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(54) **Children's slide**

Kinderrutsche

Toboggan pour enfant

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(56) References cited:  
**EP-A- 0 604 351 WO-A-96/05899**  
**DE-A- 2 015 649 US-A- 5 453 055**

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## Description

### OBJECT

[0001] The present invention relates to a children's slide which, in addition to the function for which it was designed, affords a number of advantages discussed hereinafter, and others that are inherent in its organisation and construction.

### BACKGROUND OF THE INVENTION

[0002] The installation of structures of various kinds for children to play is a well-known practice in green areas, one of the most usual being slides that allow children to slide to the ground from a raised point. Presently known slides consist of a structure fixed to ground and made of various components rigidly-connected to one another by means of linking means such as bolts, nails, welding and the like, forming an assembly destined to remain where it is installed for an unlimited time that may not be taken apart or carried elsewhere, other than by skilled staff equipped with suitable tools therefor.

[0003] Structures of this kind, very suitable for parks or public playgrounds, are not adequate to be installed in the gardens of private houses because of the cost and complexity their installation entails, and furthermore the inconvenience derived from taking the installation apart whenever the entire surface of the garden needs to be disposed of for whatever reason.

[0004] EP-A-0 604 351 relates to a structure for children's games, as a novel feature, the special shape of its constituent parts, which comprise modular parts of a hard moulded material, preferably plastic, provided with means, obtained at the moulding stage proper, with which such parts may be interconnected, by fitting, slipping and/or socketing. These means are therefore the only link connecting said modular parts, allowing a three-dimensional structure to be mounted simply and without screws, its size being suitable and sufficient to enable children to be housed therein and/or supported thereby when playing.

[0005] The said links connecting the modular parts allow the structures to be made to be mounted and dismounted following a simple method that can be easily carried out by an adult. The structure obtained can be extended by means of additional modules or associated with other structures so as to obtain a complex which improves playing conditions, all in accordance with the surface available for the support, which surface must be flat.

[0006] The basic modular parts comprising the said EP-A-0 604 351 consist of substantially flattened rectangular shaped bodies made of a moulded material, their working position being vertically upright, and having short extensions of the same material projecting from their sides, which are bent with respect to the main part at different angles, two by two, thereby for vertical

guides to be provided between such extensions for axially sliding edges having a round section existing in other panel-shaped parts. The result is an angular assembly between the upwardly rectangular parts, forming corners and chamfers, and the panel parts, forming a right angle therebetween, thereby to enable the formation of regular prismatic volumetric bodies, to which other auxiliary parts are affixed, making up slides, ladders, seats, seesaws and the like.

### SUMMARY OF THE INVENTION

[0007] A children's slide according to the present invention provides a simple and stable structure.

[0008] Broadly speaking, the subject structure consists of a plurality of parts made of a hard moulded material that includes interconnecting means obtained at the moulding stage proper, which means are used to mount the various components following a simple method that needs no tools nor any auxiliary linking elements to be used.

[0009] The main constituent parts of the structure subject of the invention are preferably nine, two of which are modular forming groups of two. Six of the parts, among these the modular parts aforesaid, form a sort of tower, consisting of two modular or twin sides, a top platform that is reached through a fourth part that provides cross members serving as staircase steps, and two modular parts forming safety handrails on either side of the platform.

[0010] The invention is characterised in that the children's slide consists of two hollow flattened modular parts having an isosceles trapezium contour, each joined at one side to a single rear part of equivalent contour taking up a central orthogonal position in relation to the flattened modular parts, the latter being held joined to the rear part through conjugated means provided therein. These means comprise radially slotted female holes and male spigots with diametrically opposed salients, combined with semispherical protuberances and cavities to such end, establishing a tie by the resilience of the material, providing a contingent link to form a truncated pyramid shaped tower. This tower is closed at the top by a horizontal part with a non-slip surface, the front side of the horizontal part communicating with the slide part, which consists of two sections, and the rear side of the horizontal part communicating with the rear part, which has oblong cut outs defining cross members serving as staircase steps.

