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(54) **Device and method for depositing liquid on an object**

Vorrichtung und Verfahren zum Auftragen von Flüssigkeit auf einem Objekt

Dispositif et procédé pour déposer un liquide sur un objet

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Description

Technical Field

[0001] This disclosure relates generally to a device for depositing liquid onto an object, for example made of liquid-reactive substances, and to sets, game and uses comprising such devices.

Background

[0002] Toys which simulate weapons, or which can be used to simulate combat with such weapons, are perennially popular. Such toys can be made from wood or plastic and have no moving parts. Other such toys can be complicated devices which produce sounds or light which indicate when the weapon has struck an opponent, or when a projectile has struck an opponent. However, toy weapons which shoot a projectile can be dangerous, and many jurisdictions have passed laws or regulations restricting the sale of projectile-firing toys for use by young children. Even the sale of toys which shoot a soft (e.g. foam or sponge) projectile, or which shoot streams or droplets of water, can be restricted.

[0003] The increasing popularity of "sword and sorcery" or "fantasy" stories in movies, books and television has caused an increased consumer demand for toys which simulate archaic weapons, or for action figure-type toys which employ such archaic weapons. For example, toys which simulate striking weapons, such as swords, are becoming prevalent. Like toys which fire projectiles, toys simulating or employing archaic weapons can be dangerous, especially if they are solidly designed and are used by young children who may strike a playmate too hard during play.

[0004] Nevertheless, those playing with simulated weapons or with action figures simulating combat desire confirmation that the opponent or target has been struck by the weapon. Evidence that the weapon has struck its target can forestall confusion uncertainty or disputes which can arise during game play.

[0005] The document US2729024 discloses a mitten-shaped hollow toy figure made from yieldable material and adapted to fit over the hand of a person. This toy figure comprises a head and arm in which finger stalls and punching forward portions are provided. The stalls comprise closed end wall portion, in which are removably inserted rubber pads to adapt the toy figure readily to the length of the finger of the hand of the operator. The punching forward portions are embedded with a bag-shaped rubber reservoir having a capillary opening. The rubber bag may be filled with a coloring or like inking matter of the effaceable type. When the fingers of the operator are engaged in their respective finger stalls, the tips of the fingers abut against their respective pads and thus are capable of pressing by means of the latter against the coloring bags seated in said forward portions.

[0006] What is needed, therefore, are devices simu-

lating archaic weapons or combat which do not launch a projectile, and which comprises a means for indicating whether an individual or target has been struck by a projectile. Such a device would desirably be inexpensive to acquire and operate.

Summary

[0007] Such a problem is solved by a device according to claim 1. Liquid can be deposited on an object by this device which simulates a striking weapon. The object can comprise liquid reactive materials that indicate when the object has been struck.

[0008] The liquid reservoir can also comprise a liquid-absorbent material which is partially or substantially completely exposed. The device may be designed to be carried by a user or otherwise supported by a user's body, or may be part of toy robot or other type of action figure.

[0009] The device can be provided as part of a set or a game, comprising at least one device, and optionally instructions for use or rules for game play.

[0010] A method of playing a game is also provided, comprising the steps of providing at least two devices, or at least one device and a further item. However this method is outside the scope of the claims. The device or devices can be manipulated so that liquid is deposited from one device onto the other or onto the further item. The manipulation step can optionally be repeated until the game is concluded.

[0011] A method of marketing a device, set or game is also provided, comprising packaging a device, set or game is also provided, with at least one additional item. However this method is outside the scope of the claims.

Brief Description of the Drawings

[0012] For the purpose of illustrating my devices and methods, there are shown in the drawings forms which are exemplary; it being understood, that this disclosure is not limited to the precise arrangements and instrumentalities shown.

[0013] Fig. 1 is partial cut-away view of an exemplary device.

[0014] Fig. 2 is a partial cut-away view of an exemplary striking portion.

[0015] Fig. 3 is an exemplary set of devices.

[0016] Figs. 4A and 4B show partial cut-away views of a further exemplary striking portion, which, however, is outside the scope of the claims.

Detailed Description

[0017] It will be appreciated that the following description is exemplary and is not intended to define or limit my devices and methods, other than in the appended claims.

[0018] A device is provided that comprises a body which can support at least one liquid reservoir and at least one liquid drawing mechanism (sometimes called

herein a "drawing mechanism"). The body can be made in any suitable size and shape capable of supporting the liquid reservoir and drawing mechanism, for example in the shape of a striking weapon. The body can also comprise appendages or other attachments which may move independently of the body or other components of the device. For example, the body can comprise a figure holding a striking weapon.

[0019] Thus, the body can simulate any striking weapon from any culture or time period, for example a sword, knife, spear, javelin, mace, morningstar, axe, staff (rigid or sectioned), nunchaku, sai blades, hammer, club, lance, or the like. The striking weapon can also be an appendage, such as a hand, foot, elbow, knee, heel or any other body part. The body can also be fabricated in the shape of a stylized human being or animal, robot, military vehicle or aircraft, spacecraft, or in a fanciful shape, which holds and includes a striking weapon. The body can also be made in the likeness (including a caricature) of actual sports or military figures. The body can also comprise limbs or appendages, wheels, and the like which may move independently of the body or other toy components.

[0020] The body can further comprise one or more structures which allow the device to be free standing. As used herein, "free standing" means that the device can stand upright without support from an outside source, such as a user's hand. Thus, the body can comprise a base portion with extensions, flanges, feet, struts, or other supports that allow the device to remain upright when unsupported from any source independent of the device.

[0021] The body can be essentially flat, (*i.e.*, with minimal thickness), or it can be essentially three dimensional (3-D); *i.e.*, with substantial length and depth. For example, in 3-D form, the device can have the ability to stand upright. Alternatively, an essentially flat body can further comprise feet or other supports extending outward from the flat surface of the body to allow the body to stand upright. Thus, both the essentially flat and 3-D bodies can include at least one base member to allow the body to stand upright and to be substantially anchored for game play. The user can hold the toy during game play to provide further stability.

[0022] The device can comprise one or more colors, designs or indicia, for example for the purpose of decoration or to indicate different weapon types or styles or group affiliations. For example, such colors, designs or indicia can be those associated with actual countries, historical periods, armies, sports teams or sports or military figures.

[0023] The device can be any suitable size which allows a person to handle the device and actuate the drawing mechanism, as can be readily determined by one skilled in the art. For example, the device can be from about 10cm to about 1000cm (*e.g.*, about 50cm to about 700cm, about 150cm to about 400cm, or about 250cm) in length (*i.e.*, from left to right sides), from about 5cm to about 500cm (*e.g.*, about 50cm to about 250cm, or about

100cm to about 150cm) in height, and from about 5cm to about 25cm (*e.g.*, about 10cm to about 20cm, or about 15cm) in depth (*i.e.*, from front to back). Greater or lesser values are contemplated for the height, length and breadth of the device.

