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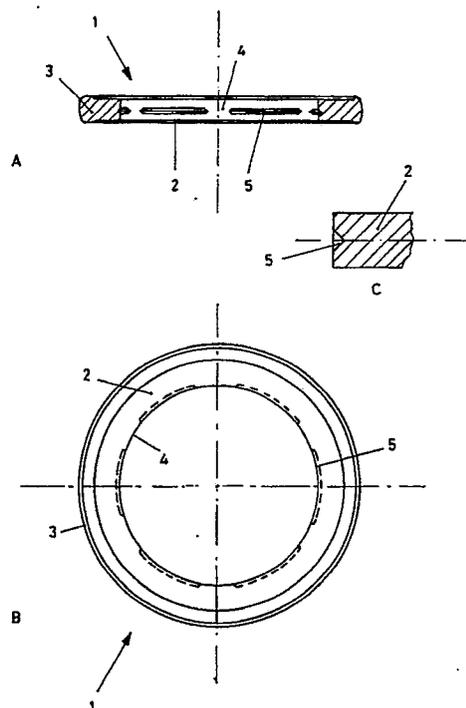
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MONETAZIONE E FONDERIA DI PRECISIONE**

(54) **Bimetallic coin blank, particularly for coins and the like.**

(57) A coin blank, particularly for minting of coins and the like, is formed by an external element (1) of metal or metal alloy having a central aperture, on the edge surface (4) of which are cut perimetrally a series of spaced grooves (5), and by an internal element (6), of metal or metal alloy different from the former, on the edge surface of which is formed a perimetral ridge (8,9), said external and internal elements being coupled inseparably during the minting operation through the plastic flow of the material from said perimetral ridge (8,9) into said grooves (5) in said external element (1) and through the firm fitting of the material from said ridge into the portions of the edge surface of said central aperture in said external element (6), provided between adjacent grooves (5).

FIG. 1



EP 0 415 892 A1

BIMETALLIC COIN BLANK, PARTICULARLY FOR COINS AND THE LIKE

The present invention refers to a coin blank, particularly for coins and the like, formed by one external and one internal part, each of a different metal or metal alloy, made integral one with the other.

At present, various combinations of bimetallic coin blanks of the above kind are known in the art, used for minting of coins, medals, tokens and the like, which however do not provide sufficient reliability with regard to coupling of the respective internal and external parts.

Therefore, an object of the present invention is to provide a bimetallic coin blank, particularly for coins and the like, comprising an external element having a central aperture and an internal element of a shape complementary to the central aperture of said external element, said elements being coupled together by means of a system capable of ensuring a considerable degree of attachment.

The present invention will be illustrated in greater detail hereinbelow with reference to a preferred embodiment thereof, given merely as an example and not limitative, with reference to the attached drawings, in which:

figures 1A, B are respectively a cross-section and plan view of the external element of the proposed bimetallic coin blank, and figure 1C is an enlarged scale, crosssection view, of a detail of the same;

figures 2A, B are respectively a cross-section and plan view of the internal element of the proposed bimetallic coin blank, and figure 2C is an enlarged scale, crosssection view of a detail of the same;

figure 3 is a cross-section view of the external element of figure 1 and the internal element of figure 2 of the proposed bimetallic coin blank positioned in a schematically shown coin press;

and figure 4 is a cross-section view of the proposed bimetallic coin blank after the forced coupling of the external and internal elements of figures 1 and 2, respectively, following the coining operation using the coin press in figure 3.

In figure 1, the external element of the bimetallic coin blank of the present invention, which is used for minting of coins in the present embodiment, is generically referred to in 1.

The external element comprises a circular annular body 2 of metal or metal alloy with a thickened external perimetral edge 3 and an internal perimetral edge 4 delimiting a central circular aperture.

According to the present invention, within the thickness of the internal perimetral edge 4 of the annular body 2 are formed a series of circumferen-

tially equidistant grooves 5, of predetermined shape and number, as needed.