[0011] Preferably the horizontal part has open slots on its front edge to house the edges of the longitudinal sides of the top section making up the slide part. The sections of the slide part have at their connecting area pairs of perforated tabs faced two by two, to establish two passages for the projecting ends of the base side of a trapezium shaped frame part. The opposite side of the frame part has similarly projecting ends with male spigots designed to be housed and tied in holes of the

modular parts.

[0012] The top ends of the longitudinal sides of the top section making up the slide part can have two recesses to house salients lying on the lower front edge of handrail parts which have on the lower rear edge further salients resembling the above, to be housed in elongated openings of the platform, both salients carrying hook-like claws to establish a snap fit due to the resilience of the material.

[0013] The body of the slide part thus consists of two sections assembled lengthwise, the top section being tied to the raised platform, together with the handrails, whereas the lower section is supported on the ground. Both sections are joined with the assistance of a frame-like part that has one of its cross members joined to the structure whereas the opposite cross member links said sections at an area lying at the midpoint of the slide.

[0014] As explained above, the parts are made of plastic material, which is lightweight in order for handling to be easy, has no sharp corners and rounded vertices. When taken apart, the parts may all be kept in a small space, thereby making storage easier and reducing sending costs.

[0015] The improved structure of the present invention provides the advantages described above as well as others that will follow easily from the embodiment described hereinafter in detail for an easy understanding of the features set out above, contemporaneously giving a number of details and attaching to the present specification, to such end, some drawings showing a practical example of the object of the present invention that is meant to illustrate and not to limit its scope.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0016] In the drawings:

[0017] Figure 1 shows the various parts altogether making up the structure, seen separately and in projection.

[0018] Figures 2 to 7 illustrate the successive mounting stages of the parts leading to children's slide being formed altogether.

## DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

[0019] With reference to the drawings, the structure to mount a children's slide consists of a plurality of parts including means for their contingent connection, of which the parts with reference numbers -1- and -2- make up a sort of truncated pyramid shaped tower when assembled. Two of part number -2- are provided in order to form the two sides of said tower, whereas part -1- takes up a position adjacent to said parts. Parts -2- have openings -3- and -4- to alleviate their weight, save material and provide windows enabling the inside of the tower to be seen. The longitudinal sides of said parts -2- have holes -5- that are slotted outwardly and diametri-

cally and provide female openings for male spigots -6- lying on the sides of part -1-, which include diametrically opposed expansions, shaped as the slots aforesaid, in order to allow their passage therethrough and on being turned over a certain angle to establish a tie linking part -1- to parts of type -2-, cooperating with semi-spherical spigots -7- on part -1- that are housed in purposely provided cavities -8- on the sides of parts -2-. Such parts -2- have quarter-spherical shaped elements -9- on their outer bottom portion, establishing stands on the ground.

[0020] The upper side of parts -2- is centrally provided with spigots of type -6- designed to be inserted through holes of type -5- existing in an oblong rectangular part -10- constituting the top base of the truncated pyramid shape tower, and serving as the raised platform where a child will be situated before travelling down the slide.

[0021] The part -10- aforesaid comprises an elevated area -11- defining a non-slip plane with quincunx-shaped reliefs. Elongated openings -12- are provided on either side of said elevated area for two modular parts -13- forming two handrails to be attached. The attachments consist of salients -14- having on their sides hook-like claws yielding resiliently as they pressed through the openings -12- and making up the connection between parts upon expanding.

[0022] Certain holes -5a- in parts -2- receive male spigots -6a- lying axially to the cross sector of a trapezium frame -15-, the opposite sector of which houses its ends -16- in perforated tabs -17- and -18-, respectively found in sections -19- and -20- integrating the slide proper, which it connects without any apparent discontinuity, forming a uniform undulated plane for the child to slide down. The lower section -19- is supported directly on the ground, whereas the top section -20- houses its edges -21- in open slots -22- of the front edge of the platform -10-.

