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(54) **Ladder**

(57) A ladder capable of preventing an accident from being caused due to the weakened combining force between beams and hinges while a user uses the ladder to perform work, and capable of preventing the beams and the steps from being released from each other. The ladder includes two pairs of beams (1,1' and 2,2') engaged with each other by hinge means (H,H') , and a plurality of steps(S) disposed between the beams (1,1',2,2') at the same distance interval. Both ends of the steps(S) are inserted into holes (100) which are formed at one side surfaces of the beams (1,1',2,2') and have the same cross sectional shape with that of the steps(S) and a predetermined size adapted to receive the ends of the steps (1,1',2,2'). Both ends of the steps(S) are enlarged due to the striking force applied by a punch (102) and are engaged with the beams (1,1',2,2') under the state that rounded ends of the steps(S) are formed from the outer side surfaces of the beams (1,1',2,2') to inner side surfaces of the beams (1,1',2,2') due to the striking force applied by the punch (102) and the rounded ends are brought into contact with the ends of the steps(S).

FIG. 1

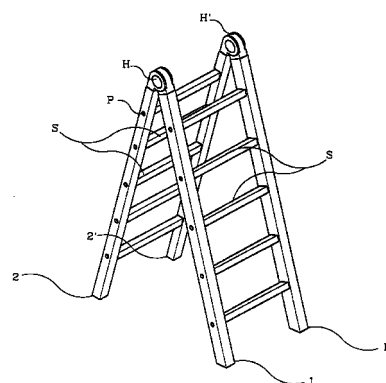
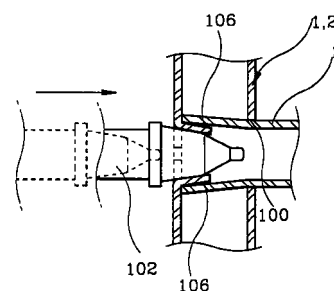


FIG. 10



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EUROPEAN SEARCH REPORT

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24 March 2000	Examiner Righetti, R
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
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