[0024] All or part of the device can be fabricated from any suitable material, such as heavy gauge paper or cardboard, woods, metals, plastics, rubbers or synthetic resins, as are known in the art, by standard techniques for producing devices simulating weapons and the like. It is understood that those portions of the device which contact liquid must be compatible with the liquid. For example, the device can be fabricated by injection molding or other suitable technique from commercially-available material such as thermo plastic polyurethane (TPU); ion-omer resin; ethylene vinyl acetate (EVA); thermo plastic styrenics (TPS); melt processible rubber (MPR); thermo plastic vulcanate (TPV); thermo plastic olefin (TPO); thermo plastic ester elastomer (TPEE); thermo plastic elastomer (TPE); thermoplastic rubber (TPR); polypropylene (PP), polyethylene terphthalate (PET), polyvinyl chloride (PVC), acrylonitrile-butadiene-styrene terpolymer (ABS); a polycarbonate and acrylonitrile-butadiene-styrene terpolymer blend (PC/ABS); flexible plastic such as polystyrene sheet or polymethylmethacrylate (PMMA, marketed as "PERSPEX" by ICI Acrylics, Inc.); other acrylics; metal (*e.g.*, stainless steel, aluminum, copper); wood; or any combination thereof. Other suitable materials and forming methods will be apparent to those skilled in the art.

[0025] The device may be supplied fully assembled or as a kit, wherein a user assembles the device by popping out prefabricated parts along lines of weakness from a flat piece of plastic, metal or any other suitable material, and then attaches the liquid reservoir and liquid drawing mechanism. Generally, the assembly of the device will not require the aid of tools and/or adhesives, and all the parts can be joined together by the snap-fit of the parts themselves.

[0026] The liquid reservoir can comprise any closed or open container suitable for holding liquid. For example, the liquid reservoir can comprise a thin-walled plastic container with a removable cap. In practice, the liquid reservoir can be refilled when the liquid has been depleted during play. Alternatively, the liquid reservoir may not include a removable cap or other means for refilling. The device or the liquid reservoir would then be discarded when the liquid in the reservoir is depleted, and the entire device, the portion of the device supporting the liquid reservoir, or the liquid reservoir replaced. It is contemplated that such a liquid reservoir can be disposable, or can be provided in a small, inexpensive disposable device. For example, a disposable or replaceable liquid reservoir can comprise "capsules" or other such containers which can be readily removed from the device when empty, and replaced. In one aspect, the liquid reservoir can be supported by the striking portion, and can be replaced by removing the empty reservoir from the striking portion

and inserting a full reservoir, or by replacing the entire striking portion with one containing a full reservoir.

[0027] The liquid reservoir can be constructed from any suitable material, such as the materials described above for the body, according to techniques within the skill in the art. The liquid reservoir can also be constructed to withstand internal and/or external pressure, for example if the air and liquid within the reservoir are slightly pressurized or squeezed. The liquid reservoir can be supported by the body. As used herein, "supported by the body" means that the liquid reservoir can be located on the outside of the body, inside the body, or can extend through the body. It is specifically contemplated that the liquid reservoir can be coextensive with the body; for example, the liquid reservoir can be formed by the body, and this configuration is included in the meaning of "supported by the body."

[0028] At least one liquid drawing mechanism is in fluid communication with one or more liquid reservoirs, for example through a tube or other suitable conduit. A drawing mechanism can be supported by the body. As used herein, "supported by the body" means that the drawing mechanism can be located on the outside of the body, inside the body, or can extend through the body. When located outside the body, the drawing mechanism can function independently of the body, and can comprise all the elements (in combination with a liquid reservoir) necessary to store and deliver liquid. Such independently functioning drawing mechanisms can be interchangeable from device to device. Alternatively, the drawing mechanism and the liquid reservoir can be located separately outside the body, and can be removed or interchanged with drawing mechanisms or liquid reservoirs on other devices. The drawing mechanism can also be located in the body, and the liquid reservoir can be separate; for example, when the device simulates a sword, the liquid reservoir can be carried on a belt or back-pack. The drawing mechanism draws liquid from the liquid reservoir and delivers the liquid away from the body and to at least one aperture on the device.

[0029] The drawing mechanism can comprise any suitable mechanism or apparatus for drawing a portion of liquid from the liquid reservoir and delivering that liquid to at least one aperture in the device. The liquid then exits the device, and can be deposited onto another device or a target during game play. For example, the drawing mechanism can comprise a simple manual or electric pump mechanism such as are commonly found in plastic squirt guns; see, e.g., US Pat. Nos. 6,892,902 and 5,373,975. The pump can force liquid directly through a conduit to aperture(s) in the device, for example by actuating a piston operably connected to series of valves which allow the liquid to be delivered through the drawing mechanism. Alternatively, the pump can pressurize the liquid reservoir such that the liquid travels through a conduit to aperture(s) in the device when a valve between the liquid reservoir and liquid projectile launching mechanism is released. The pump can also be configured to

draw liquid into the liquid reservoir to replenish the liquid supply therein.

[0030] The drawing mechanism can also comprise a bladder or other flexible-walled container. The bladder or other flexible-walled container can be filled to overcapacity to create internal pressure, such that liquid can be delivered through a conduit in operable connection with the drawing mechanism. The drawing mechanism comprising a bladder or other flexible-walled container (or that portion of the device supporting it) can also be squeezed to deliver the liquid. Where a drawing mechanism comprises a bladder or other flexible-walled container, the drawing mechanism and the liquid reservoir can be essentially coextensive. For example, the bladder or other flexible-walled container comprising the drawing mechanism can be the liquid reservoir. In one aspect, which is not in the scope of the claims, which is not claimed, a drawing mechanism/reservoir is contained within the striking portion, and is generally co-extensive with the striking portion. Such a drawing mechanism/reservoir can comprise a mechanism analogous to that used in fountain pens, as described in more detail below.

[0031] When actuated, the drawing mechanism delivers liquid through at least one conduit connected thereto. The conduit can be considered part of the drawing mechanism. The portion of the body supporting the conduit can extend away from the main part of the body, and may be constructed so that it can be aimed or moved independently of the body. In one aspect, the portion of the body supporting a conduit can comprise a sword, and the main part of the body can comprise a robot or other action figure (sometimes referred to herein as a "character"). The portion of the body supporting the conduit is sometimes referred to herein as the "striking portion." A device can have at least one striking portion; for example one, two, three, four, five or more striking portions. A striking portion further comprises at least one aperture to which the conduit(s) deliver liquid. Touching or pressing an object with the striking portion into which liquid has been drawn will deposit liquid onto that object.