[0023] The top ends of the sides of section -20- of the slide are provided with recesses -23- housing the lower front edges -24- of the handrail parts -13-, limited by incises -31-, its edges -24- being laterally provided with hook-like claws to establish a rigid connection on the slotted bottom of said recesses -23- that hold such handrails -13- in a functional position, combined with the fitting aforesaid, which consists of salients -14- and openings -12-.

[0024] Part -1- has hollow areas -25- defining horizontal sectors -26- serving as staircase steps allowing a child to reach the platform -10-.

[0025] The platform -10- has a hole -27- to support a mast consisting of two sections -28- and -29- that may be axially telescoped in order to support a banner -30-.

## Claims

1. A children's slide consisting of a plurality of parts made of a moulded material, with blunt edges and being lightweight, including means for the contin-

gent connection of such parts, comprising flattened modular parts (2) to form a prismatic precinct open at the bottom thereof, a horizontal part (10) making up a platform, attached on the modular parts (2), and an elongate slide part (19/20), forming a track for a child to slide along, attached on the modular parts (2), characterised by consisting of two said hollow flattened modular parts (2) having an isosceles trapezium contour, each joined at one side to a single rear part (1) of equivalent contour taking up a central orthogonal position in relation to the flattened modular parts (2), the latter being held joined to the rear part (1) through conjugated means provided therein and comprising radially slotted female holes (5) and male spigots (6) with diametrically opposed salients, combined with semispherical protuberances (7) and cavities (8) to such end, establishing a tie by the resilience of the material, providing a contingent link to form a truncated pyramid shaped tower, closed at the top by the horizontal part (10) with a non-slip surface (11), the front side of the horizontal part communicating with the slide part, which consists of a first section (19) and a second section (20), and the rear side of the horizontal part communicating with the rear part (1), which has oblong cut outs (25) defining cross members (26) serving as staircase steps.

2. A slide as in claim 1, characterised in that the horizontal part (10) has open slots (22) on its front edge to house the edges (21) of the longitudinal sides of the top section (20) making up the slide part, both of its sections having at their connecting area pairs of perforated tabs (17) and (18) faced two by two, to establish two passages for the projecting ends (16) of the base side of a trapezium shaped frame part (15), whose opposite side has similarly projecting ends with male spigots (6a) designed to be housed and tied in holes (5a) of the modular parts (2).
3. A slide as in claim 1 or 2, characterised in that the top ends of the longitudinal sides of section (20) making up the slide part has two recesses (23) to house salients (24) lying on the lower front edge of handrail parts (13) which have on the lower rear edge further salients (14) resembling the above, to be housed in elongated openings (12) of the platform (10), both salients carrying hook-like claws to establish a snap fit due to the resilience of the material.

#### Patentansprüche

1. Kinderrutsche, bestehend aus einer Vielzahl von Teilen aus Formmaterial, mit stumpfen Kanten und von leichtem Gewicht, einschließlic Mitteln zur

kontingenten Verbindung solcher Teile, umfassend flache modulare Teile (2) zur Formung einer prismatischen Fläche, die unten geöffnet ist, einen horizontalen Teil (10), der eine Plattform bildet, verbunden mit den modularen Teilen (2), und einen verlängerten Rutschenteil (19, 20), der eine Bahn bildet, auf der ein Kind entlang rutschen kann, verbunden mit den modularen Teilen (2), dadurch gekennzeichnet, daß sie aus zwei besagten hohlen, abgeflachten modularen Teilen (2) mit gleichschenkliger Trapez-Form besteht, von denen jedes an einer Seite mit einem einzigen Rückteil (1) von gleicher Form verbunden ist, welches sich in einer zentralen orthogonalen Position in Bezug auf die abgeflachten modularen Teile (2) befindet, wobei letztere an dem Rückteil (1) durch ergänzende Mittel fest gehalten werden, die darin bereitgestellt werden, und die strahlenförmig geschlitzte Löcher (5) und hervorstehende Zapfen (6) mit genau gegenüberliegenden Ausbuchtungen umfassen, kombiniert mit halbkugelförmigen Ausstülpungen (7) und passenden Aushöhlungen (8), die durch die Rückprallelastizität des Materials ein Bindeglied herstellen, und eine kontingente Verbindung bereitstellen, um einen Turm in Form einer abgeschnittenen Pyramide zu bilden, die oben durch den horizontalen Teil (10) mit rutschfester Oberfläche (11) verschlossen wird, wobei die Vorderseite des horizontalen Teils mit dem Rutschenteil in Verbindung steht, welches aus einem ersten Teilstück (19) und einem zweiten Teilstück (20) besteht, und das Rückteil (1), welches längliche Aussparungen (25) hat, die Querträger (26) darstellen, welche als Aufgangsstufen dienen.

