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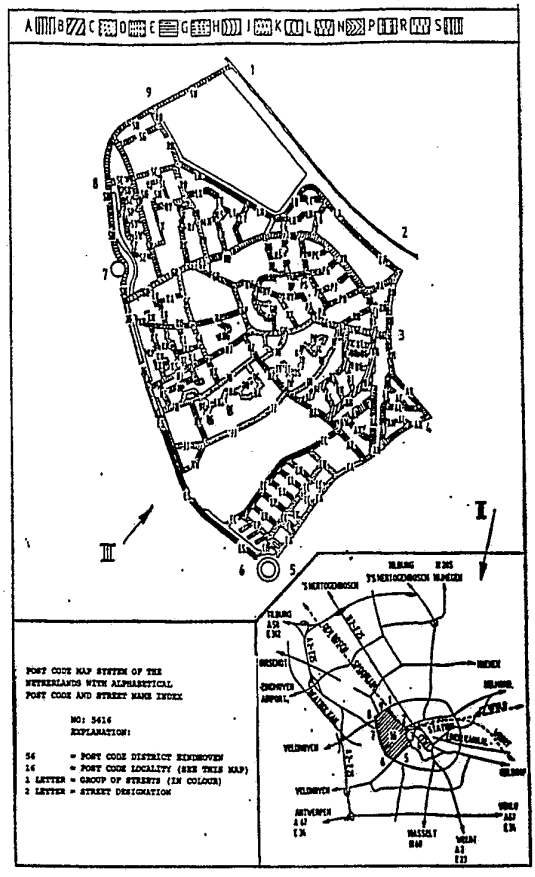
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(54) Title: METHOD FOR PRODUCING A MAP OF A BUILT-UP AREA

(57) Abstract

Method for producing a map of a built-up area, comprising of: producing an illustration substantially to scale of relevant objects, such as streets, in the area; selecting sub-sectors of the area in accordance with the sub-sectors used in a public address coding system; providing the illustrated sub-sectors with mutually differing markings; displaying a key indicating the relationship between the markings and the relevant address codes; composing a film of the illustration of the area with the markings and the key for the purpose of manufacturing a printing plate; manufacturing a printing plate; printing sheet material using the printing plate; finishing the printed sheet material to a ready-to-use map.



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METHOD FOR PRODUCING A MAP OF A BUILT-UP AREA

The invention relates to a method for producing a map of a built-up area, in particular, but not exclusively, a street map, with which a determined address can be found quickly and accurately.

Maps of the present type are generally known. In the case of street maps, these are generally provided with a grid, the columns and rows of which are designated with letters and numbers and a street name index is added in which the street names are included in alphabetical order, related to the sectors of the grid designated with the letter/number combination in which the relevant street is shown on the map.

The invention now has for its object to provide a method for producing a map which is simple to use and with which a desired location can be found immediately.

To this end the method according to the invention comprises of:

- producing an illustration substantially to scale of relevant objects such as streets in the area,
- selecting sub-sectors of the area in accordance with the sub-sectors used in a public address coding system,
- providing the illustrated sub-sectors with mutually differing markings,
- displaying a key indicating the relationship between the markings and the relevant address codes,
- composing a film of the illustration of the area with the markings and the key for the purpose of manufacturing a printing plate,
- manufacturing a printing plate,
- printing sheet material using the printing plate,
- finishing the printed sheet material to a ready-to-use map. The map produced with the method according to the invention makes it possible to find the desired location

directly on the basis of the address code. Consulting of an index is not necessary. Given the system used in the usual public address coding, a series of maps can usefully be produced, wherein the desired specific map is also simple to find on the basis of the known address code of the location being sought.

To find a particular location it is often sufficient to be able to find the sub-sector. According to a further development the method of claim 2 is applied. The map obtained with this method provides a more accurate orientation so that little or no time is lost in looking for the location. A favourable embodiment is characterized in claim 3. The use of colours enables recognition of the correct sub-sector at a single glance.

