

[54] **COLLAPSIBLE CANOPY FRAMEWORK HAVING CAPTURED SCISSOR ENDS WITH NON-COMPRESSIVE PIVOTS**

[76] Inventor: James P. Lynch, 13 S. Field, Lakewood, Colo. 80226

[\*] Notice: The portion of the term of this patent subsequent to Sep. 14, 2010 has been disclaimed.

[21] Appl. No.: 121,298

[22] Filed: Sep. 14, 1993

### Related U.S. Application Data

[62] Division of Ser. No. 632,767, Jan. 4, 1991, Pat. No. 5,244,001.

[51] Int. Cl.<sup>6</sup> ..... F04H 15/50

[52] U.S. Cl. .... 135/145; 135/151; 403/172; 403/175; 411/338

[58] Field of Search ..... 135/103, 106, 107, 108, 135/109, 110, 111, 112, 113, 97, 25.2, 25.3, 25.31; 403/172, 175, 176, 178, 218; 52/640, 641, 645, 646; 411/338, 368, 424

[56] References Cited

### U.S. PATENT DOCUMENTS

402,755 5/1889 Lyon .  
684,130 10/1901 Taubert .  
1,326,006 12/1919 Sterhardt .  
1,493,915 5/1924 Baker .  
1,712,836 5/1929 Mills .  
1,728,356 9/1929 Morgan .  
2,135,961 11/1938 Chenoweth .  
2,440,557 4/1948 Power .  
2,770,243 11/1956 Miller .  
2,928,404 3/1960 Klages .  
2,940,709 8/1960 Neuwirth .  
3,174,397 3/1965 Sanborn .  
3,199,518 4/1965 Glidewell .  
3,335,815 4/1967 Oakes .  
3,496,687 2/1970 Breenberg .  
3,526,066 9/1970 Hagar et al. .  
4,033,243 7/1977 Kirrish et al. .... 411/338  
4,156,433 5/1979 Beaulieu .  
4,318,629 3/1982 Yamamoto .  
4,370,073 1/1983 Ohme .  
4,490,083 12/1984 Rebish ..... 411/338  
4,516,376 5/1985 King .  
4,540,322 9/1985 Coffia ..... 411/338

4,607,656 8/1986 Carter .  
4,641,676 2/1987 Lynch .  
4,673,308 6/1987 Reilly ..... 403/172  
4,724,642 2/1988 Hoffman et al. .  
4,779,635 10/1988 Lynch .  
4,838,003 6/1989 Zeigler ..... 52/646  
4,881,354 11/1989 Pitt ..... 403/218 X  
4,885,891 12/1989 Lynch .  
4,941,499 7/1990 Pelsue et al. .  
4,947,884 8/1990 Lynch .

### FOREIGN PATENT DOCUMENTS

372840 12/1906 France .  
1514258 2/1968 France .