2. Rutsche gemäß Anspruch 1, dadurch gekennzeichnet, daß der horizontale Teil (10) offene Schlitzze (22) an seiner Stirnkante hat, um die Kanten (21) der Längsseiten des oberen Teils aufzunehmen, die den Rutschenteil bilden, wobei beide Teilstücke in ihrem Verbindungsbereich Paare von perforierten Anhängseln (17) und (18) besitzen, die sich zwei zu zwei gegenüberliegen, um zwei Durchgänge für die überstehenden Enden (16) der Unterseite des trapezförmigen Rahmentails (15) zu bilden, dessen gegenüberliegende Seite ähnliche überstehende Enden mit hervorstehenden Zapfen (6a) besitzen, die in den Löchern (5a) der modularen Teile (2) aufgenommen und befestigt werden sollen.
3. Rutsche gemäß Anspruch 1 oder 2, dadurch gekennzeichnet, daß die oberen Enden der Längsseiten des Teilstücks (20), das den Rutschenteil bildet, Aussparungen (23) aufweisen, um die Ausbuchtungen (24) aufzunehmen, welche an der unteren Stirnkante der Handgriffteile (13) liegen, die an der unteren Rückkante weitere Ausbuchtungen (14) aufweisen, welche den oberen ähneln, und in läng-

lichen Öffnungen (12) der Plattform (10) aufgenommen werden, wobei beide Ausbuchtungen hakenartige Klauen tragen, um aufgrund der Elastizität des Materials in einen festen Sitz einzurasten.

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## Revendications

1. Toboggan pour enfants comprenant une pluralité d'éléments en matériau moulé, avec bords arrondis et légers, comprenant des moyens pour l'assemblage en contact de tels éléments, comprenant des éléments modulaires aplatis (2) pour former une enceinte prismatique ouverte à sa base, un élément horizontal (10) formant une plate-forme, fixé sur les éléments modulaires (2), et un élément à glissière allongé (19/20), formant une piste pour qu'un enfant puisse glisser, fixé aux éléments modulaires (2), caractérisé par lesdits deux éléments modulaires plans creux (2) ayant un contour en forme de trapèze isocèle, chacun étant rattaché d'un côté à un élément arrière unique (1) de contour identique prenant une position orthogonale centrale par rapport aux éléments modulaire plans (2), ces derniers étant maintenus fixés à l'élément arrière (1) par des moyens conjugués prévus dedans et comprenant des trous à fente radiale (5) et des goujons mâles (6) avec des saillies diamétralement opposées, combinés avec des protubérances hémisphériques (7) et des cavités (8), établissant une liaison par l'élasticité du matériau, fournissant un lien en contact pour former une tour en forme de pyramide tronquée, fermée au sommet par l'élément horizontal (10) avec une surface antidérapante (11), le côté avant de l'élément horizontal communiquant avec l'élément à glissière, qui est constitué d'une première section (19) et d'une deuxième section (20), et le côté arrière de l'élément horizontal communiquant avec l'élément arrière (1), qui a des découpes oblongues (25) définissant des traverses (26) servant de marches d'escalier.
2. Toboggan selon la revendication 1, caractérisé en ce que l'élément horizontal (10) a des fentes ouvertes (22) sur son bord avant pour loger les bords (21) des côtés longitudinaux de la section supérieure (20) formant l'élément à glissière, deux de ses sections ayant à leur surface de liaison des paires de pattes perforées (17) et (18) se faisant face deux à deux, pour établir deux passages pour les extrémités en saillie (16) du côté base d'un élément de cadre en forme de trapèze (15), dont le côté opposé a des extrémités en saillie similaires avec des goujons mâles (6a) conçus pour être logés et fixés dans les trous (5a) des éléments modulaires (2).
3. Toboggan selon la revendication 1 ou 2, caractérisé en ce que les extrémités supérieures des côtés lon-