In figure 2, the internal element, generally referred to in 6, of the bimetallic coin blank according to the invention, is shown in the above mentioned drawings, said element comprising a circular body 7 of metal or metal alloy different from that used for the external element 1, having a thickened external perimetral edge 8 and a circumferential ridge 9, the diameter of the circular body 7 being substantially equal to the diameter of the central aperture of the circular annular body 2.

In order to form the coin blank of the present invention in an integral manner, the external element 1 and the internal element 6 are positioned in a conventional coin press, as illustrated schematically in figure 3, where they undergo the minting operation which joins them inseparably. In fact, during the above mentioned operation, the strong pressure exerted by the minting cones on the two faces of the coin blank causes said elements to undergo a squashing action during which, as can be seen in figure 4, the internal circular body 7 expands to a greater extent than the external annular body 2, held in the ferrule of the press, so that the material from the portions of the ridge 9 which are in correspondence with the grooves 5 in the internal perimetral edge 4 of the annular body 2 fill the latter by plastic flow, while the material from the remaining portions of the ridge 9 is firmly fitted into the respective portions of the internal perimetral edge 4 of the annular body 2 comprised between adjacent grooves 5, thus causing a strong attachment of the external element 1 and the internal element 6.

Therefore, the resulting forced coupling is such that it leaves no degree of freedom for reciprocal movement to the elements forming the bimetallic coin blank of the invention, either in an axial or in a rotational direction.

Although in the example of the embodiment described above the use of the bimetallic coin blank according to the present invention refers to the minting of metal coins in which both the internal and the external element are of circular shape, the invention may be used for other similar applications, for example the production of medals and the like, comprising the modification of the shape of one or both the components, obviously as long as the external contour of the internal element corresponds to the contour of the internal aperture of the external element.

Therefore the present invention is not limited to the embodiment of the example described but comprises any variation of execution thereof.

Claims

1. Bimetallic coin blank, particularly for coins and the like, comprising an external element having a central aperture, made of a first metal or metal alloy, and an internal element, made of a second metal or metal alloy different from the first, the contour of which is the same as the contour of the said central aperture of said external element, said bimetallic coin blank being characterized by the fact that on the thickened edge surrounding said central aperture in said external element there are cut a series of perimetally spaced grooves to allow the plastic material of said internal element to flow into them following a compression operation on said coupled external and internal elements.
2. Bimetallic coin blank according to claim 1, characterized by the fact that on the surface of the edge of said internal element there is furthermore formed a perimetral ridge so that following said compression operation on said coupled internal and external elements, the material from the portions of said ridge which are in correspondence with those of said grooves flows plastically into the latter, while the material from the remaining portions of said ridge is firmly fitted into the respective portions provided between adjacent grooves.
3. Bimetallic coin blank according to claim 1 and 2, in which said external element and said internal element each have respective thickened external perimetral edges.
4. Bimetallic coin blank according to claims 1 and 3, in which said compression operation on said coupled internal and external elements is performed during the minting of said bimetallic coin blank in a coin press.