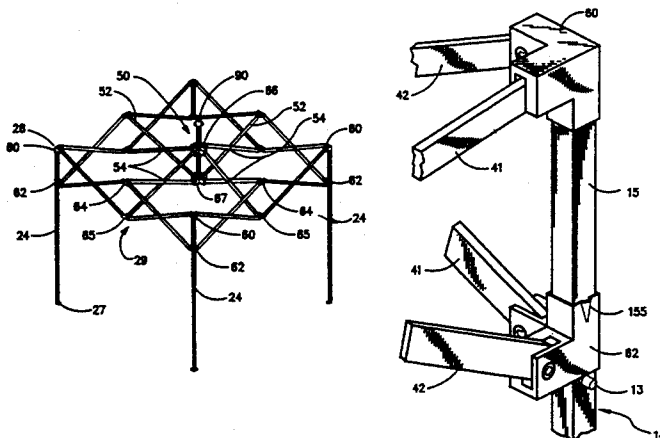
Primary Examiner—Lanna Mai

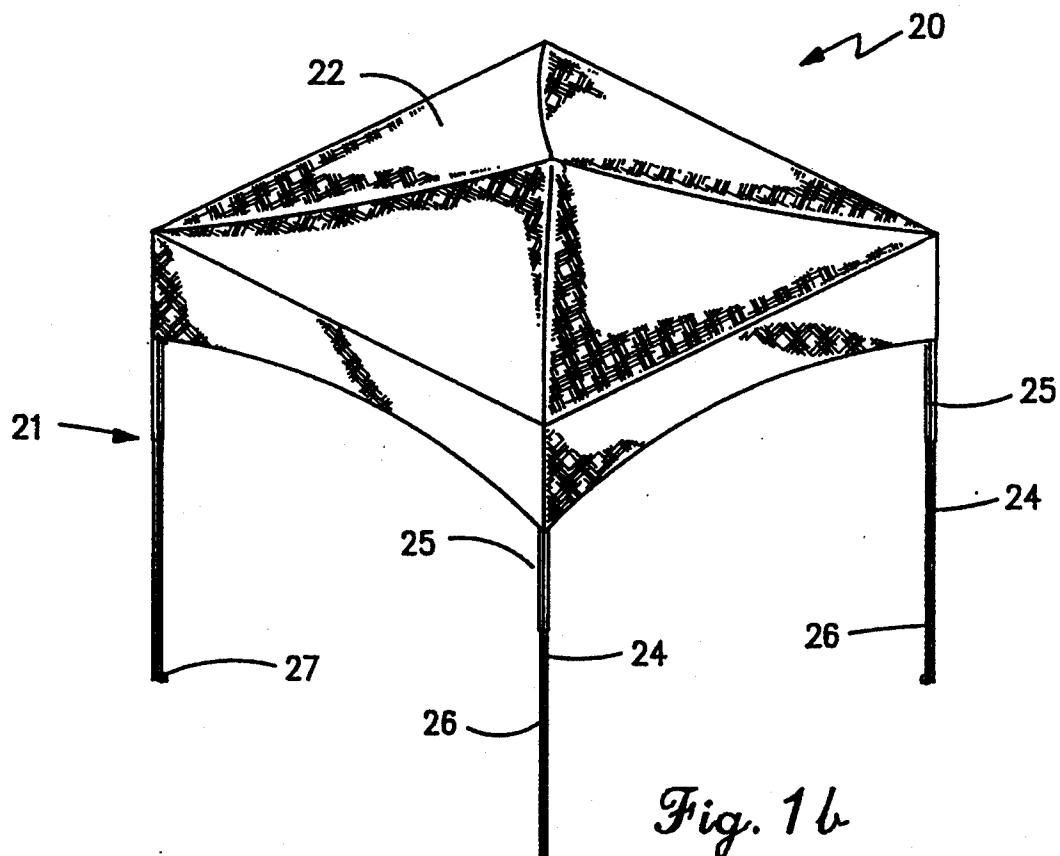
