

[54] PRE-MULTIPLEXED SCHOTTKY BARRIER FOCAL PLANE

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[51] Int. Cl.<sup>3</sup> ..... H01L 29/78; H01L 27/14; H01L 31/00; H01L 29/56

[52] U.S. Cl. .... 357/24; 357/15; 357/30; 250/338

[58] Field of Search ..... 357/15, 24 LR, 30; 250/338, 370

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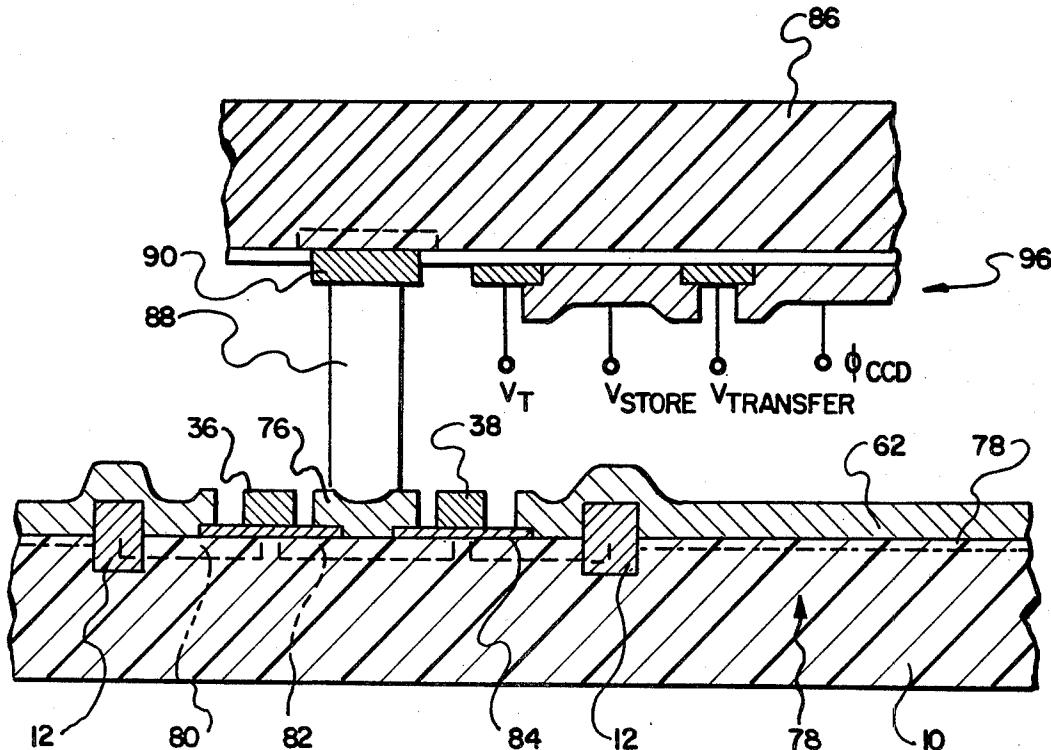
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[57] ABSTRACT

Disclosed is a hybrid Schottky barrier focal plane, which includes a transparent semiconducting detector substrate of a first conductivity, with an array of detector groups disposed on the detector substrate, each group including a plurality of Schottky barrier detectors. An output contact is provided on the detector substrate for each of the detector groups. A field effect transistor for each detector includes a source region of a second conductivity type in the detector substrate and connected to the detector, a drain region of the second conductivity type in the detector substrate over the source and drain regions for controlling the connection between the source region and the drain region. An array of output contacts are disposed on a semiconducting multiplexer substrate, which also includes a charge coupled circuit for converting parallel signals from the input contacts to a serial output signal. An array of coupling elements is provided to connect each of the output contacts on the detector substrate to one of the input contacts on the multiplexer substrate.