According to a further development the method according to claim 4 is applied. If only the name of the desired location is known and not the associated address code, the correct associated marking can be looked up quickly by consulting the added key, which marking can be found at a glance in the relevant map. When compared to the known system with a grid orientation the map obtained with this method therefore has the advantage that the relevant sub-sector can easily be localized at a glance in the map itself without the intermediate step of determining row and column, as required with the above described grid system.

The key added according to the preferred method of claim 4 can also be used for user orientation when he is in the area without knowing his position on the map. The user can look up an object name, such as a street name read on a name-board, in the index and find his position on the map on the basis of the marking found therewith.

In the further development according to claim 5, the group of names associated with the relevant marking can be found at a glance in the second index.

The Netherlands post code system can be used favourably in the method as characterized in claim 6. In the Netherlands post code system the first numeral pair designates the post code district, which normally coincides

with a town or village. The second numeral pair is related to a locality in that district. The first letter of the post code corresponds with a group of streets, while the second letter refines this designation to one particular street. Together with the house number the post code thus provides an unambiguous orientation of a relevant address.

In larger post code districts a separate map can be made for each locality with the method according to the invention, wherein the sub-sectors consist of a group of streets designated with the first letter in the post code system. This group of streets, which thus correspond with one determined letter, is allotted a determined marking. The marking used, which may contain a colour, a stripe pattern or a combination of both of these, can be shown in simple manner in the key forming part of the map in squares next to the relevant letters. The desired marking, and therefore the desired sub-sector on the map, can thereby be found at a single glance.

According to claim 7 the individual streets in each group of streets can be designated with the corresponding letter pair.

The invention will be elucidated hereinbelow with reference to the annexed figures.

Figure 1 shows a map produced in accordance with a preferred embodiment of the method according to the invention.

Figure 2 shows on a larger scale the portion of the map indicated by II in figure 1.

Figure 3 shows on a larger scale the portion of the map indicated by III in figure 1.

The map shown in figure 1 relates to a locality in the Dutch town of Eindhoven. The map comprises four sections. The section designated with II gives an overview of the area in which the detail map designated with III lies. The map further comprises at the top a key, to be further described hereinafter, of the markings used in the map III and an explanation of the system used for the marking.

According to the present method for producing the map shown in figure 1, an illustration substantially to scale of relevant objects in the area is first made. Since in the present case a street map is being produced, the relevant objects here are the streets in the area. With the phrase "substantially to scale" is meant that for the sake of clarity there may be deviation from the actual scale proportions. In the map shown in figure 3 the width of the streets is thus shown proportionally larger.

A number of sub-sectors each comprising a group of streets is shown in the illustration of figure 3. These sub-sectors are chosen in accordance with the Netherlands post code system. According to this post code system each of the separate sub-sectors is designated with a unique combination of two numeral pairs and one letter pair. The first numeral pair designates the post code district, in the present case Eindhoven, and the second numeral pair the locality in that district. The figures relate to post code locality 16. All addresses in the relevant locality as shown in figure 3 have a post code beginning with the number 5616. The first letter in the post code designates a group of streets and the second letter a specific street in this group. The markings of the sub-sectors are now selected such that each sub-sector, that is, each group of streets with the same first letter in the post code, has been given an individually recognizable marking. This marking is indicated at the top of the map of figure 1 together with the associated letter of the group of streets. Further shown on the illustration of figure 3 is the complete letter pair in each street. This added marking of the separate streets is thus a refinement of the markings of the streets in groups. After an illustration is thus composed as shown in figure 1, a film of this illustration is made, a printing plate is manufactured and sheet material is printed using the printing plate. The printed sheet material is subsequently finished to a ready-to-use map. These final steps of the method are generally common in the printing art and therefore require no further description.