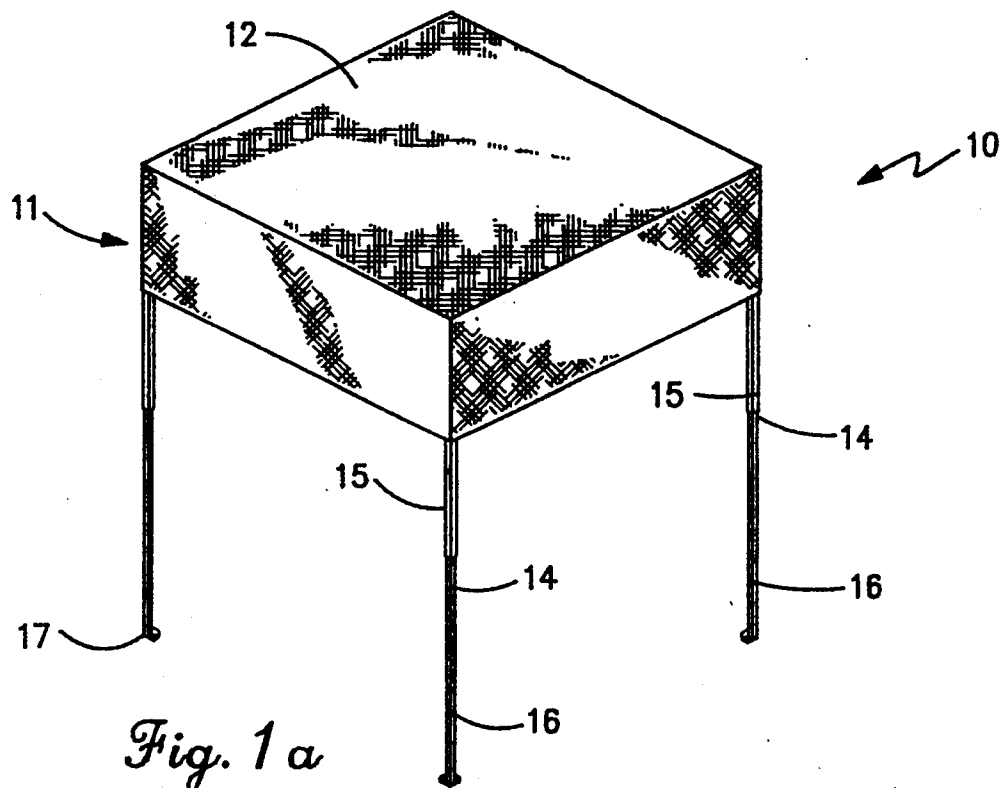
Attorney, Agent, or Firm—Timothy J. Martin