gitudinaux de la section (20) formant l'élément à glissière ont deux évidements (23) pour loger des saillies (24) se trouvant sur le bord inférieur avant des éléments de main courante (13) qui ont sur le bord inférieur arrière d'autres saillies (14) ressemblant aux précédentes, à introduire dans des ouvertures allongées (12) de la plate-forme (10), les deux saillies portant des mâchoires en forme de crochet pour établir un assemblage par encliquetage grâce à l'élasticité du matériau.

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FIG.1

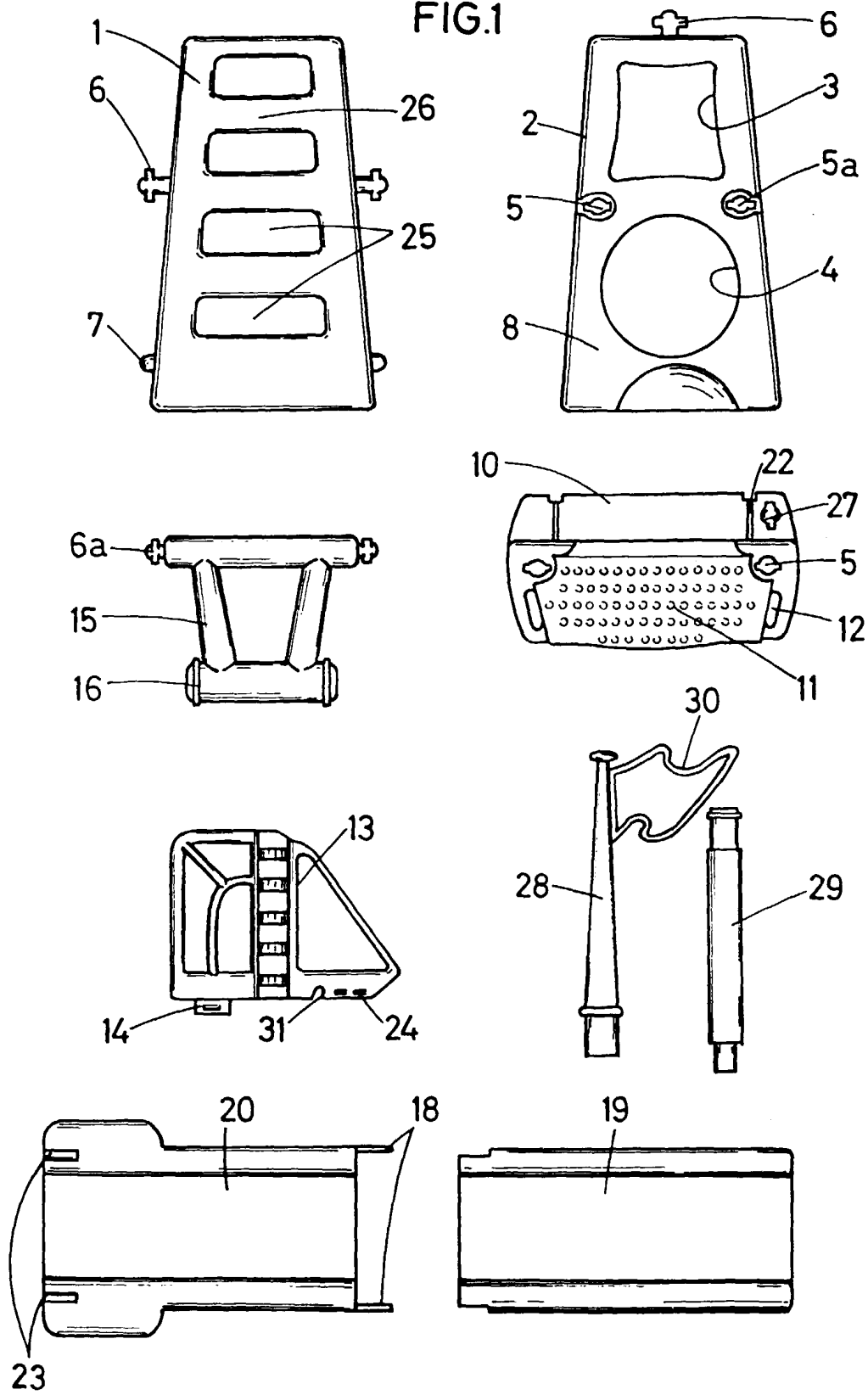


FIG.2

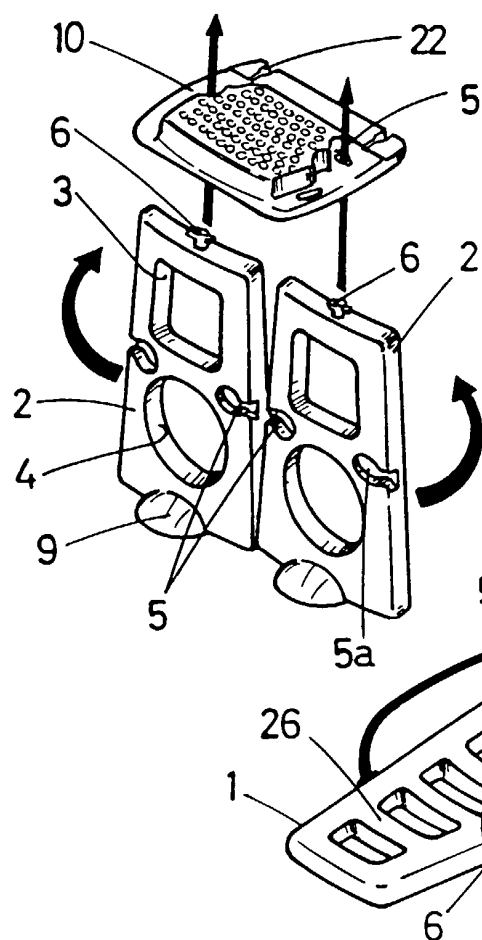


FIG.3

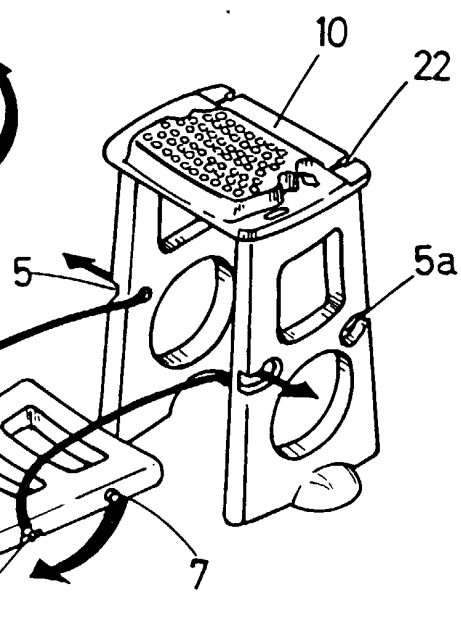


FIG. 4

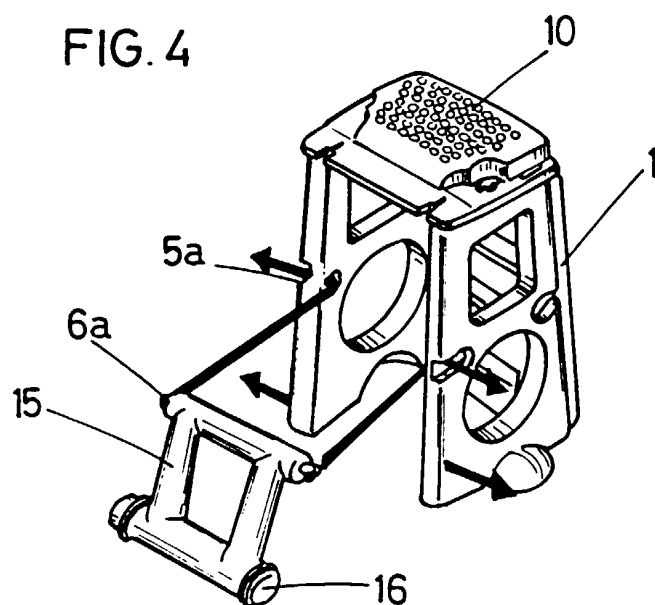


FIG.5

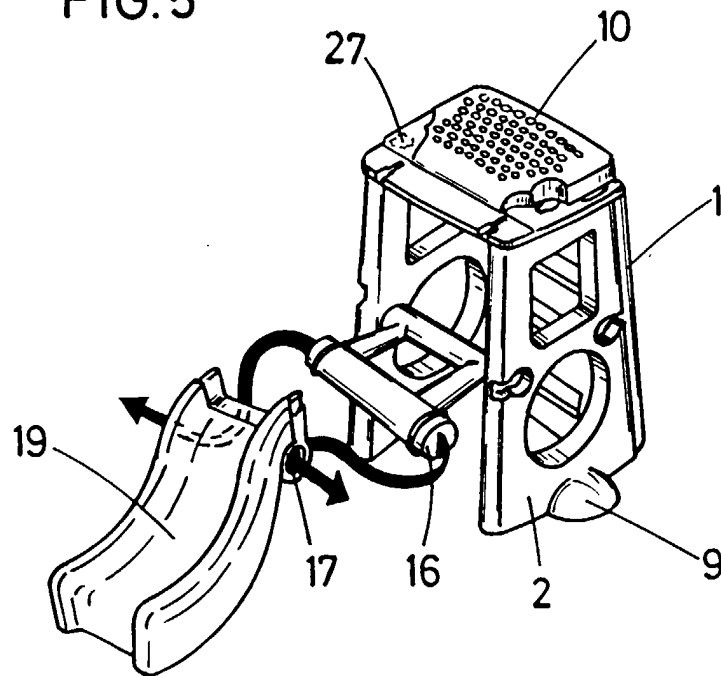


FIG.6

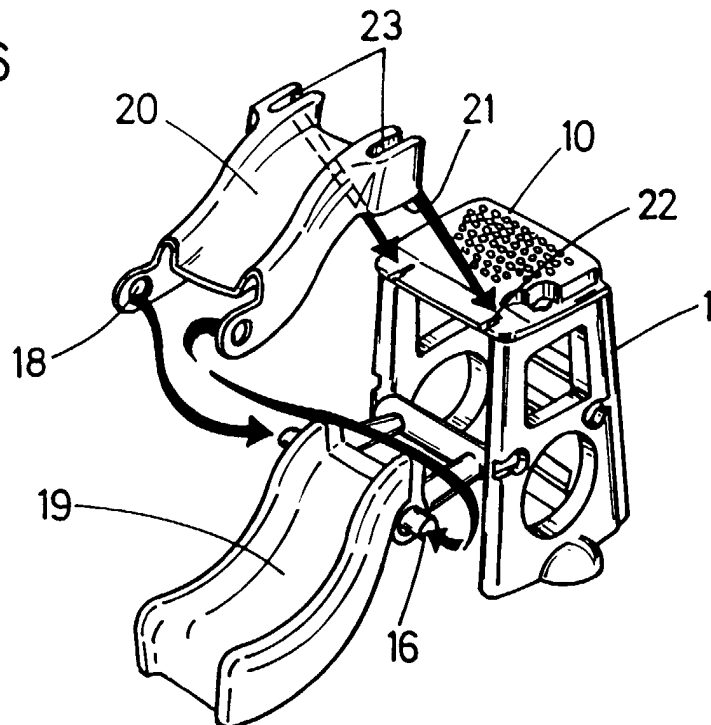




FIG. 7

