

EXHIBIT 1032

U.S. PATENT NO. 4,011,442 TO ENGELER

(“ENGELER”)

TRW Automotive U.S. LLC: EXHIBIT 1032
PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NUMBER 8,599,001
IPR2015-00436

- [54] APPARATUS FOR SENSING OPTICAL SIGNALS
- [75] Inventor: William E. Engeler, Scotia, N.Y.
- [73] Assignee: General Electric Company, Schenectady, N.Y.
- [22] Filed: Dec. 22, 1975
- [21] Appl. No.: 643,539
- [52] U.S. Cl. 235/193; 250/211 J; 307/221 D; 340/173 LS; 358/213
- [51] Int. Cl.² G06G 7/12; H04N 3/14
- [58] Field of Search 235/193, 156, 152; 178/7.1, DIG. 3, DIG. 12; 250/211 J, 211 R, 578; 357/24, 30, 32; 340/173 LS; 307/221 C, 221 D

3,919,468 11/1975 Weimer 178/7.1

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Primary Examiner—Joseph F. Ruggiero
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[57] ABSTRACT

In optical imaging apparatus a semiconductor substrate in which a pattern of charge is produced in a plurality of charge storage sites therein in accordance with a spatial pattern of radiation, output means are provided for deriving an output comprising signals proportional to the algebraic sums of selected combinations of the charge in the plurality of charge storage sites.

12 Claims, 28 Drawing Figures

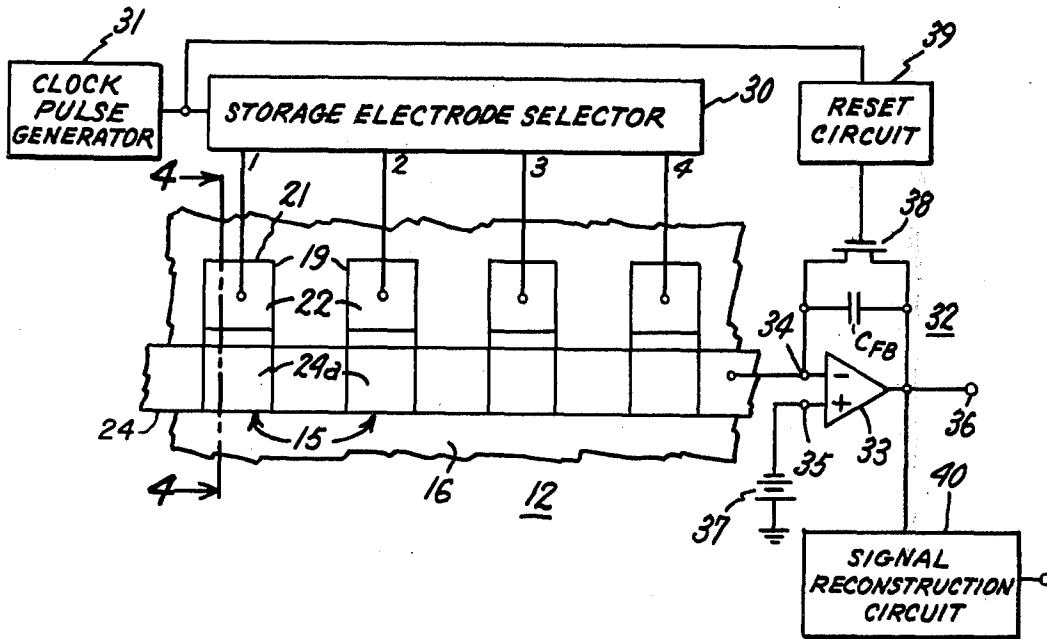


Fig. 1.

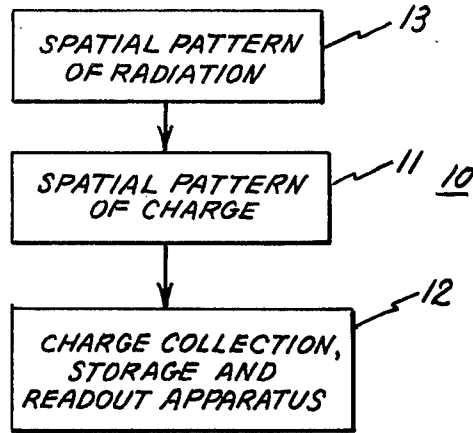


Fig. 2.

