



US007493733B2

APR 2009

(12) **United States Patent**

Kelly *Air Sealing*

(10) **Patent No.:** **US 7,493,733 B2**

(45) **Date of Patent:** **Feb. 24, 2009**

(54) **ROOF STRUCTURE AND METHOD FOR MAKING THE SAME**

(76) **Inventor:** **Thomas L. Kelly**, 31 Sands St., Waterbury, CT (US) 06710

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** **10/889,940**

(22) **Filed:** **Jul. 13, 2004**

(65) **Prior Publication Data**

US 2006/0010808 A1 Jan. 19, 2006

(51) **Int. Cl.**
E04B 7/00 (2006.01)

(52) **U.S. Cl.** **52/409; 52/309.4; 52/309.8**

(58) **Field of Classification Search** 52/408, 52/409, 410, 407.1, 404.3, 506.01, 506.04, 52/746.11, 746.1, 741.1, 745.06, 404.1, 309.4, 52/309.6, 746.4, 746.06, 411, 309.8; 428/316.6; 156/71, 78, 79; 264/34, 255

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,266,206 A * 8/1966 Coshy et al. 52/309.9
3,302,362 A * 2/1967 Lang 52/742.13
3,965,633 A * 6/1976 Carroll 52/309.8

4,063,395 A * 12/1977 Stewart et al. 52/309.5
4,492,064 A * 1/1985 Bynoe 52/309.8
4,500,596 A * 2/1985 Lee 428/317.5
4,658,554 A * 4/1987 Riley et al. 52/309.8
4,996,812 A * 3/1991 Venable 52/408
5,031,374 A * 7/1991 Batch et al. 52/410
5,088,259 A * 2/1992 Myers 52/410
5,165,210 A * 11/1992 Partyka et al. 52/746.11
5,441,583 A * 8/1995 Eaton et al. 156/71
5,784,845 A * 7/1998 Imeokparia et al. 52/408
6,006,482 A * 12/1999 Kelly 52/409
6,092,344 A * 7/2000 Kelly 52/410
6,581,348 B2 * 6/2003 Hunter, Jr. 52/408
6,913,816 B2 * 7/2005 Longcor et al. 428/316.6
7,168,221 B2 * 1/2007 Hunter, Jr. 52/746.11

* cited by examiner

Primary Examiner—Brian Glessner

Assistant Examiner—Adriana Figueroa

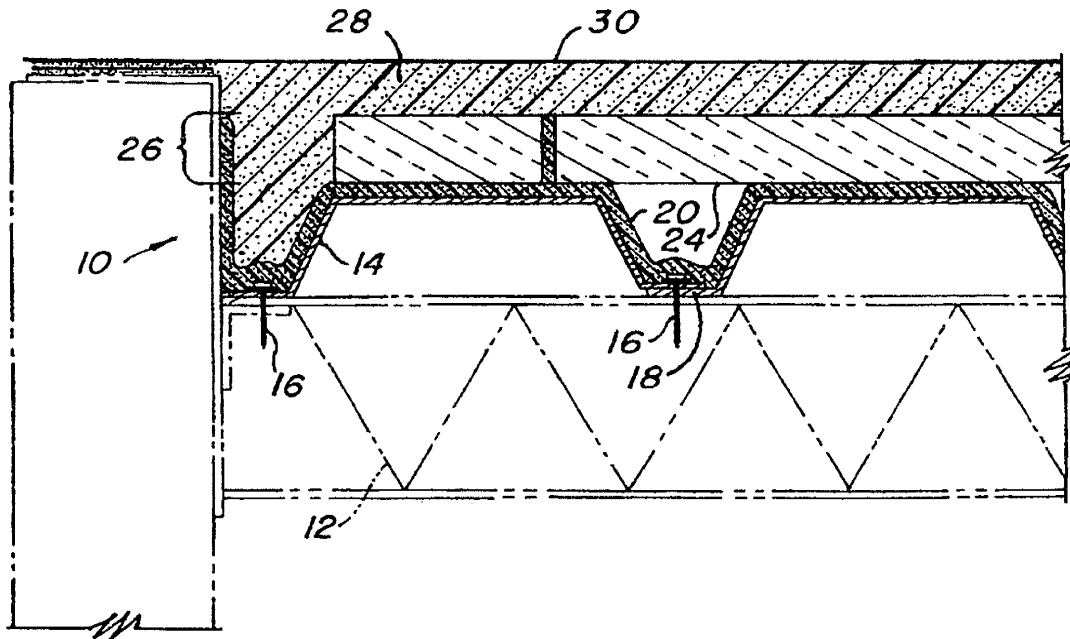
(74) *Attorney, Agent, or Firm*—Cantor Colburn LLP

(57) **ABSTRACT**

Disclosed herein is a foam material upwardly adjacent and in air sealing contact with a roof deck, an insulation layer upwardly adjacent the foam material, and additional foam material upwardly adjacent the insulation layer.