13 Claims, 8 Drawing Figures



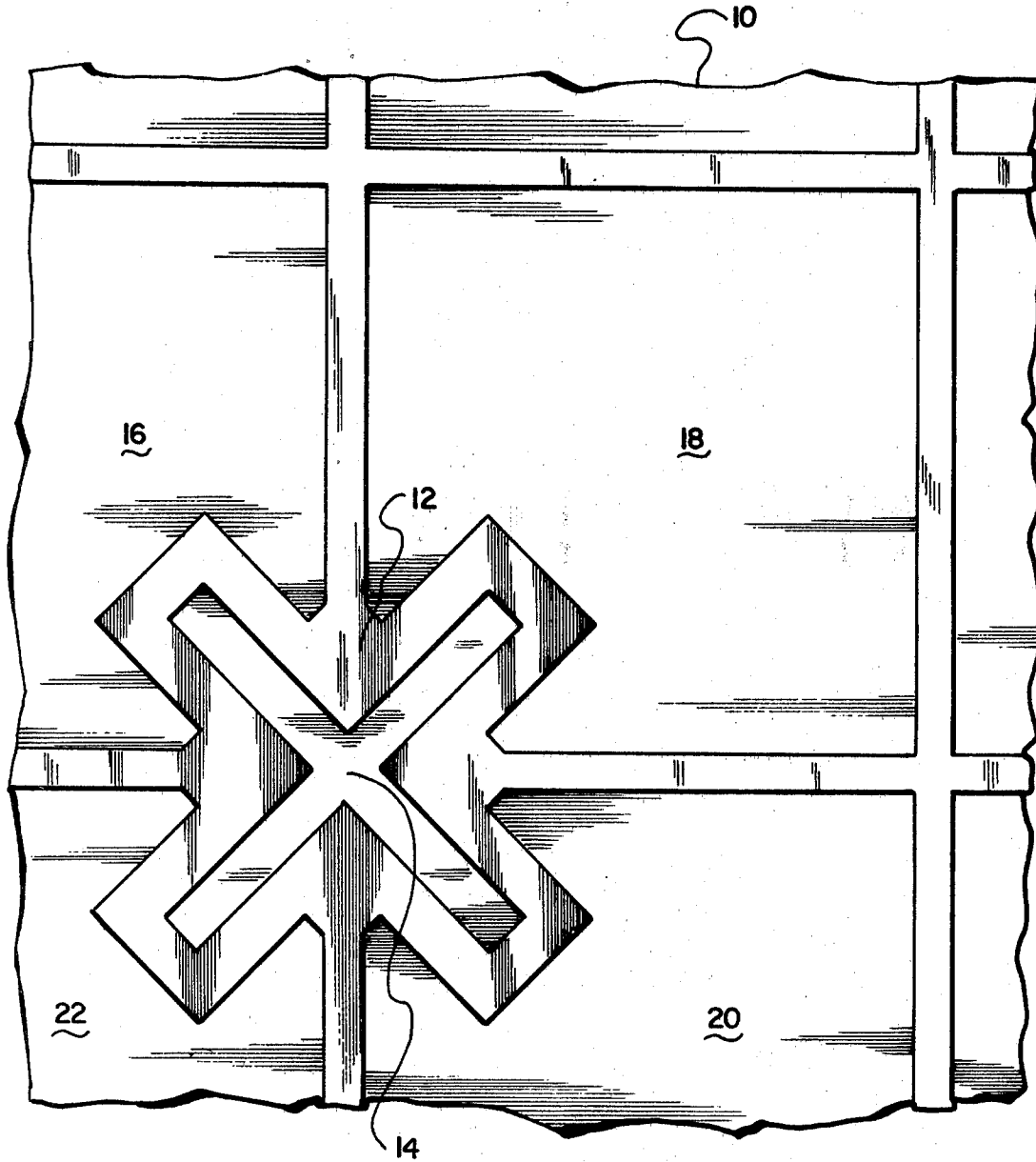


Fig. 1.