With the thus produced map a particular location can be found very simply. The only condition is that the post code of the location is known. As already noted, the two numeral pairs of the post code indicate respectively the post code district and the post code locality. The map of the relevant locality is thus very simple to find in a collection of maps, when these maps are combined in numeral sequence. The district map II clarifies the formation of the relevant area. The numerals 1-9 indicate the correlation between the overview of II and the detail of III.

Once the user has arrived in the post code locality, he selects with reference to the key at the top of the map the marking which corresponds with the first letter of the post code of the location being sought. As soon as he arrives in the relevant area he looks for the correct street on the map III. Having arrived in the street he has only to look for the house number.

The markings shown in the figures are markings based on determined black and white patterns. Other markings can however also be used, and colour markings are particularly recommended. These can be recognized at a glance. With the present example, wherein fourteen different markings are used, a very good overview can be obtained when use is made of for instance four colours, red, blue, green and yellow, which are used separately or in combinations. When the same marking is combined in each case with a determined first letter of the post code for each map of a series of maps, a regular user will quite quickly be able to do without consulting the key.

According to a preferred embodiment an alphabetic street name index is added to each map such as the map of figure 1, wherein each street name is related to the associated letter pair of the post code of this street. A user can hereby determine simply where he is in the locality, as seen on the map. He has only to read a street name-board and look up the associated post code letters in the index. The corresponding position on the map can be

found using these letters. The index can of course also be used to localize a particular street on the map.

As an alternative, if the map can be printed on a sufficiently large scale, the street name can be printed in each street.

A further favourable embodiment comprises an index wherein the streets are ordered group-wise in accordance with the post code letter pair. This enables a reverse search procedure.

The method according to the invention can be supplemented with method steps which are customary for the printing of maps. Easily recognizable objects can be added to the illustration of the area. In the case of a street map as here described such recognizable objects may be churches, towers and the like. Information can also be added relating to the traffic situation, such as prescribed traffic flow directions and the like.

The invention is not limited to a method for producing a street map. A residential map for instance can be produced according to the same system. The different residential areas can therein be marked for instance in accordance with the first numeral of the post code district. Such a map can combine well with street maps of the above described type.

CLAIMS

1. Method for producing a map of a built-up area, comprising of:

- producing an illustration substantially to scale of relevant objects, such as streets, in the area,
- selecting sub-sectors of the area in accordance with the sub-sectors used in a public address coding system,
- providing the illustrated sub-sectors with mutually differing markings,
- displaying a key indicating the relationship between the markings and the relevant address codes,
- composing a film of the illustration of the area with the markings and the key for the purpose of manufacturing a printing plate,
- manufacturing a printing plate,
- printing sheet material using the printing plate,
- finishing the printed sheet material to a ready-to-use map.

2. Method as claimed in claim 1, wherein refining markings are included in the differently marked illustrated sub-sectors.

3. Method as claimed in claim 1 or 2, wherein the markings comprise colour markings.

4. Method as claimed in any of the foregoing claims, wherein a display of an index is added to the illustration, wherein names of illustrated objects, such as street names, shown in a sequence are related to the corresponding markings.

5. Method as claimed in any of the foregoing claims, wherein a display of an index is added to the illustration, wherein markings shown in a sequence are related to the corresponding names of objects such as street names.

6. Method as claimed in any of the foregoing claims, wherein the Netherlands post code system consisting of two

numeral pairs and one letter pair is chosen for the public address coding system, the area corresponds with the residential locality designated by the second numeral pair and the separately marked sub-sectors correspond with the group of streets designated by the first letter of the letter pair.

7. Method as claimed in claims 2 and 6, wherein the refining markings are formed by the letter pairs generally designating in each case one street or part-street.