[0032] A striking portion can be positioned anywhere on the body which allows liquid to be drawn from the liquid reservoir and delivered through one or more conduits to at least one aperture on the striking portion, when the drawing mechanism is actuated. As discussed above, the drawing mechanism can be manually or electronically actuated. The drawing mechanism can also be actuated by physical forces such as gravity, centrifugal force and capillary action. For example, liquid can be delivered by positioning the device such that liquid flows from the liquid reservoir to the aperture, or the device (or a portion thereof) can be spun, or moved rapidly so that liquid is forced from the reservoir outward to the aperture. Liquid can also be delivered by pressing the striking portion against an object and squeezing or otherwise dispensing the liquid from the striking portion.

[0033] The velocity of the liquid delivered to the aperture is not sufficient to expel the liquid outward from the

device as a projectile (such as a stream or water drop). Rather, the liquid delivered to the aperture will stay at or near the aperture, and can form one or more drops which will be transferred onto an object only by touching an object with the striking portion.

[0034] The liquid which can be used in the device can include any suitable liquid which is compatible with the device components, and which has a suitably low viscosity such that it can be drawn from the liquid reservoir by the drawing mechanism and delivered to an aperture. Suitable liquids include water, such as tap water, spring water, salt water, sugar water or mineral water; inks, such as "disappearing" and other non-permanent inks and permanent inks; dyes, for example washable or other non-permanent dyes and permanent dyes; fluorescent liquids; perfumes; juices; liquid candies and acidic or basic liquids. Generally, acidic or basic liquids comprise a weak acid or base, so as not to damage the device or device components and surrounding object, or injure a user.

[0035] An exemplary device is generally shown in Fig. 1. With reference to Figure 1, the exemplary device **100** comprises a body **110** (shown in partial cut-away view) supporting a liquid reservoir **115** containing liquid **120**. Liquid drawing mechanism **125** is located above liquid reservoir **115**, and further comprises conduit **130** for transporting liquid to striking portion **135**. Striking portion **135** supports conduit **140** which receives liquid from conduit **130** and delivers it to aperture **145**. As an alternative to drawing mechanism **125**, the drawing mechanism can comprise a flexible portion **145** of body **110** which can be squeezed by a user to compress liquid reservoir **115** and force water through conduit **130** and conduit **140** to aperture **145**.

[0036] Fig. 2 generally shows an exemplary striking portion **200** in the shape of a sword. Striking portion **200** supports conduit **210** in blade portion **215**, which is shown in partial cut-away view. Conduit **210** travels through handle portion **220**, and would communicate with a conduit connected to a liquid reservoir when the striking portion **200** is positioned on a body. Liquid travels through conduit **210** to aperture **225**, where it appears on the surface of blade portion **215** as drop **230**.

[0037] Fig. 3 generally shows a game set **300** comprising a first device **310** and a second device **315**. Each device comprises a body, a liquid reservoir supported by the body, and a drawing mechanism in fluid connection with the liquid reservoir. The liquid reservoir and drawing mechanism are inside the body, and are not visible in Fig. 3. The devices also comprises a striking portion **320** or **320'**, through which a conduit (not shown) runs to deliver liquid from the liquid reservoir on actuation of the drawing mechanism. Upon touching of the striking portion **320** of the first device **310** onto the body of second device **315**, liquid which has been delivered to an aperture on striking portion **320** is deposited onto the body of second device **315** and is visible as spot **325**. As discussed on more detail below, the device bodies can comprise liquid reactive material.

[0038] Figs. 4A and 4B, where like reference numbers indicate like structures, generally shows an exemplary striking portion **400** in the shape of a sword. Striking portion **400** supports a flexible reservoir **410** in cavity **415** inside blade portion **420** (which is shown in partial cut-away view). Liquid can be drawn into the reservoir by raising plunger **425** which is supported by handle portion **430** along line **A**. Raising plunger **425** reduces the air pressure inside cavity **415**. The striking portion **400** is then placed into a container of liquid such that aperture **430** is immersed in the liquid. The plunger **420** is then depressed along line **B**, so that the air pressure in cavity **415** is increased (represented by arrows **C**), and reservoir **410** is at least partially collapsed. As the air pressure inside cavity **415** is equalized, the reservoir **410** expands, drawing liquid in through the aperture **430** (represented by arrows **D**). As shown in Fig. 4B, liquid can then be released from the reservoir by pressing that part of the striking portion **400** comprising the aperture **430** against an object. This pressure causes a portion **435** of the liquid to be expelled from the reservoir through the aperture, and be deposited on the object. In this aspect, the drawing mechanism comprises the cavity **415**, reservoir **410**, plunger **425**, aperture **430** and other components in striking portion **400** which allow liquid to be drawn into and expelled from the striking portion. The design and use of such a drawing mechanism is within the skill in the art, and is analogous to the ink re-filling and dispensing mechanism of a fountain pen. However, this embodiment is not claimed.

[0039] A device can also comprise electronic components other than, and optionally connected to, any electronic components comprising the drawing mechanism. Such electronic components can be activated along with any electronic components comprising the drawing mechanism, or can be activated separately. For example, the device can comprise components for the electronic generation of sound and/or light. The device can also comprise attachments that are connected to drive motors activated by the electronics.

[0040] Electronics suitable for use in the device can include a power source box, or battery box which can be located suitably in the body, for containing batteries or another suitable power source. Suitable wires can be used to couple operable components such as incandescent lights, LED's, switches and speakers. These components can be contained in the body, located outside and supported by the body, or can extend through the body. For example, one or more portions of the body can be lighted or adapted to glow by providing a suitable light source such as an LED mounted adjacent to a chamber with transparent or translucent portion.

[0041] The electronic components can be activated by actuation of the drawing mechanism and/or by the flow of liquid through the device. For example, a switch can be mounted adjacent to a conduit or a flexible or soft portion of a conduit, such as conduit carrying liquid from the liquid reservoir to the striking portion. The deforma-

tion or expansion of the conduit can move one contact element of the switch into contact with another element, thus activating the electronics.

[0042] With regard to fastening, mounting, attaching or connecting components to form the device, unless specifically described otherwise, such are intended to encompass suitable conventional fasteners such as screws, nut and bolt connectors, threaded connectors, snap rings, detent arrangements, clamps such as screw clamps and the like, rivets, toggles, pins and the like, as are known in the art. Components can also be connected by adhesives, glues, welding, ultrasonic welding, and friction fitting or deformation, if appropriate, and appropriate liquid and/or airtight seals or sealing devices can be used, as are known in the art. Electronic portions of the device can use conventional, commercially available electronic components, connectors and devices such as suitable wiring, connectors, printed circuit boards, microchips, speakers, lights, LED's, liquid crystal displays, pressure sensors, liquid level sensors, audio components, inputs, outputs and the like.