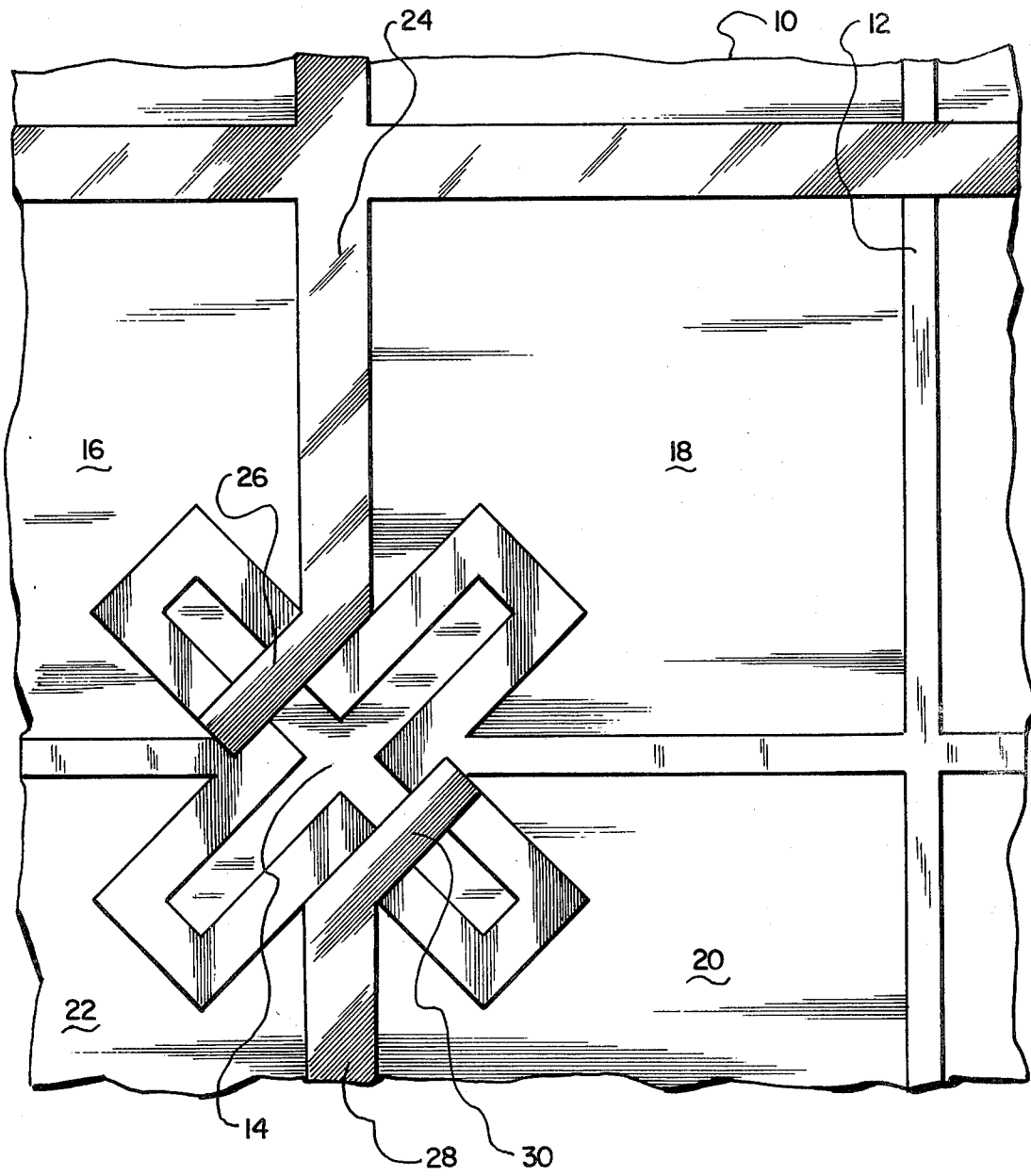


Fig. 2.