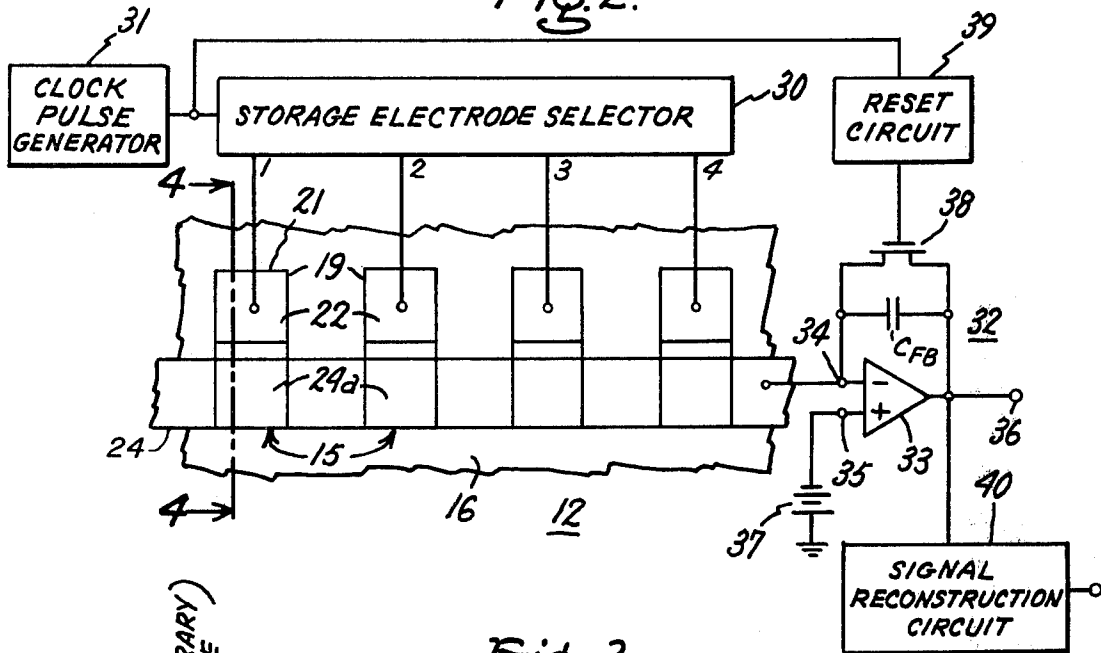
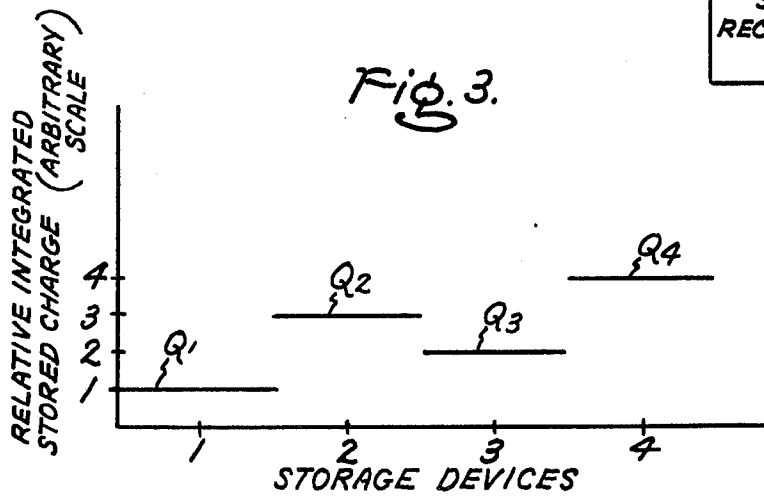
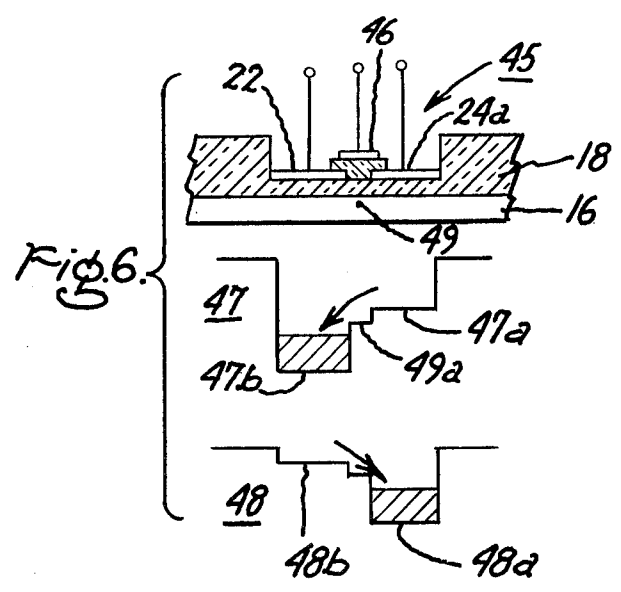
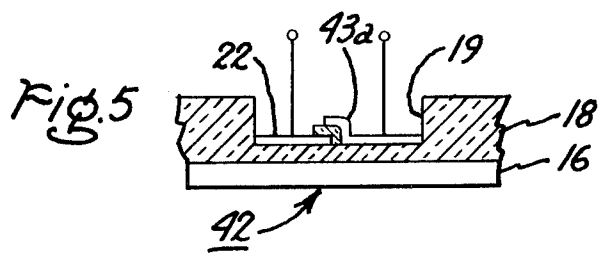