[0043] The device, for example the outside of the body of the device, can comprise a liquid reactive material. As used herein, a "liquid reactive material" is any material which undergoes a change when contacted by a liquid. For example, the liquid reactive material can comprise a substance which changes electrical characteristics (such as impedance), changes color, or loses or gains opacity when contacted with a liquid. Suitable liquid reactive materials include a plastic or cloth that changes color when becoming wet, or a surface which has been coated with a particulate (*e.g.*, dust, sand, fiberglass, or the like) on the surface, which particulate changes color or becomes transparent when wet, revealing an underlying color.

[0044] For example, the device can comprise a liquid-responsive switch closing or opening an electric circuit between a battery and a light or sound source when in contact with liquid. A suitable liquid-responsive switch, as is known in the art, comprises a pair of electric terminals impressed with a certain voltage potential. When in the dry state, the impedance between the terminals is very high and the current allowed to circulate is virtually nil. However, when wet, the impedance is dramatically reduced establishing an electrical path which sets a simple transistor circuit in the conduction state, closing the electric circuit between the battery and the light source. Thus, the device can be activated to emit sound and/or light when contacted by a liquid. This arrangement can be used to indicated a "score" or "hit" by a striking portion of another device when simulating combat or team sports play with the devices. A liquid-activated switch can also be operably connected to a drawing mechanism, such that the drawing mechanism is temporarily inactivated or rendered inoperable when the device is contacted by liquid.

[0045] Other suitable liquid reactive materials include materials which react when contacted with an acidic or basic solution, such as a pH indicator which changes

color upon contact with an acid or a base. A suitable pH indicator is one which changes to a certain color (*e.g.*, blue) when contacted with an acidic solution, and changes to another color (*e.g.*, pink or red) when contacted with a basic solution. Thus, set or game can comprise at least two devices comprising a pH indicator. One of the devices can carry an acidic liquid in its liquid reservoir, and another device can carry a basic solution. Hits from the device carrying the acidic solution will cause the other device to turn a first color, whereas hits from the device carrying the basic solution will cause the other device to turn a second color. The initial color of the pH indicator on a given device can be restored by removing the acidic or basic solution (such as by washing with water), or by neutralizing with an acidic or basic solution, as appropriate.

[0046] The set or game can comprise numerous configurations. For example, a game can comprise at least one device comprising a handheld item such as a simulated striking weapon, and another device can comprise an article to be worn or carried by a user, such as a shirt, vest, chest plate or other articles worn on the torso; pants; socks, shin guards, shoes or shoe coverings, or other articles worn on the feet or legs; belt (including a harness or Sam Browne belt); badge, necklace, medallion or the like; helmet, hat or other headcovering; gloves, rings or other articles worn on the hands; forearm or wrist guards or other articles worn on the arms; mask, eyeglasses or other articles worn on the face; a shield or the like; or combinations thereof. An exemplary wearable article can comprise a full or partial suit of armor. For example, multiple wearable articles can be provided with the set or game, which comprise different articles of clothing or pieces of armor (*e.g.*, a chest plate and a back plate, connected by shoulder straps, or the like). These articles can also comprise at least one liquid reactive material.

[0047] A set or game can also comprise a free-standing, independently-moving or randomly-appearing item, such as an obstacle or target. Exemplary targets can include items that are thrown or otherwise projected into the air, or "pop-up" targets representing opponents which appear at random intervals and/or locations during game play. Such "pop-up" targets can be controlled by electronics such as are described above, as is known in the art. These articles can also comprise at least one liquid reactive material.

[0048] Different portions of the devices or other items comprising a set or game can comprise at least two liquid reactive materials which react differently from each other when wet. For example, one portion of the device or item can comprise a material which turns a first color (*e.g.*, green) when wet, and a second portion of the same device or item can comprise a material which turns a second color (*e.g.*, blue) when wet.

[0049] My devices, sets or games can be marketed by packaging the device, set or game with at least one additional item for sale, such as candy or gum, stickers, electronic items, and promotional items such as contests

or lotteries and team or league paraphernalia.

[0050] The devices can be utilized to play games in which a user is required to contact an opponent's device with the user's striking portion. Thus, the set or game can comprise at least two devices, and suggested rules of play. For example, the set or game can comprise sufficient devices for two teams or armies of players, with each team or army comprising 1, 2, 3, 4, 5, 10, 20, 50 or more devices.

[0051] Generally, a game can be played in an open indoor or outdoor area. The playing surface can be natural or artificial, and can be, for example, generally planar, uneven or multi-leveled.

[0052] The area in which a game is played can be marked or otherwise carry indicia which simulate, for example, battle fields or fields of play for one or more team sports. It is understood that the markings or indicia which simulate a battle field or field of play can include rear areas, sideline areas or other areas where individuals not actively participating in the group activity would be located. One skilled in the art is familiar with the indicia, relative dimensions and configurations of fields of play for team sports, and can readily adapt such indicia, dimensions or configurations for use.

[0053] The set or game can also comprise other items as described above, or such as a foldable housing to contain the devices when not in use, extra liquid or liquid reservoirs, scorecards or other devices to record game statistics and results, candy or gum, toys, electronic devices (such as for producing light and sound effects or play-by-play announcements during game play), a timing device, stickers or the like for decorating the devices or items, and promotional items such as contests or lotteries and team or league paraphernalia.

[0054] The precise rules of play for a game depend on the type of game desired to be played. For example, the game can comprise rules of play simulating combat. Such rules can be readily designed and understood by one skilled in the art.

[0055] In one such game, devices sufficient for two armies can be provided. The individuals playing the game decide beforehand which army shall have initial possession of which parts of the battle field, and which army can attack first. For example, the armies can occupy different sections of the battlefield, or one army can occupy the entire battle field, and the second army can attempt to "invade" the occupied territory.

[0056] The game is begun by one or more individuals of a given army attacking individuals of the other army by attempting to contact individuals of the other army with the striking portions of individuals from their army. A player will be "wounded" or "killed" if his or her second device is contacted by a striking portion, such that liquid from the striking portion is deposited. The "wounded" or "killed" player is then removed from the battlefield or left in place, and game play continues. "Wounded" players may be re-introduced to the game after a suitable amount of time has passed, simulating recovery of the wounded soldier.

[0057] The game progresses with each army attempting to secure the predetermined objective, and continues until the expiration of a predetermined time period, the objective is achieved or all the individuals of one army have been "wounded" or "killed." The surviving army or army in possession of the predetermined objective wins the game.

[0058] While my devices and methods have been described in connection with the examples discussed above and the various figures, it is to be understood that other similar examples may be used, or modifications or additions may be made to the described examples for performing the same function without deviating therefrom. Therefore, the devices and methods should not be limited to any single example, but rather should be construed in breadth and scope in accordance with the recitation of the appended claims.