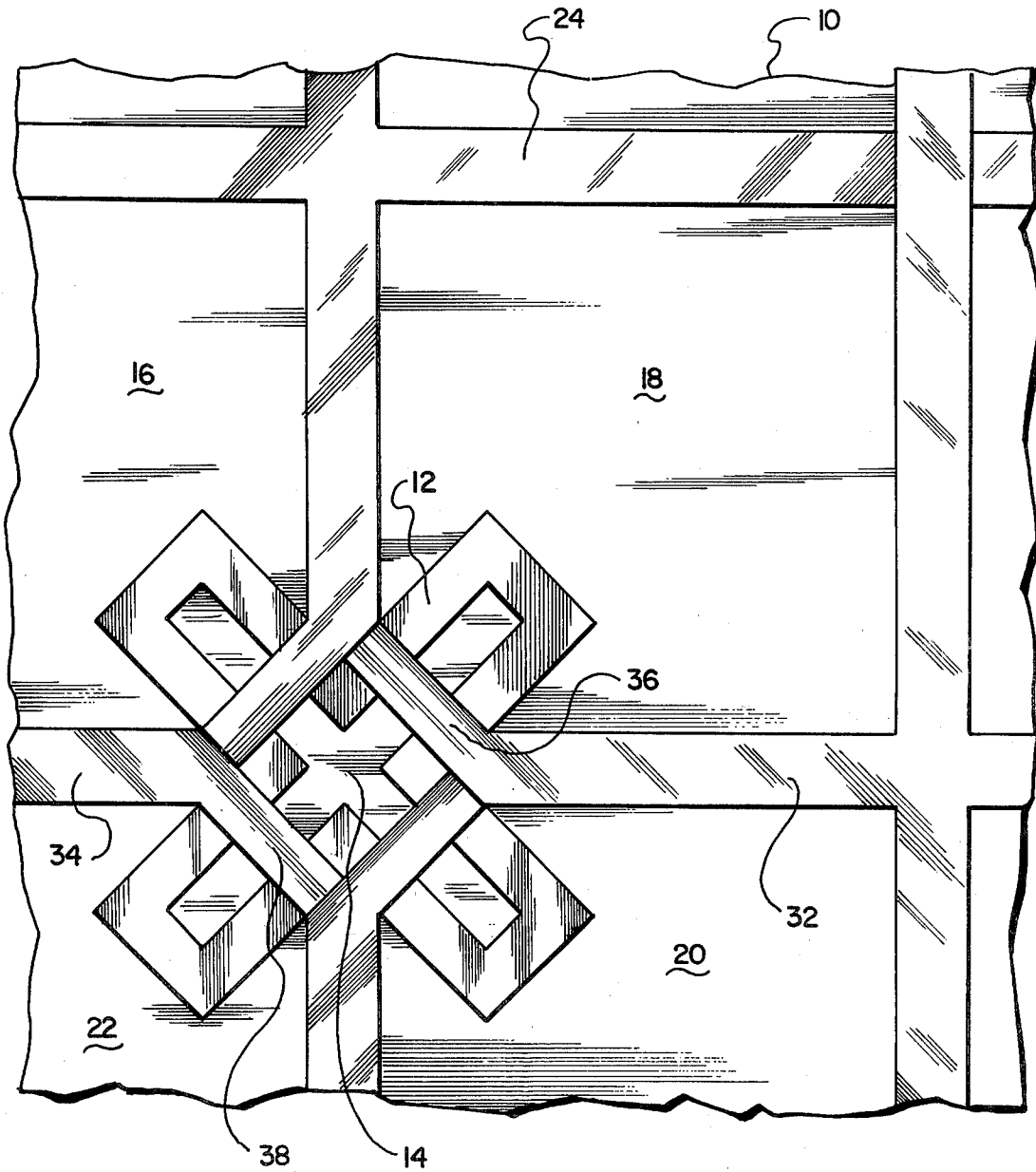


Fig. 3.