### [57] ABSTRACT

An expandable framework structure can be folded for storage and expanded for use, especially as a canopy when a covering is placed on top of the framework. The framework includes a plurality of upright supports and a plurality of edge scissor assemblies that interconnect adjacent ones of the upright supports. Mounts are disposed on the upright supports to fasten outer, rectangular end portions of the edge scissor assemblies. The mounts have sockets which have facing, parallel side-wall portions to receive the rectangular end portions in close-fitted engagement along planar contact surfaces to resist lateral and torsional deflections of the edge scissor assemblies. A non-compressive fastening pin pivotally secures the outer end of each edge scissor assemblies in its respective socket. The mounts on each upright support are relatively movable to allow expansion and contraction of the framework; one mount is preferably a stationary mount and the other a slide mount. A roof support assembly may be used to support a canopy covering, and several embodiments of the roof support assembly are described. Each edge scissor assembly may be formed of a pair of scissor units interconnected by floating mounts that are provided with sockets and planar contact surfaces to resist lateral and torsional deflection of the scissor units. Non-compressive fastening pins are associated with each mount, and non-compressive elements interconnect the scissor bars of each scissor unit.

18 Claims, 15 Drawing Sheets





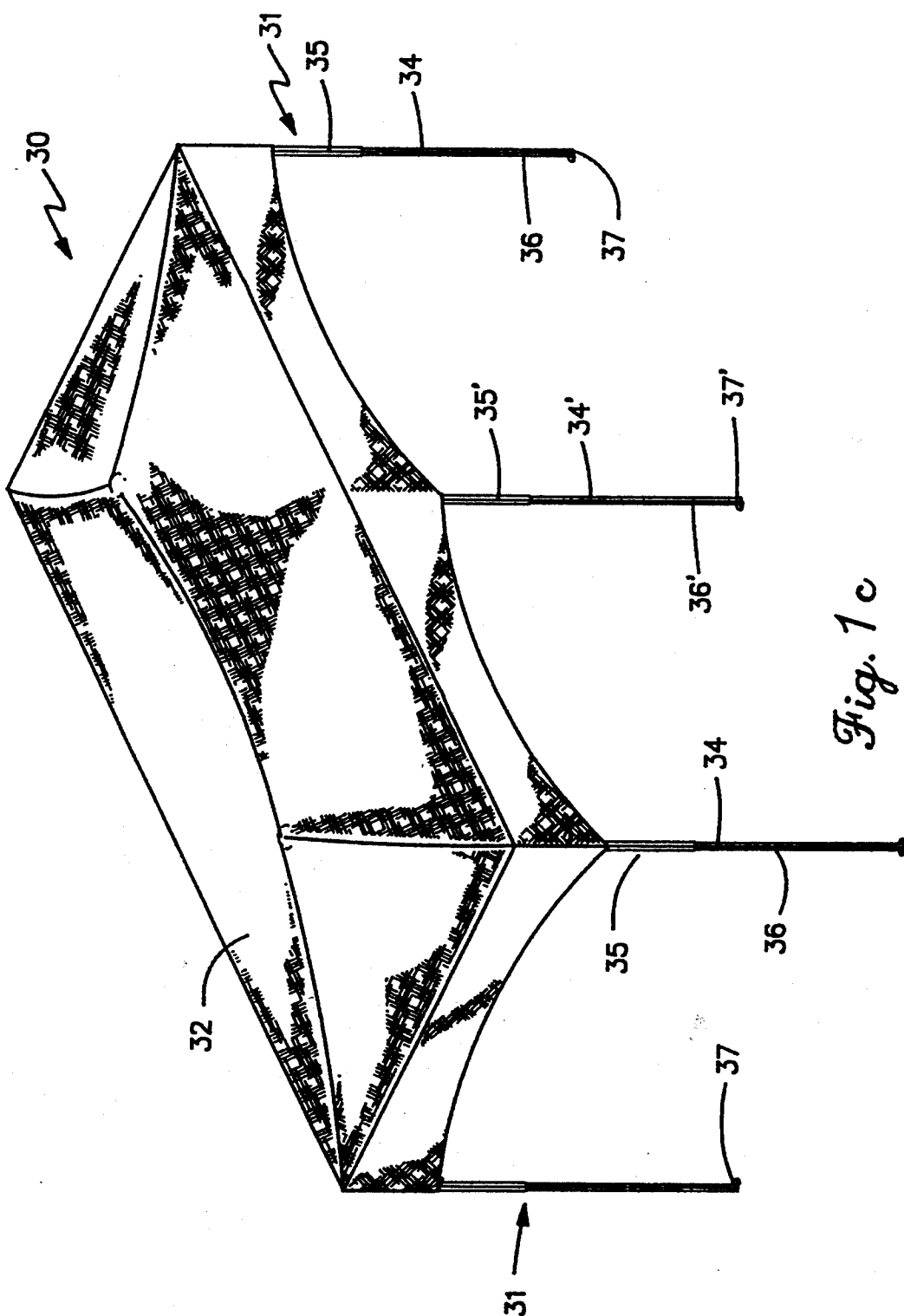
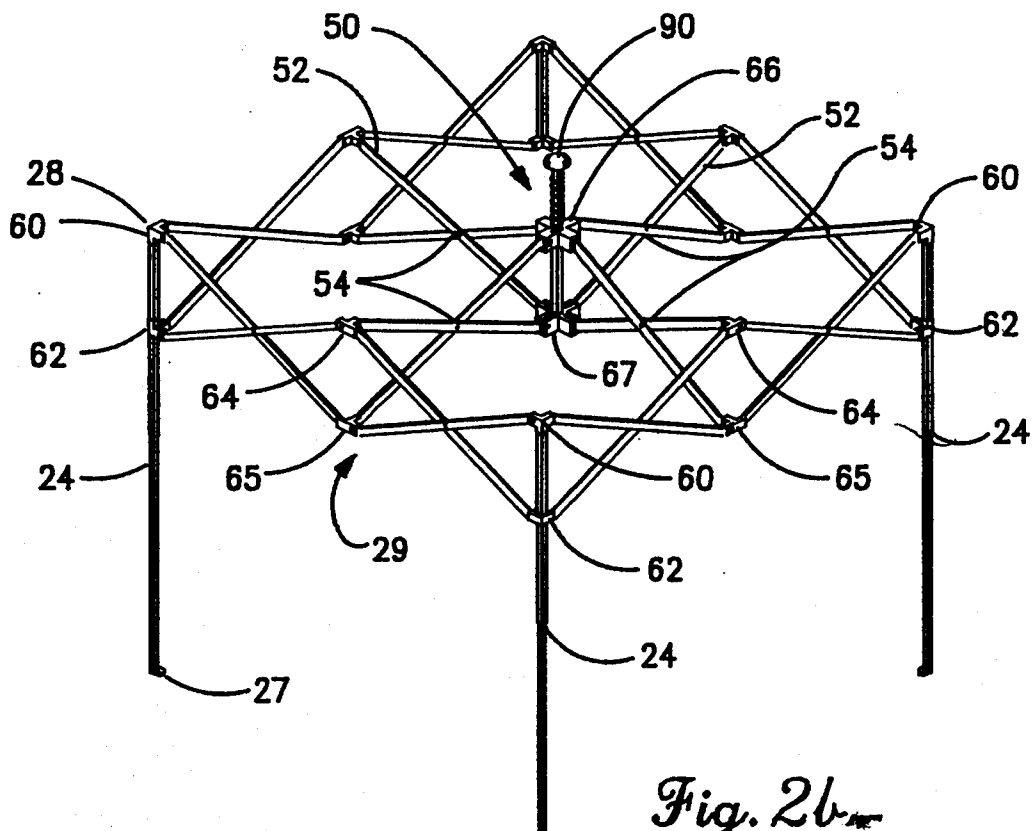
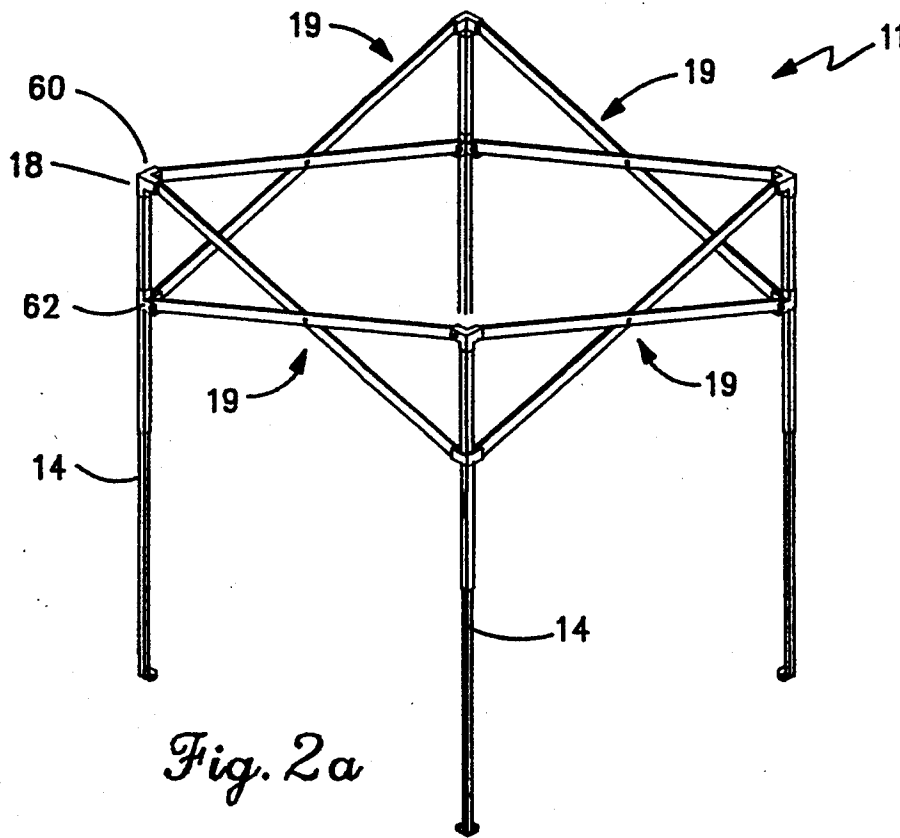