20 Claims

1. A device (100, 310, 315) comprising a body (110) including a main part simulating a character and a striking portion (135, 200, 320, 320') simulating an item selected in a group consisting of a sword, knife, spear, javelin, mace, Morningstar, axe, staff, nunchaku, sai blade, hammer, club and lance, or an appendage, such as a hand, foot, elbow, knee, heel or any other body part, wherein the main part of the body (110) supports at least one liquid reservoir (115), **characterized in that** the device further comprises

- a conduit (130, 210), extending away from the main part of the body, for transporting liquid from the liquid reservoir (115) to the striking portion (135, 200, 320, 320') and delivering it to the surface of the striking portion (135, 200, 320, 320') through one or more apertures (145, 225),
- at least one drawing mechanism (125) connected to the conduit for delivering the liquid through the conduit to the one or more apertures (145, 225),

the device (100, 310, 315) being such that the liquid delivered to the one or more apertures (145, 225) stays at or near the one or more apertures (145, 225), and forms one or more drops which will be transferred onto an object only by touching the object with the striking portion (135, 200, 320, 320').

2. The device (100, 310, 315) of claim 1, **characterized in that** the liquid reservoir (115) is disposable.

3. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** the liquid reservoir (115) comprises flexible walls.

4. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** the drawing mechanism (125) comprises a pump.
5. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** the drawing mechanism (125) is manually actuated.
6. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** it further comprises at least one liquid reactive material.
7. The device (100, 310, 315) any one of the preceding claims, **characterized in that** the drawing mechanism (125) is electronically activated.
8. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** it further comprises electronics which are separate from the drawing mechanism (125).
9. The device (100, 310, 315) of claim 8, **characterized in that** the electronics generate sound and/or light.
10. The device (100, 310, 315) of any one of the preceding claims, **characterized in that** the liquid reservoir (115) is contained within the body (110).
11. The device (100, 310, 315) of claim 6, **characterized in that** the liquid reactive material comprises a substance which changes electrical characteristics, changes color, or loses or gains opacity when contacted with a liquid.
12. The device (100, 310, 315) of claim 6, **characterized in that** the liquid reactive material comprises a liquid-responsive switch.
13. The device (100, 310, 315) of claim 6, **characterized in that** the liquid reactive material comprises a pH indicator.
14. The device of any one of claims 1 to 13, **characterized in that** the body is fabricated in the shape of a robot.
15. A set or game (300) comprising at least one device (310, 315) of any one of the preceding claims.
16. The set or game (300) of claim 15, **characterized in that** it further comprises at least one article to be worn or carried by a user.
17. The set or game of claim 16, **characterized in that** the at least one article to be worn or carried by a user is at least one selected from the group consisting of articles worn on the torso, articles worn on the feet or legs, articles worn on the head, articles worn on

the hands, articles worn on the arms and articles worn on the face.

18. The set or game of claim 15, **characterized in that** it further comprises at least one free-standing, independently-moving or randomly-appearing item.
19. The set or game of any one of claims 16 to 17, **characterized in that** the article comprises at least one liquid reactive material.
20. The set or game of claim 18, **characterized in that** the item comprises at least one liquid reactive material.
21. The set or game of any one of claims 15 to 20, **characterized in that** it further comprises instructions for use.
22. The set or game of any one of claims 15 to 21, **characterized in that** the game simulates combat.

Patentansprüche

1. Eine Vorrichtung (100, 310, 315) mit einem Körper (110), der einen Hauptteil umfaßt, der eine Person simuliert, und einen schlagenden Abschnitt (135, 200, 320, 320'), der einen aus einer Gruppe gewählten Gegenstand simuliert, die aus einem Schwert, Messer, Speer, Wurfspieß, Keule, Morgenstern, Axt, Stab, Nunchaku, Saigabel, Hammer, Schläger und Lanze besteht, oder aus einem Anhang, wie zum Beispiel eine Hand, ein Fuß, Ellbogen, Knie, Ferse oder jeder andere Körperteil, wobei der Hauptteil des Körpers (110) zumindest einen Flüssigkeitsbehälter (115) trägt, **dadurch gekennzeichnet, daß** die Vorrichtung des weiteren folgende Teile umfaßt:

- ein Leitungsrohr (130, 210), das sich weg vom Hauptteil des Körpers erstreckt, um Flüssigkeit vom Flüssigkeitsbehälter (115) zum schlagenden Abschnitt (135, 200, 320, 320') zu transportieren und sie an der Oberfläche des schlagenden Abschnitts (135, 200, 320, 320') durch eine oder mehrere Öffnungen (145, 225) abzugeben,
- zumindest einen Fördermechanismus (125), der an das Leitungsrohr zur Abgabe der Flüssigkeit durch das Leitungsrohr zu der einen oder den mehreren Öffnungen (145, 225) angeschlossen ist,

wobei die Vorrichtung (100, 310, 315) dergestalt ist, daß die an der einen oder den mehreren Öffnungen (145, 225) abgegebene Flüssigkeit an oder nahe an der einen oder den mehreren Öffnungen (145, 225) bleibt und einen oder mehrere Tropfen bildet, der/die auf einen Gegenstand gebracht wird/werden, indem