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FIG. 1

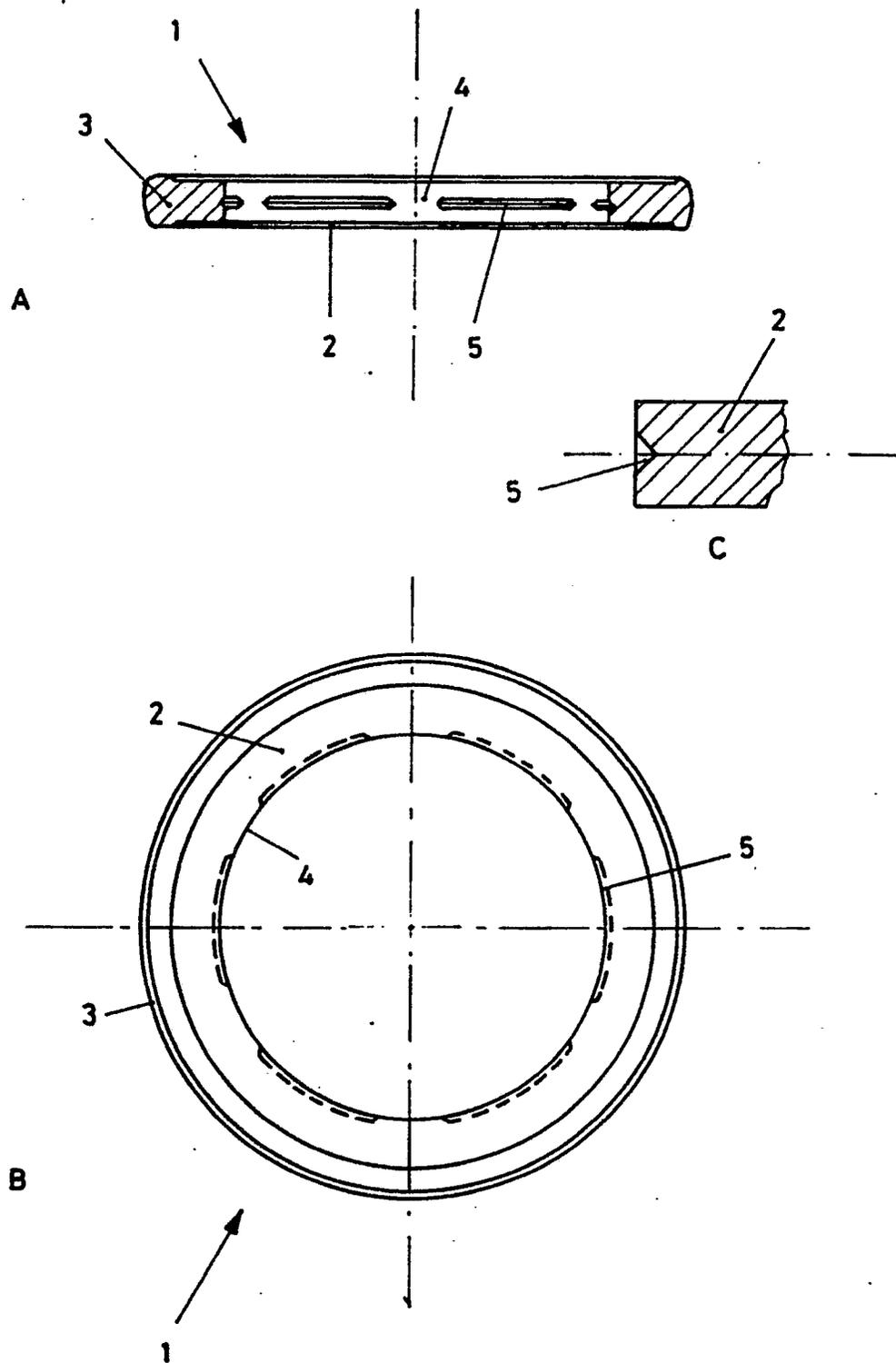


FIG. 2

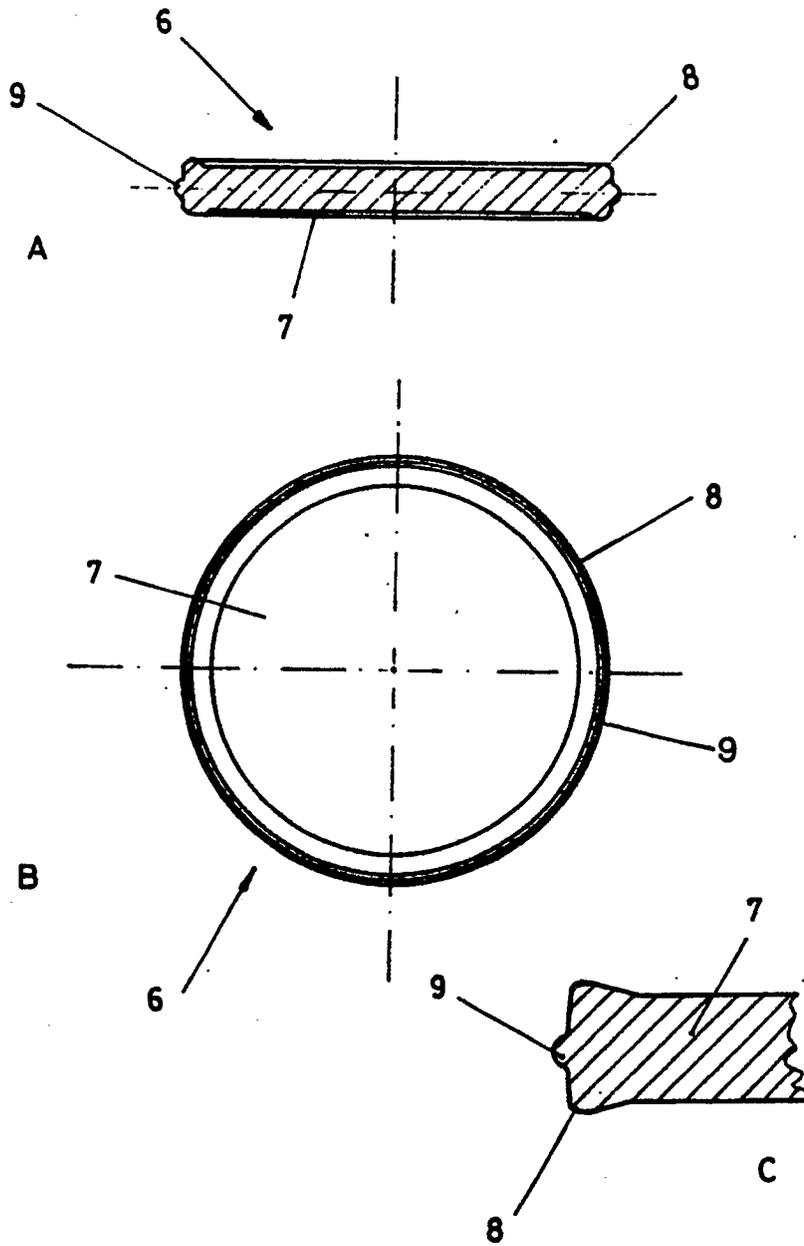


FIG. 3

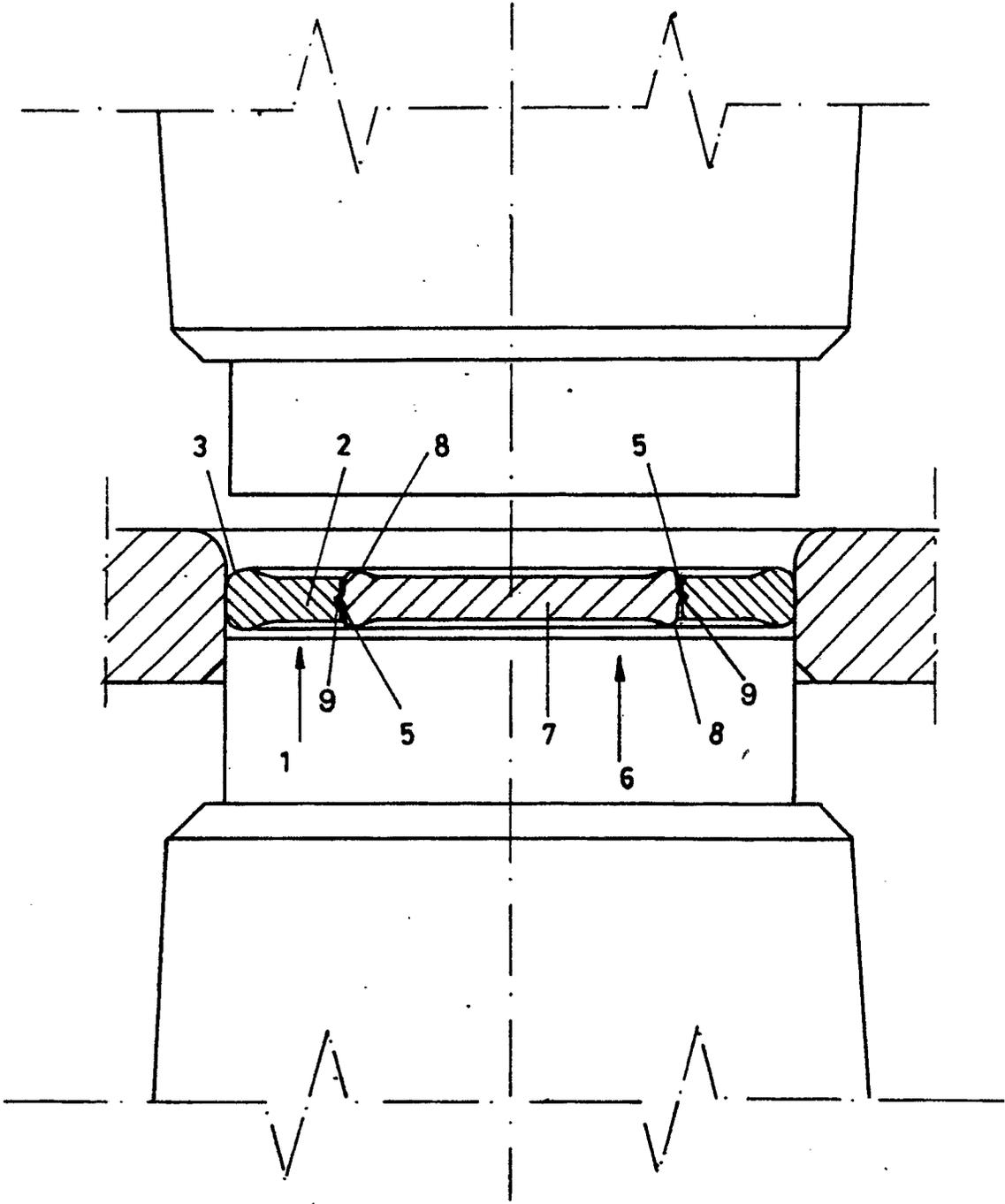
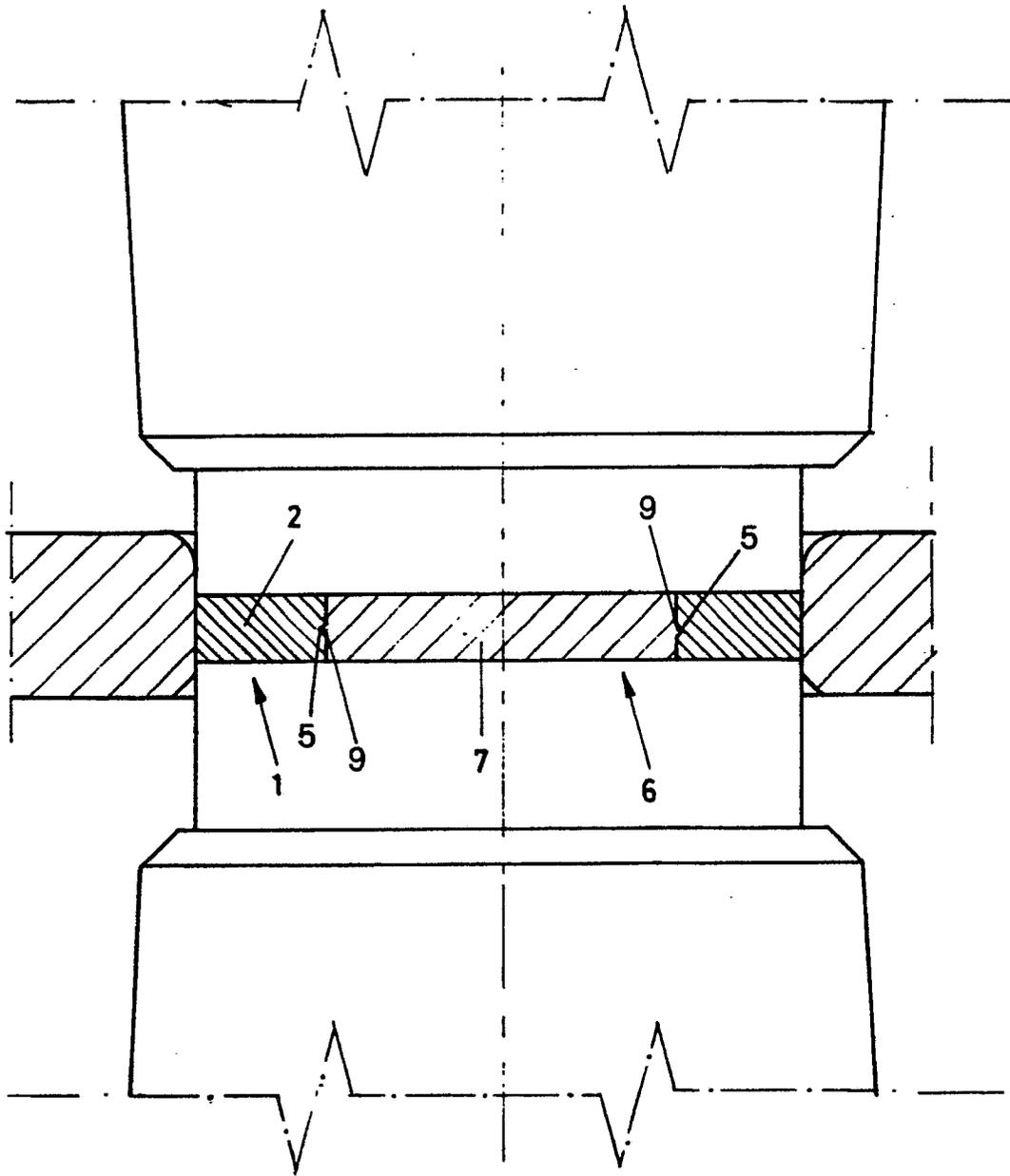


FIG. 4





**EUROPEAN SEARCH
REPORT**

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.5)
X	EP-A-0 080 437 (INSTITUTO POLIGRAFICO E ZECCA DELLO STATO) * page 4, line 19 - page 6, line 2 ** figures 1-5 *	1-4	A 44 C 21/00 B 44 B 5/00 B 21 K 25/00
Y	EP-A-0 312 436 (ADMINISTRATION DES MONNAIES ET MEDAILLES) * the whole document *	1-4	
Y	THE OFFICIAL GAZETTE OF THE UNITED STATES PATENT OFFICE, Vol. 88, No. 11, September 1899 Washington USA, page 1994 * page 1994, the section concerning US patent US-A-632938 (G.G. GREENBURG) *	1-4	
A	GB-A-4 138 29 (THE RENOLD & COVENTRY CHAIN COMPANY LIMITED ET AL.)		
A	GB-A-2 975 70 (HANS RENOLD LIMITED ET AL.)		
A	US-A-3 832 747 (E.R. NANKIVELL ET AL.)		
A	US-A-3 718 957 (W.C. SHANK)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 44 B B 21 K
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 06 December 90	Examiner MOET H.J.K.
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	