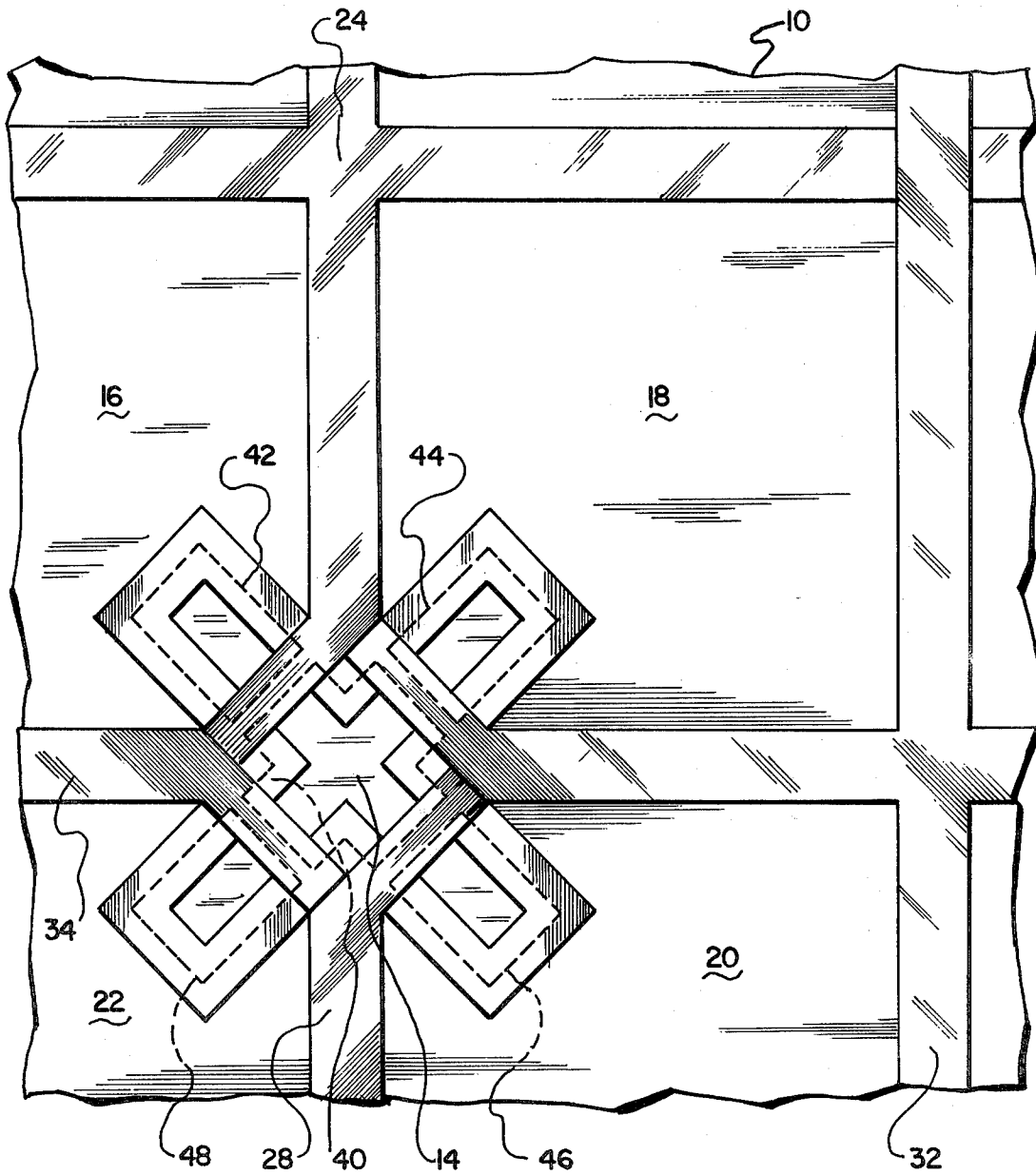


Fig. 4.

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