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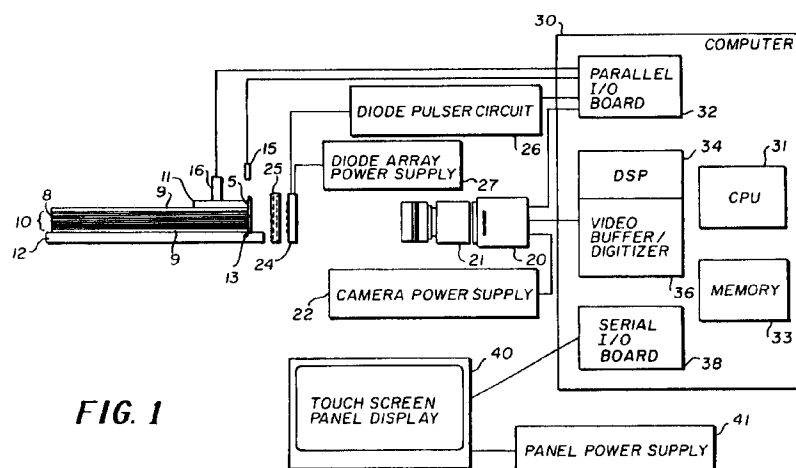
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(54) Apparatus and method for counting sheets

(57) An apparatus and method for counting sheets of thin media is provided by illuminating with an LED array 24 the edge 5 of a plurality of sheets 8. A linear CCD array camera 20 receives the reflected light from the sheets 8, and generates a signal waveform responsive to variations in the reflected light corresponding to the sheets. A digitizer then converts the signal into a digital signal waveform for storage in a video buffer 36. The stored signal waveform is thereafter processed along one dimension of said edge using a digital signal processor 34 for locating the positions of the sheets in the waveform, and then counting the sheets. Preferably, the

linear CCD array camera 20 provides a one-dimensional image of the edge 5, however a two-dimensional CCD array may be used with additional signal processing to translate its two-dimensional signal into a one-dimensional signal. The apparatus further can locate in the signal waveform rigid portions called stiffener boards 9 which border the plurality of sheets 8 or lie at intervals between the sheets. The processing in this apparatus is automatically adaptive to sheets of different media type, edge conditions, and the presence or absence of stiffener boards 9. The apparatus can be used for counting sheets comprising a pack 10, or the rotational convolutions 74 of media on a roll 70.

**FIG. 1**



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EUROPEAN SEARCH REPORT

Application Number
EP 96 42 0158

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
P,X	EP 0 676 718 A (LEROUX GILLES SA) * abstract; claims * ---	1,7	G06M9/02 G06M1/10 G06M9/00
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A	US 4 771 443 A (MOHAN WILLIAM L ET AL) -----		G06M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 7 November 1997	Examiner Gélébart, Y
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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