PATENT SPECIFICATION (11) 1 584 975

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(21) Application No. 33510/77 (22) Filed 10 Aug. 1977 (19)

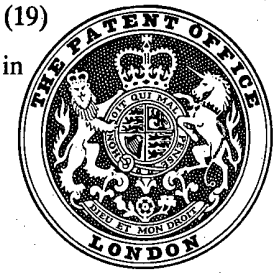
(31) Convention Application No. 7626280U (32) Filed 21 Aug. 1976 in

(33) Fed. Rep. of Germany (DE)

(44) Complete Specification Published 18 Feb. 1981

(51) INT. CL.[3] A63H 33/00 33/08

(52) Index at Acceptance
A6S 6A4 6C1A 6C1B 6D 6X



(54) IMPROVEMENTS IN OR RELATING TO TOY CONSTRUCTION KITS

(71) I, ARTUR FISCHER, a German citizen of Weinhalde 34, D-7244 Waldachtal 3, (Tumlingen), Germany, do hereby declare

the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statements:-

This invention relates to a toy construction kit.

The present invention provides a toy construction kit comprising a shaft one end portion of which is in the form of a crank handle, and the other end portion of which is provided with a single projection extending transversely relative to the exis of the shaft, a rod or strip provided with an opening for allowing passage of the said other end portion of the shaft, the opening having a portion which is matched to the cross-section of the shaft and a portion which is matched to the cross-section of the projection, and a block having an undercut slot or groove in one of its faces for allowing passage of the said other end portion of the shaft, the slot or groove, in cross-section, matching the cross-section of the shaft, and the width of the slot or groove at the said face being equal to, or greater than the width of the projection.

Because only a single projection is provided on the shaft, the shaft can be pushed not only through the opening in the rod or strip but also through the undercut groove or slot of the building block. After insertion, the shaft need be twisted only slightly for the projection to engage behind the building block or the strip or rod and thereby ensure axial fixing of the shaft.

To guard against roll-back, if the shaft is used as part of a winch or hoist the projection on the shaft can be withdrawn into that portion of the opening in the rod or strip which is matched to it, or into the undercut groove or slot of the building block.

A toy construction kit constructed in accordance with the invention will now be described, by way of example only, with reference to the accompanying drawing, the single figure of which shows a shaft in respective view, the shaft being mounted on a building block and being arranged to be inserted into a strip or rod.

Referring to the accompanying drawing, the shaft 2 has a crank handle 1 at one end and a radially projecting stop 3 at the other end. The shaft is made from injection moulded plastics material, the stop 3 and the crank handle 1 being integrally formed with the shaft 2.

As shown in the drawing, the shaft is mounted in an undercut groove or slot 4 in a building block 5. The shaft 2 is mounted by inserting the end of the shaft 2 formed with the projection 3 into one end of the undercut groove or slot 4 and then sliding the shaft along groove or the slot until it reaches the position shown in the drawing. To enable this sliding movement to take place the cross-section of the undercut groove or slot 4 matches the circular cross-section of the shaft 2, and the width of the groove or slot at the face in which it is formed is equal to or greater than the width of the stop 3 to allow its passage through the groove or slot 4.

To produce a crank drive the shaft 2 is also pushed through an opening 6 in a rod or strip 7. As shown in the drawing the opening 6 has a central portion which matches the cross-section of the shaft 2 and two diametrically opposite portions 8 which match the cross-section of the stop 3. This allows the shaft to be pushed through the opening with the stop either passing through the upper or the lower portion 8 of the opening 6. Once the stop 3 has passed through the opening 6, a slight twist or turn of the handle 1 will cause the stop to register with the rear face of the rod or strip 7 so that the shaft 2 is effectively axially fixed in position.

As shown in the drawing, the shaft 2 is

provided with holes 9 which can be used to secure a rope or chain enabling the shaft 2 to be used as part of a winch or hoist. When the shaft 2 is used as a winch or hoist, then to guard against the shaft 2 rolling back from a predetermined set position the shaft 2 can be withdrawn partially through the slot 6 so that the stop 3 engages with one or other of the portions 8. In this way rotational movement of the shaft is prevented. In the same way, if the end of the shaft 2 formed with the stop 3 is mounted in a block such as the block 5, then the stop 3 can be withdrawn into the undercut slot or groove 4 of the block which will again prevent rotation of the shaft.

WHAT I CLAIM IS:-

1. A toy construction kit comprising a shaft one end portion of which is in the form of a crank handle, and the other end portion of which is provided with a single projection extending transversely relative to the axis of the shaft, a rod or strip provided with an opening for allowing passage of the said other end portion of the shaft, the opening having a portion which is matched to the cross-section of the projection, and a block having an undercut slot or groove in one of its faces for allowing passage of the said other end portion of the shaft, the slot or groove, in cross-section, matching the cross-section of the shaft, and the width of the slot or groove at the said face being equal to, or greater than the width of the projection.

2. A kit as claimed in claim 1, in which the shaft is made from injection moulded plastics material, the projection being integrally formed with the shaft.

3. A kit as claimed in claim 1 or claim 2, in which the opening in the rod or strip has another portion which is matched to the cross-section of the porjection and which is arranged diametrically opposite to the first-mentioned portion which is matched to the cross-section of the projection.

4. A toy construction kit substantially as hereinbefore described with reference to and as illustrated by the accompanying drawing.

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Printed for Her Majesty's Stationery Office,
by Croydon Printing Company Limited, Croydon, Surrey, 1981.
Published by The Patent Office, 25 Southampton Buildings,
London, WC2A 1AY, from which copies may be obtained.

1584975 COMPLETE SPECIFICATION

1 SHEET *This drawing is a reproduction of the Original on a reduced scale*