Fig. 1c



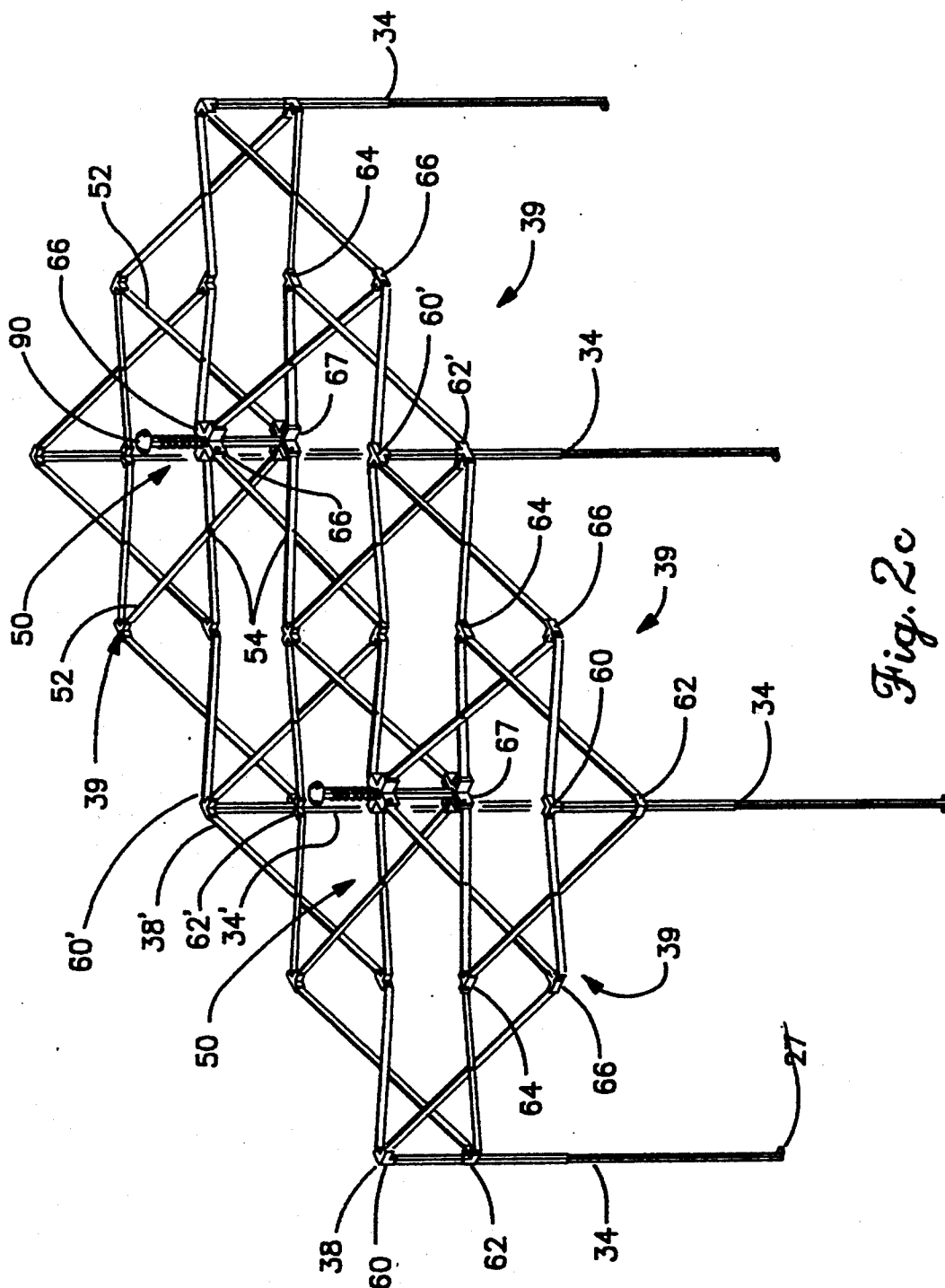


Fig. 2c

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.