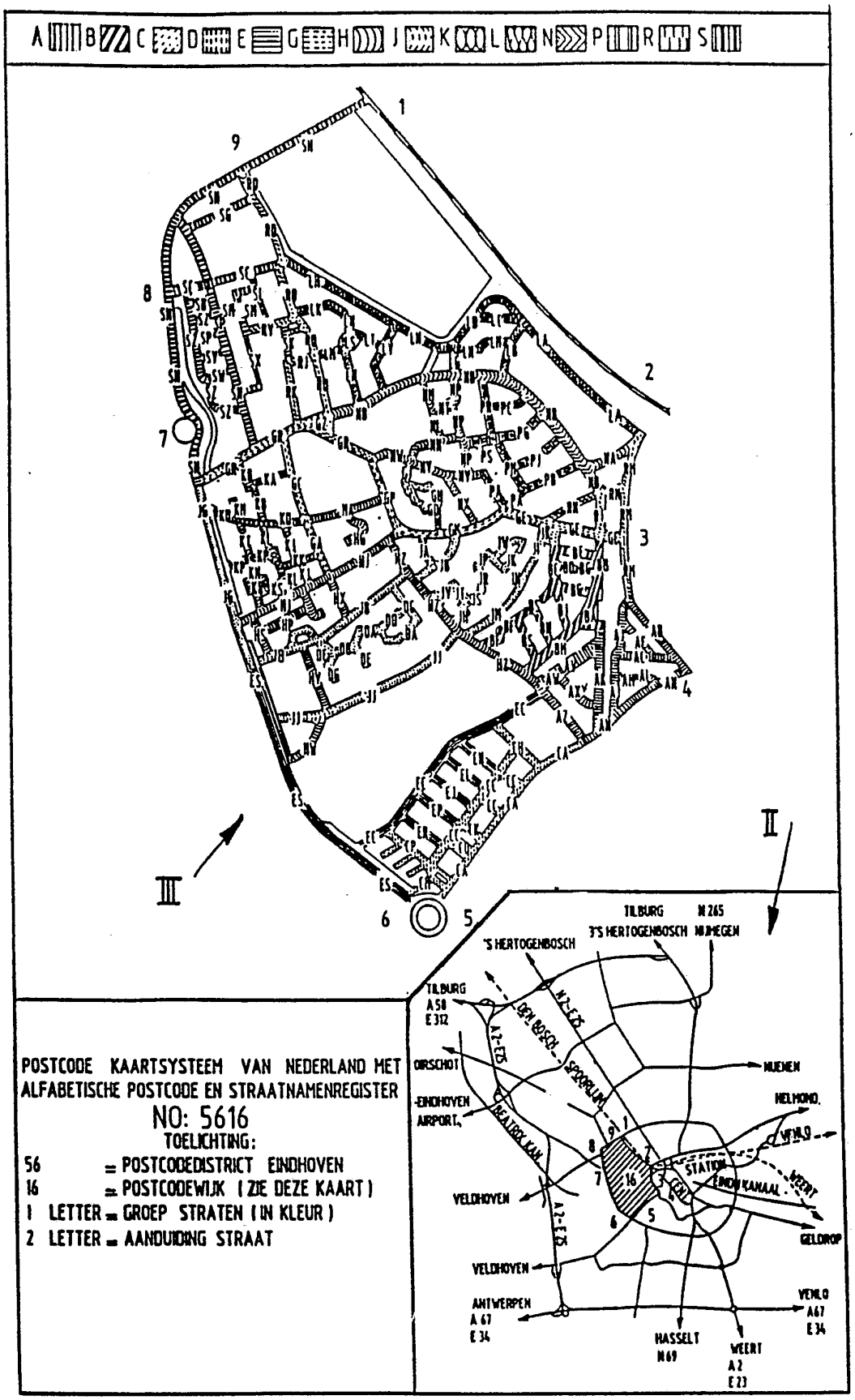

A B C D E G H J K L N P R S
1
2
3
4
5
6
7
8
9
II
III
POSTCODE KAARTSYSTEEM VAN NEDERLAND MET ALFABETISCHE POSTCODE EN STRAATNAMENREGISTER
NO: 5616
TOELICHTING:
56 = POSTCODEDISTRICT EINDHOVEN
16 = POSTCODEWIJK (ZIE DEZE KAART)
1 LETTER = GROEP STRATEN (IN KLEUR)
2 LETTER = AANDUIDING STRAAT
TILBURG N 265
'S HERTOGENBOSCH
'S HERTOGENBOSCH NIJMEGEN
TILBURG A 58 E 312
A2-E25
DEN BOSCH
N279-E25
SPOORLAAN
OIRSCHOT
HUIJKEN
EINDHOVEN AIRPORT
BEATRIXLAAN
HELMOND
VENLO
STATION
EINDHOVENKANAAL
WEERT
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GELDROP
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HASSELT N69
WEERT A2 E 23
VENLO A67 E34