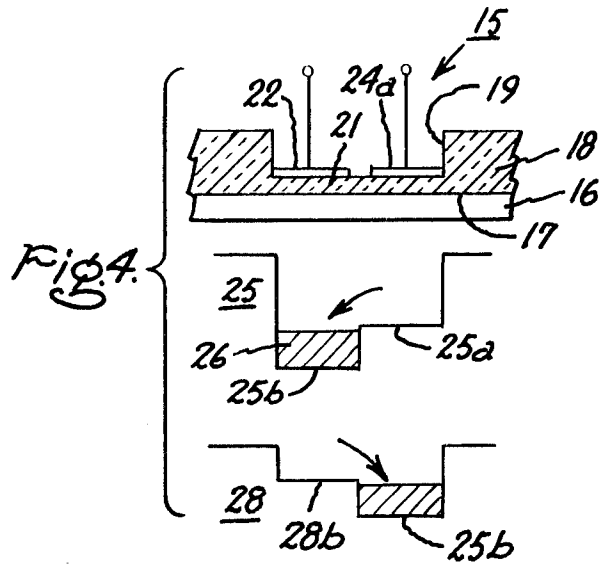
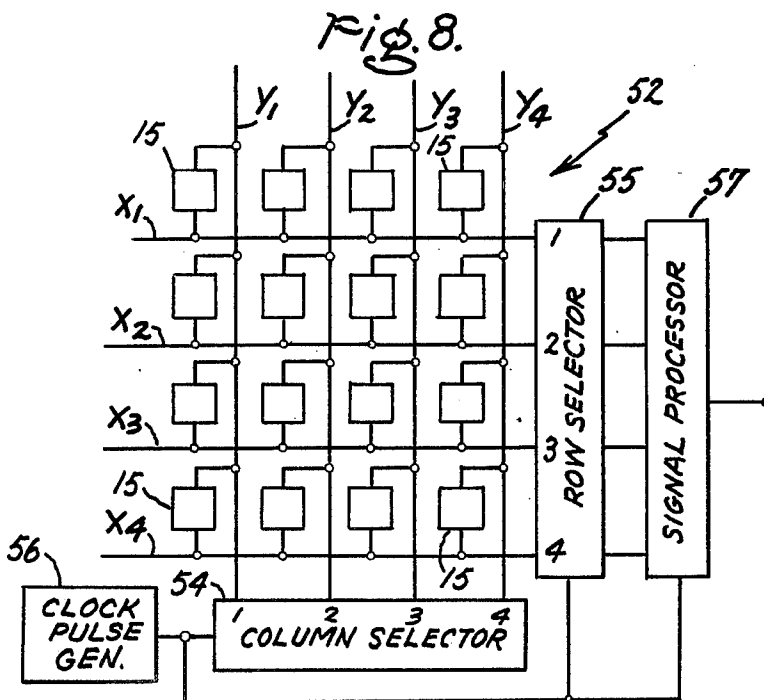
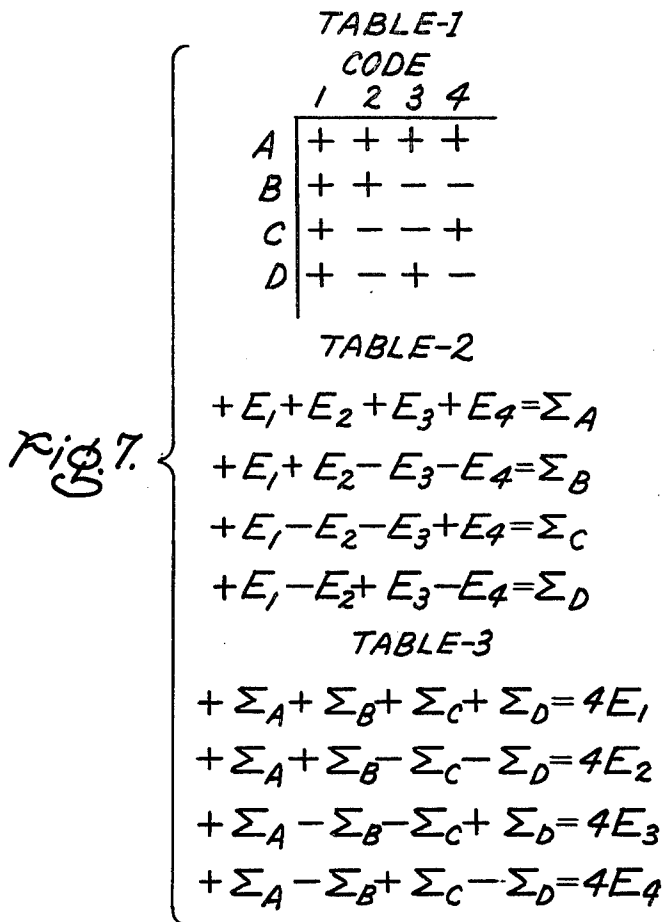


Fig. 3.







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