- der Gegenstand im schlagenden Abschnitt (135, 200, 320, 320') nur berührt wird.
2. Die Vorrichtung (100, 310, 315) nach Anspruch 1, **dadurch gekennzeichnet, daß** der Flüssigkeitsbehälter (115) herausnehmbar ist.
 3. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** der Flüssigkeitsbehälter (115) elastische Wände hat.
 4. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** der Fördermechanismus (125) eine Pumpe umfaßt.
 5. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** der Fördermechanismus (125) von Hand betätigt wird.
 6. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** sie ferner zumindest ein flüssiges reaktives Material umfaßt.
 7. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** der Fördermechanismus (125) elektronisch aktiviert wird.
 8. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** sie ferner Elektroniken umfaßt, die vom Fördermechanismus (125) getrennt sind.
 9. Die Vorrichtung (100, 310, 315) nach Anspruch 8, **dadurch gekennzeichnet, daß** die Elektroniken Ton und/oder Licht generieren.
 10. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, daß** der Flüssigkeitsbehälter (115) im Körper (110) enthalten ist.
 11. Die Vorrichtung (100, 310, 315) nach Anspruch 6, **dadurch gekennzeichnet, daß** das flüssige reaktive Material eine Substanz umfaßt, die elektrische Merkmale ändert, die Farbe ändert oder bei Berührung mit einer Flüssigkeit mehr oder weniger undurchsichtig wird.
 12. Die Vorrichtung (100, 310, 315) nach Anspruch 6, **dadurch gekennzeichnet, daß** das flüssige reaktive Material einen auf Flüssigkeit reagierenden Schalter umfaßt.
 13. Die Vorrichtung (100, 310, 315) nach Anspruch 6, **dadurch gekennzeichnet, daß** das flüssige reaktive Material einen Anzeiger für den pH-Wert umfaßt.
 14. Die Vorrichtung (100, 310, 315) nach einem beliebigen der vorstehenden Ansprüche 1 bis 13, **dadurch gekennzeichnet, daß** der Körper in der Form eines Roboters gefertigt ist.
 15. Ein Set oder Spiel (300), das zumindest eine Vorrichtung (310, 315) nach einem beliebigen der vorstehenden Ansprüche umfaßt.
 16. Das Set oder Spiel (300) nach Anspruch 15, **dadurch gekennzeichnet, daß** es ferner zumindest einen Artikel umfaßt, der von einem Benutzer am Körper oder in der Hand getragen werden muß.
 17. Das Set oder Spiel nach Anspruch 16, **dadurch gekennzeichnet, daß** der zumindest eine Artikel, der von einem Benutzer am Körper oder in der Hand getragen werden muß, zumindest einer ist, der aus der Gruppe mit Artikeln gewählt wird, die am Oberkörper getragen werden, Artikeln, die auf den Füßen oder den Beinen getragen werden, auf dem Kopf getragenen Artikeln, auf den Händen getragenen Artikeln, solchen, die auf den Armen getragen werden und auf dem Gesicht getragenen Artikeln.
 18. Das Set oder Spiel nach Anspruch 15, **dadurch gekennzeichnet, daß** es ferner zumindest einen freistehenden, sich unabhängig bewegenden oder beliebig erscheinenden Artikel umfaßt.
 19. Das Set oder Spiel nach einem beliebigen der vorstehenden Ansprüche 16 bis 17, **dadurch gekennzeichnet, daß** der Artikel zumindest ein flüssiges reaktives Material umfaßt.
 20. Das Set oder Spiel nach Anspruch 18, **dadurch gekennzeichnet, daß** der Gegenstand zumindest ein flüssiges reaktives Material umfaßt.
 21. Das Set oder Spiel nach einem beliebigen der vorstehenden Ansprüche 15 bis 20, **dadurch gekennzeichnet, daß** es ferner Gebrauchsanweisungen umfaßt.
 22. Das Set oder Spiel nach einem beliebigen der vorstehenden Ansprüche 15 bis 21, **dadurch gekennzeichnet, daß** das Spiel einen Kampf simuliert.
- Revendications**
1. Dispositif (100, 310, 315) comprenant un corps (110) incluant une partie principale simulant un personnage et une partie frappante (135, 200, 320, 320') si-

mulant un élément choisi dans un groupe consistant en une épée, un couteau, une lance, un javelot, une massue, une massue à pointes, une hache, un bâton, un nunchaku, une dague, un marteau, une matraque et une lance ou un appendice, tel qu'une main, un pied, un coude, un genou, un talon ou toute autre partie du corps, dans lequel la partie principale du corps (110) supporte au moins un réservoir de liquide (115), **caractérisé en ce que** le dispositif comprend en outre :

- un conduit (130, 210) qui s'étend en s'éloignant de la partie principale du corps, afin de transporter le liquide entre le réservoir de liquide (115) et la partie frappante (135, 200, 320, 320') et de le délivrer à la surface de la partie frappante (135, 200, 320, 320') par une ou des ouvertures (145, 225),
- au moins un mécanisme de pompage (125) raccordé au conduit afin de délivrer le liquide par le conduit vers la ou les ouvertures (145, 225),

le dispositif (100, 300, 315) étant prévu de telle sorte que le liquide délivré vers la ou les ouvertures (145, 225) reste au niveau de, ou près de la ou les ouvertures (145, 225) et forme une ou plusieurs gouttelette(s) qui sera/seront transférée(s) sur un objet uniquement en touchant l'objet à l'intérieur de la partie frappante (135, 200, 320, 320').

2. Dispositif (100, 310, 315) selon la revendication 1, **caractérisé en ce que** le réservoir de liquide (115) est jetable.
3. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le réservoir de liquide (115) comprend des parois souples.
4. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le mécanisme de pompage (125) comprend une pompe.
5. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le mécanisme de pompage (125) est actionné manuellement.
6. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'il** comprend en outre au moins un matériau sensible à un liquide.
7. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le mécanisme de pompage (125) est actionné élec-

troniqument.

8. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'il** comprend en outre de l'électronique qui est séparée du mécanisme de pompage (125).
9. Dispositif (100, 310, 315) selon la revendication 8, **caractérisé en ce que** l'électronique génère du son et/ou de la lumière.
10. Dispositif (100, 310, 315) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le réservoir de liquide est contenu (115) dans le corps (110).
11. Dispositif (100, 310, 315) selon la revendication 6, **caractérisé en ce que** le matériau sensible à un liquide comprend une substance qui change les caractéristiques électriques, qui change la couleur, ou perd ou gagne de l'opacité lorsqu'elle est en contact avec un liquide.
12. Dispositif (100, 310, 315) selon la revendication 6, **caractérisé en ce que** le matériau sensible à un liquide comprend un commutateur sensible à un liquide.
13. Dispositif (100, 310, 315) selon la revendication 6, **caractérisé en ce que** le matériau sensible à un liquide comprend un indicateur de pH.
14. Dispositif selon l'une quelconque des revendications 1 à 13, **caractérisé en ce que** le corps est fabriqué sous la forme d'un robot.
15. Ensemble ou jeu (300) comprenant au moins un dispositif (310, 315) selon l'une quelconque des revendications précédentes.
16. Ensemble ou jeu (300) selon la revendication 1, **caractérisé en ce qu'il** comprend en outre au moins un article destiné à être porté ou transporté par l'utilisateur.
17. Ensemble ou jeu selon la revendication 16, **caractérisé en ce que** le au moins un article destiné à être porté ou transporté par un utilisateur est au moins l'un parmi le groupe consistant en des articles portés sur le torse, des articles portés sur les pieds ou les jambes, des articles portés sur la tête, des articles portés sur les mains, des articles portés sur les bras et des articles portés sur le visage.
18. Ensemble ou jeu selon la revendication 15, **caractérisé en ce qu'il** comprend en outre au moins un élément séparé, se déplaçant indépendamment ou apparaissant au hasard.