FIG.1

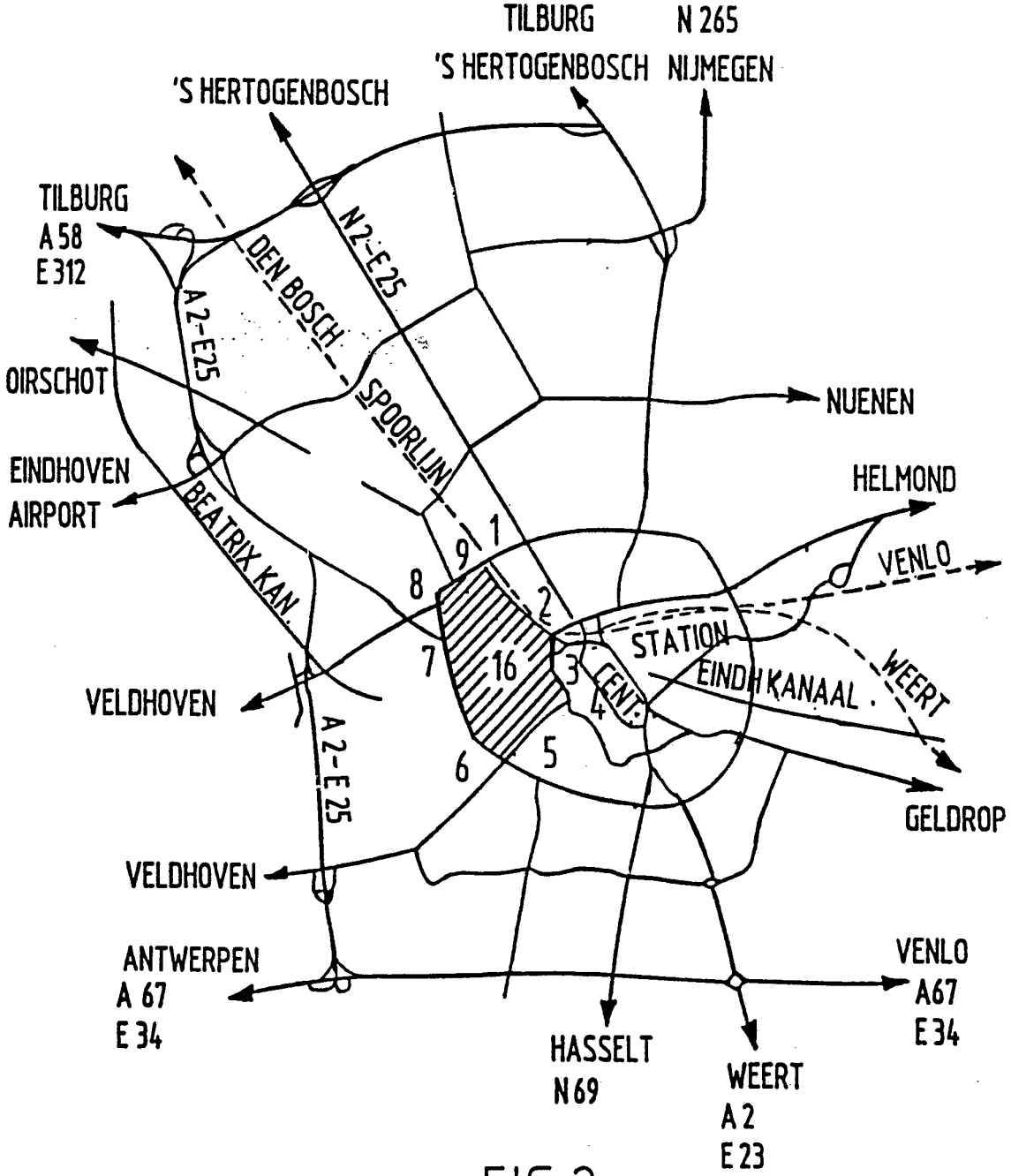

TILBURG
'S HERTOGENBOSCH
N 265
NIJMEGEN
'S HERTOGENBOSCH
TILBURG
A 58
E 312
DEN BOSCH
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A2-E25
OIRSCHOT
SPOORLIJN
NUENEN
EINDHOVEN
AIRPORT
BEATRIX KAN.
HELMOND
VENLO
STATION
EINDH KANAAL
WEERT
GELDROP
VELDHOVEN
A2-E25
VELDHOVEN
ANTWERPEN
A 67
E 34
HASSELT
N69
WEERT
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2
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7
8
9
16
CENT.