Further disclosed herein is a method for creating a roof system including air sealing a roof deck with a foam material, adhering insulation material to the foam material, and applying additional foam material upwardly adjacent the insulation layer.

9 Claims, 4 Drawing Sheets



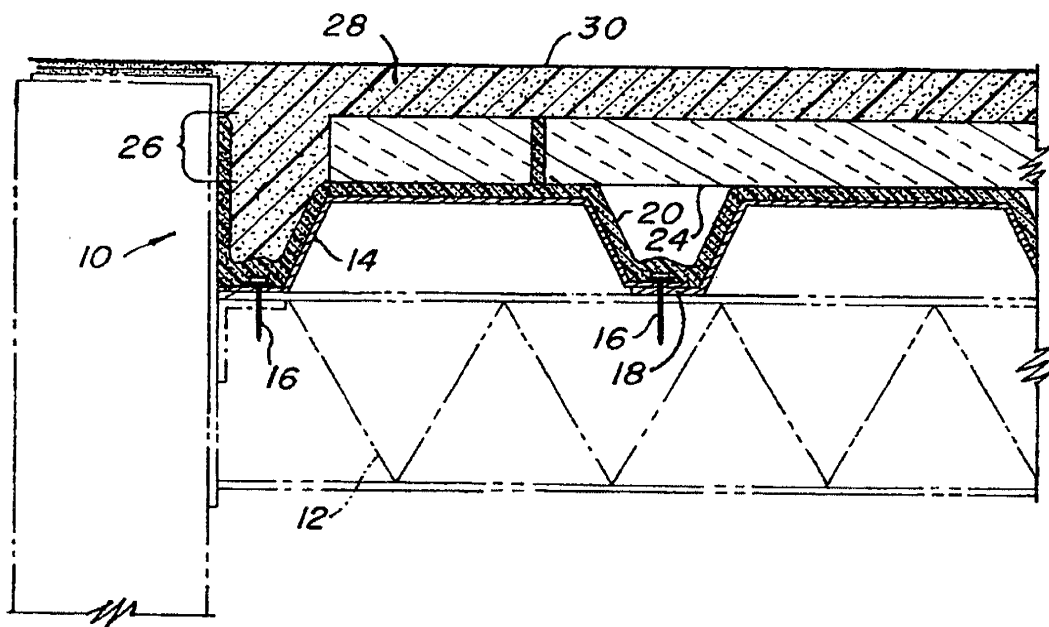


FIG. 1

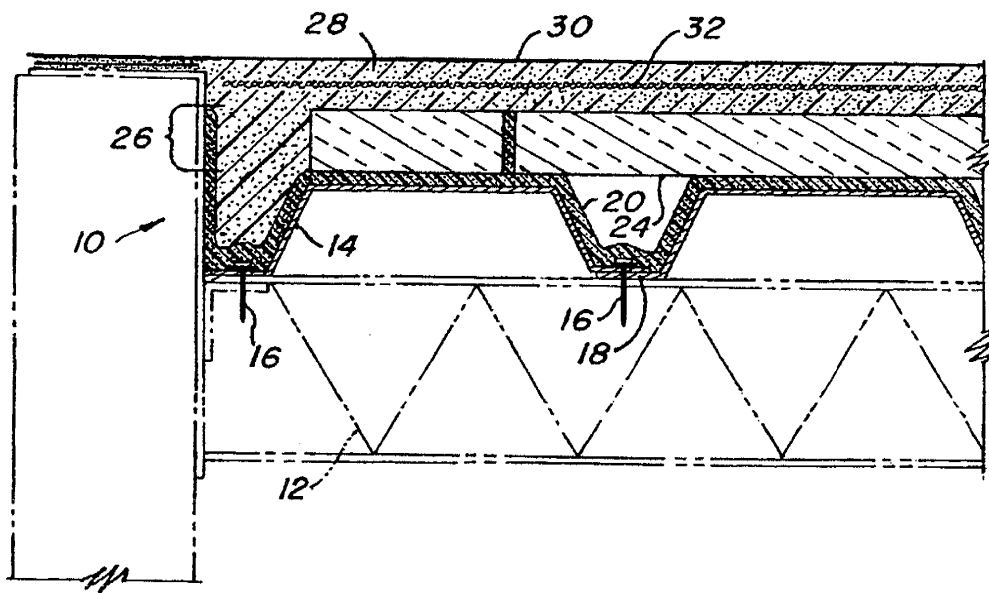


FIG. 2

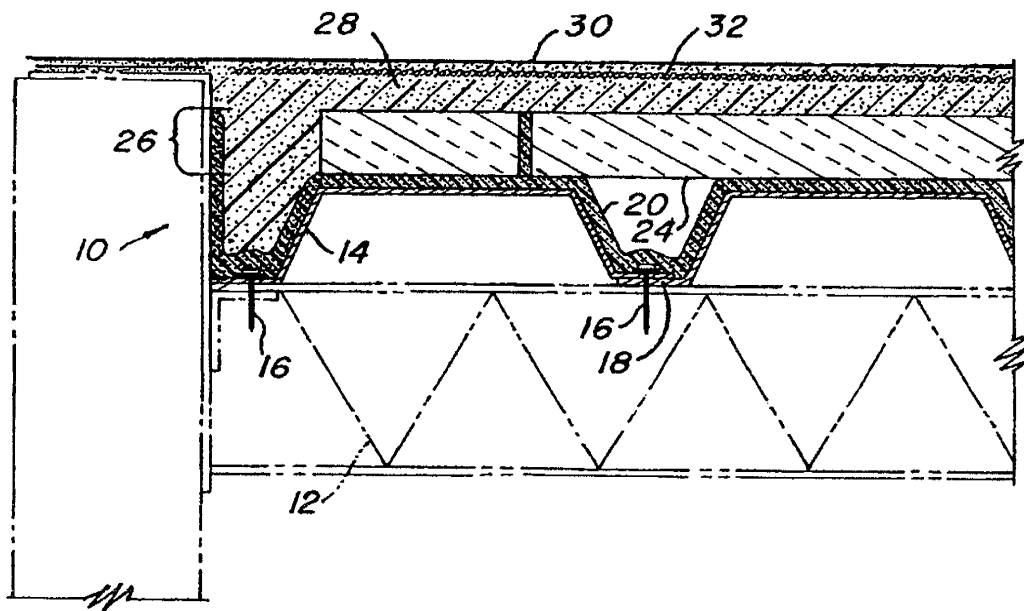


FIG. 3

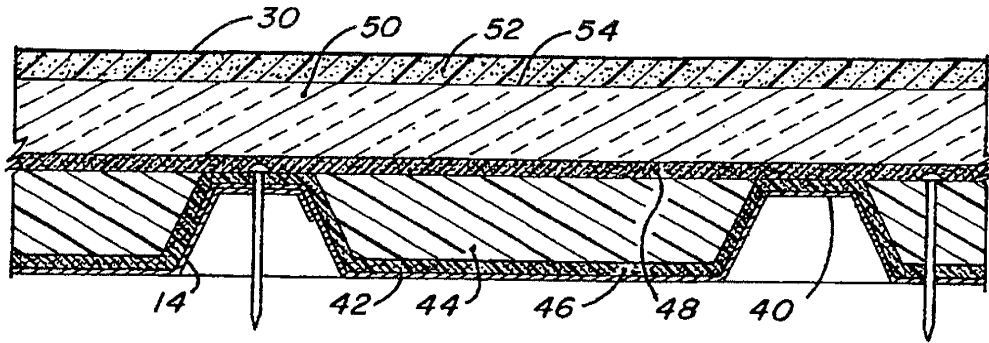


FIG. 4

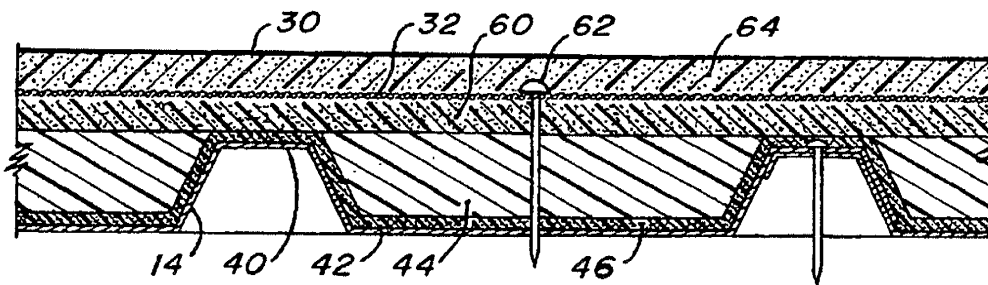


FIG. 5