19. Ensemble ou jeu selon l'une quelconque des revendications 16 à 17, **caractérisé en ce que** l'article comprend au moins un matériau sensible à un liquide. 5
20. Ensemble ou jeu selon la revendication 18, **caractérisé en ce que** l'élément comprend au moins un matériau sensible à un liquide.
21. Ensemble ou jeu selon l'une quelconque des revendications 11 à 15, **caractérisé en ce qu'**il comprend en outre un mode d'emploi. 10
22. Ensemble ou jeu selon l'une quelconque des revendications 12 à 15, **caractérisé en ce que** le jeu simule un combat. 15

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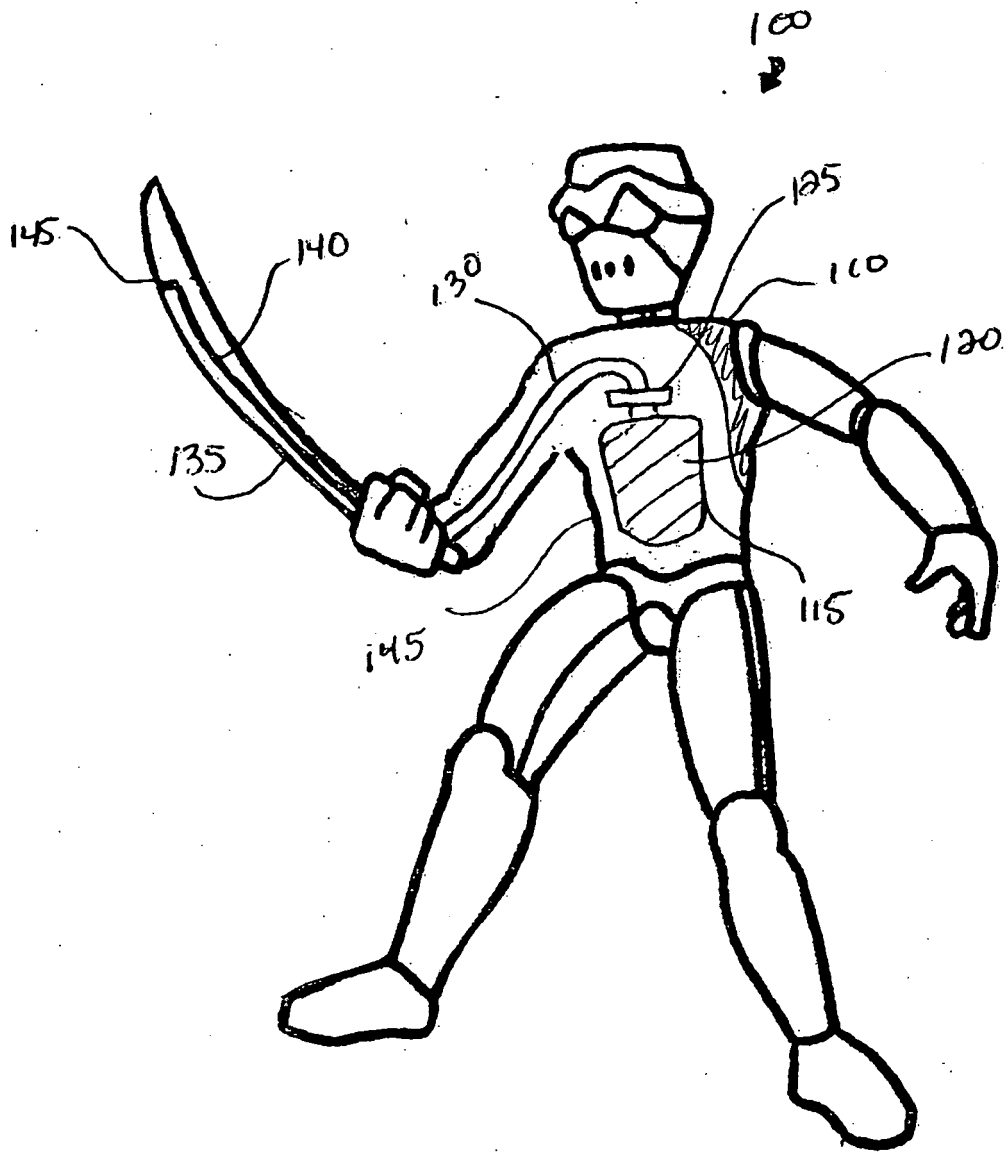


