for roof-rafters floor-joists and wall-studs conventional screw or nail anchoring fasteners, and wherein field-area of individual said tarp-panels includes one or more horizontal linear-flaps with flapped edge directed downwardly as to facilitate water runoff over field area situated said anchoring means, thereby resisting dislocation of said tarp-panel by wind; and, providing perimeter margins with proximal weather sealing means thereto along two adjacent right-angle sides, whereby the lower linear margin portion of an upper positioned said tarp-panel includes an over-

lapping weather-flap covering over an abutting lower positioned said tarp-panel's upper linear mating strip-fastener portion, while one adjacent opposing generally pitched end of said tarp-panel also includes a contiguous overlapping weather-flap covering over an abutting laterally positioned tarp-panel's lateral linear mating

strip-fastener means portio; said system thereby rendering all adjoining perimeter edges of dependently assembled said tarp-panels sealed from penetration by rain.

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