FIG.2

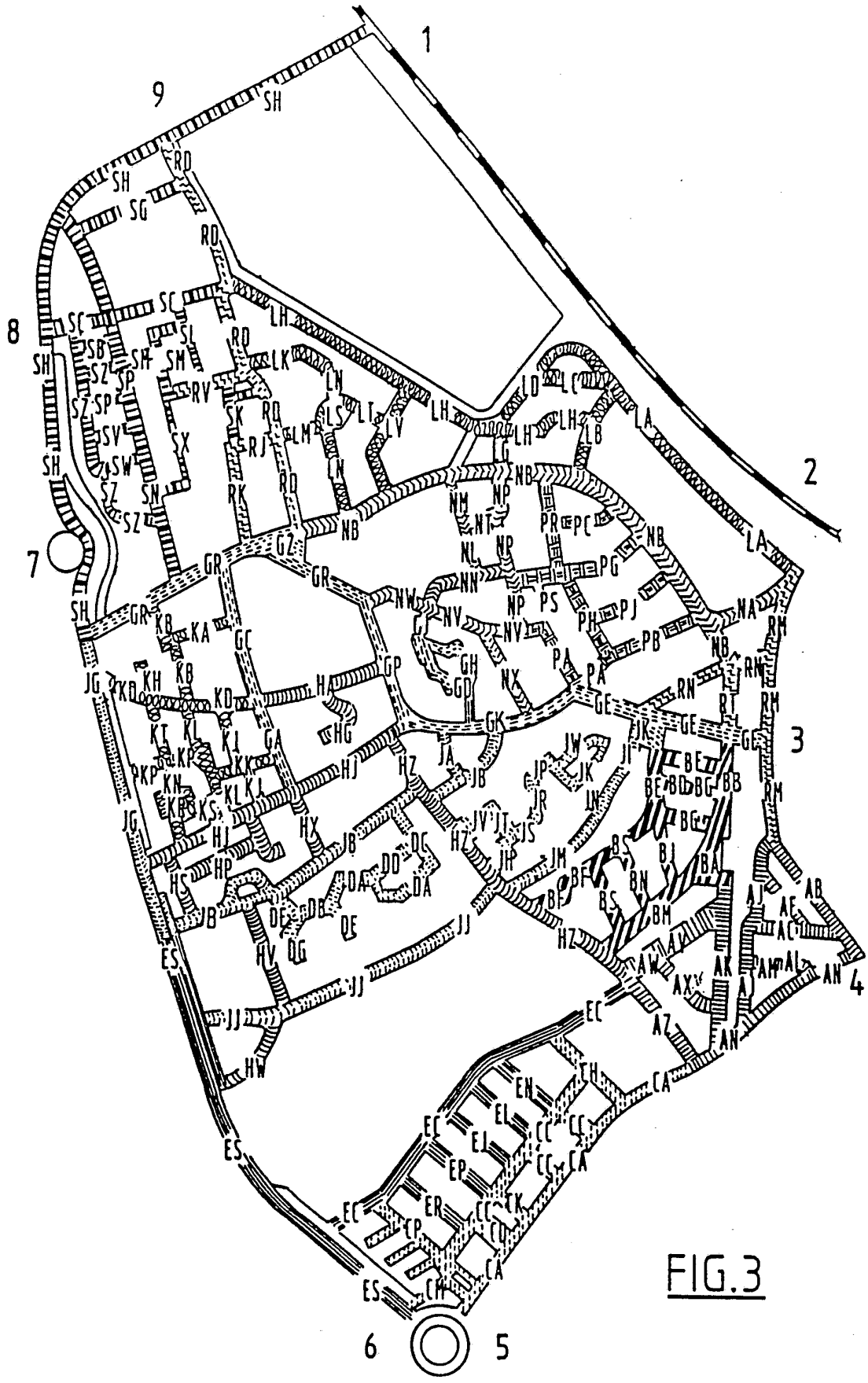


FIG.3

INTERNATIONAL SEARCH REPORT

International Application No PCT/NL 92/00153

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

Int.Cl. 5 G09B29/00

II. FIELDS SEARCHED

Minimum Documentation Searched[7]

Classification System	Classification Symbols
Int.Cl. 5	G09B

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched[8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

Category °	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No.[13]
Y	US,A,3 287 831 (HOLM,FRANCIS O.;US) 29 November 1966 see column 2, line 52 - column 8, line 34; claims 1-5; figures 1-9	1
A		4,5

Y	DE,A,2 828 268 (REINIG,HANS-JOACHIM;DE) 3 January 1980 see page 4, last paragraph - page 7, paragraph 1; claims 1,3,4,6; figures 1-3	1
A		3,4

Y	EP,A,0 354 684 (PLESSEY OVERSEAS LTD.) 14 February 1990 see column 2, line 38 - column 4, line 50 see column 8, line 29 - column 9, line 19; claims 1-6; figures 1,6	1

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° Special categories of cited documents :[10]

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
09 DECEMBER 1992	15. 12. 92
International Searching Authority	**Signature of Authorized Officer**