FIG. 1

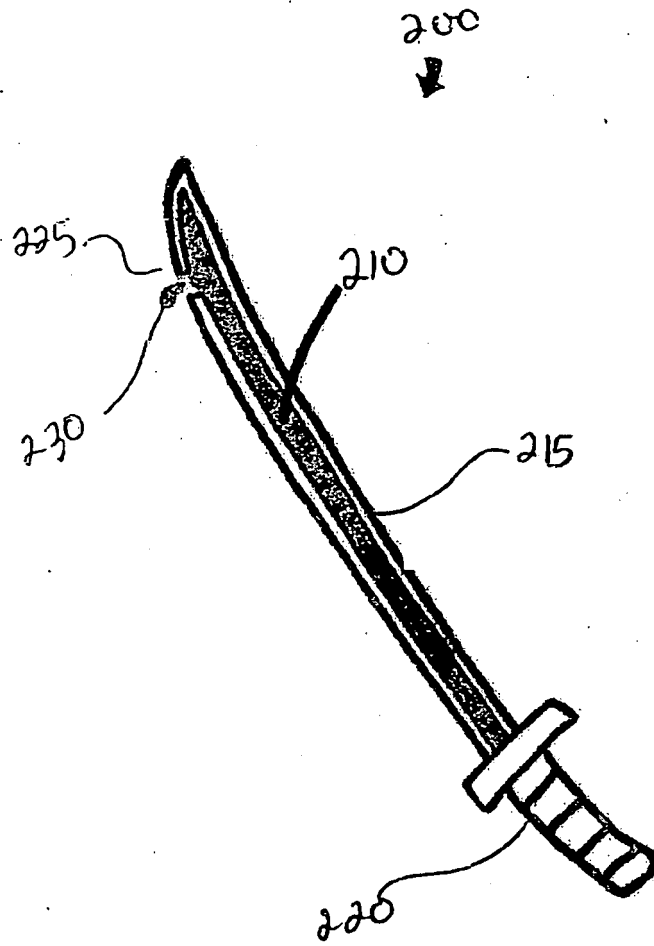


FIG. 2

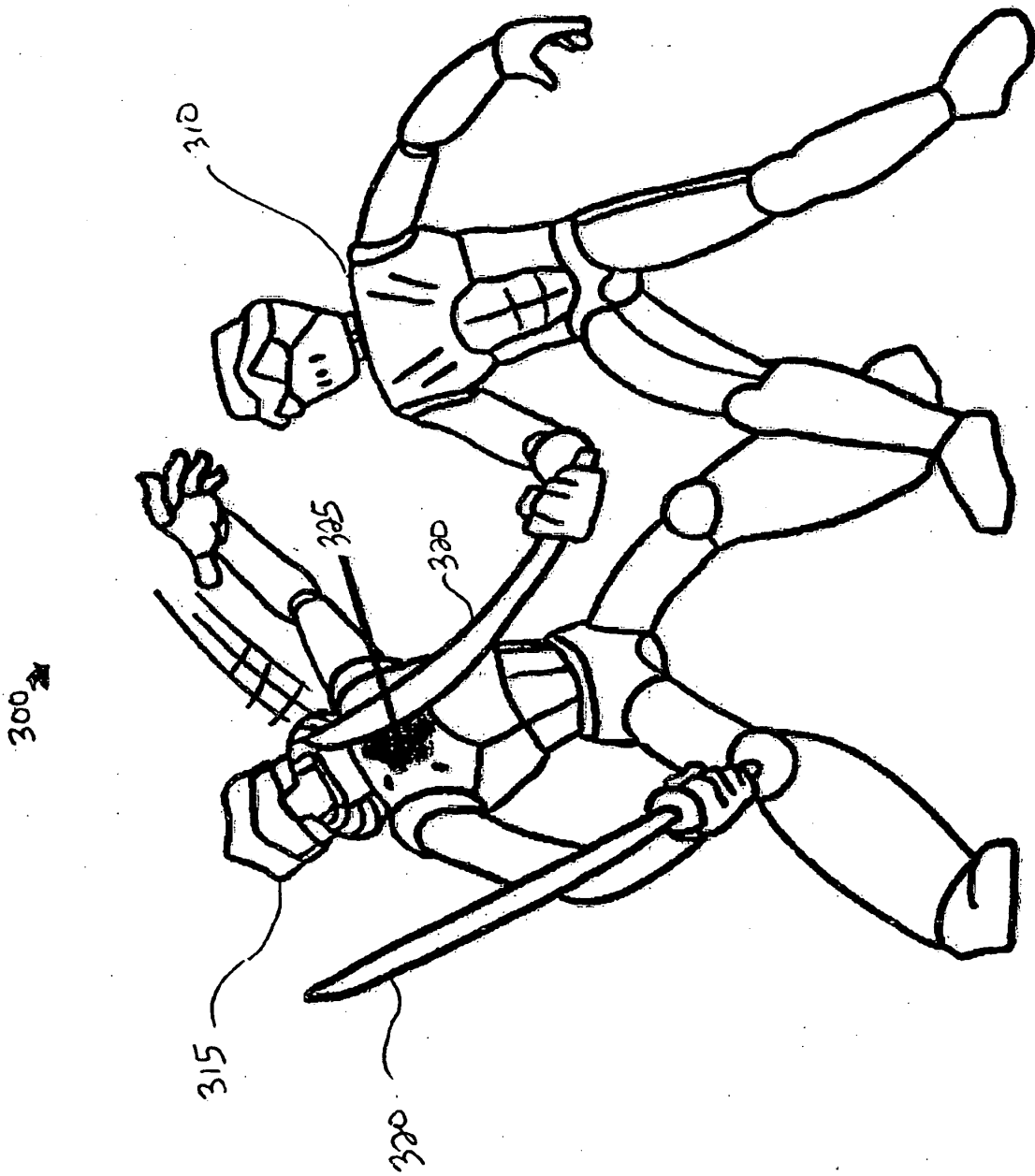


FIG. 3

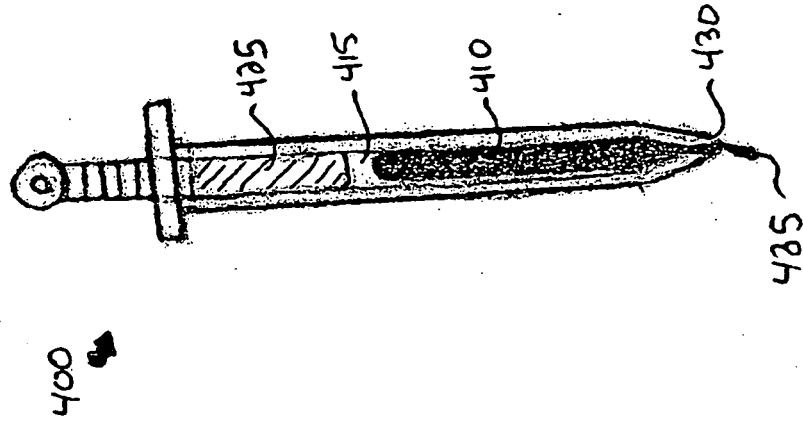


FIG. 4B

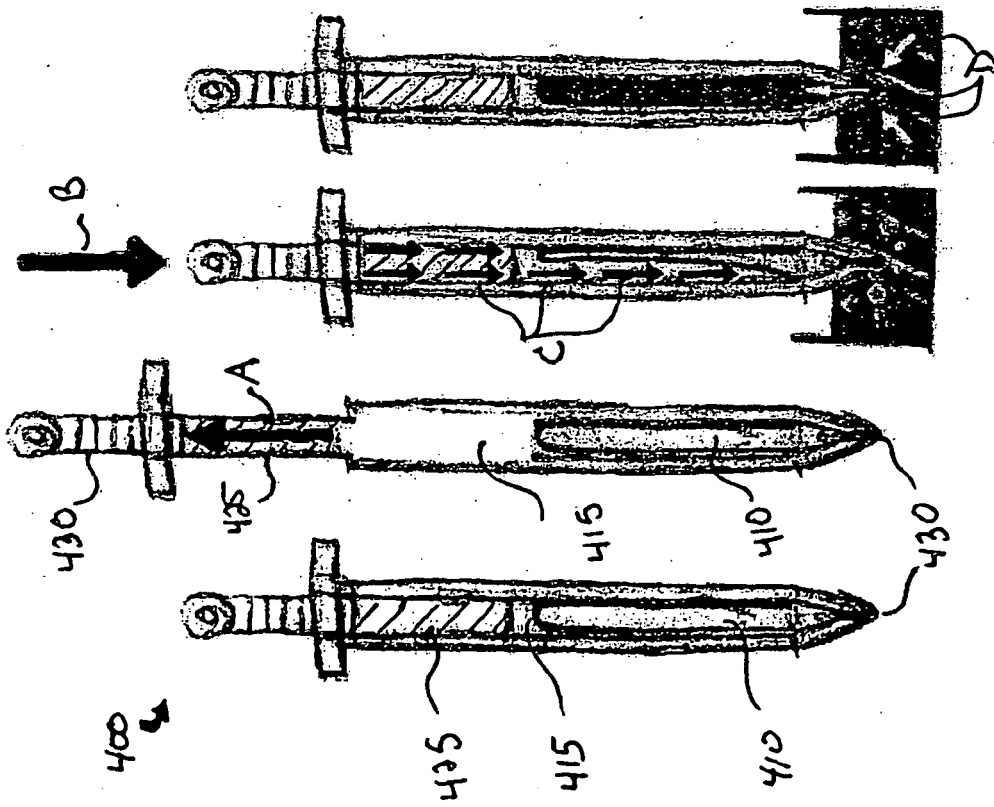


FIG. 4A

REFERENCES CITED IN THE DESCRIPTION

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