EUROPEAN PATENT OFFICE	GORUN M.

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category °	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
Y	FR,A,2 618 933 (BOUHIER,PAUL ET AL.;FR) 3 February 1989 see page 2, line 13 - page 3, line 40; claims 1-8	1
A	---	3,7
A	FR,A,1 108 264 (SAURAT,HENRY AT AL.;FR) 24 August 1955 see page 1, column 2, paragraph 5 - page 2, column 2, paragraph 2; claims 1-5; figures 1-18	1-3,7

A	FR,A,2 160 701 (NEAGU,EUGENE;FR) 6 July 1973 see page 1, line 1 - page 1, line 41; claims 1-6; figures 1-8	1,4

A	FR,A,2 160 256 (SOULA,GERARD;FR) 29 June 1973 see page 2, line 19 - page 3, line 15; claims 1-5,8,11,13; figures 1-3	1,3,4

A	DE,A,3 424 379 (RAUER,DIETMAR;DE) 16 January 1986 see page 2, paragraph 1 - page 2, last paragraph; claims 1-3; tables 2,3	1,3,5

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO. NL 9200153 SA 64845

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 09/12/92
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-3287831		None	
DE-A-2828268	03-01-80	None	
EP-A-0354684	14-02-90	GB-A- 2221782	14-02-90
FR-A-2618933	03-02-89	None	
FR-A-1108264		None	
FR-A-2160701	06-07-73	None	
FR-A-2160256	29-06-73	None	
DE-A-3424379	16-01-86	None	