

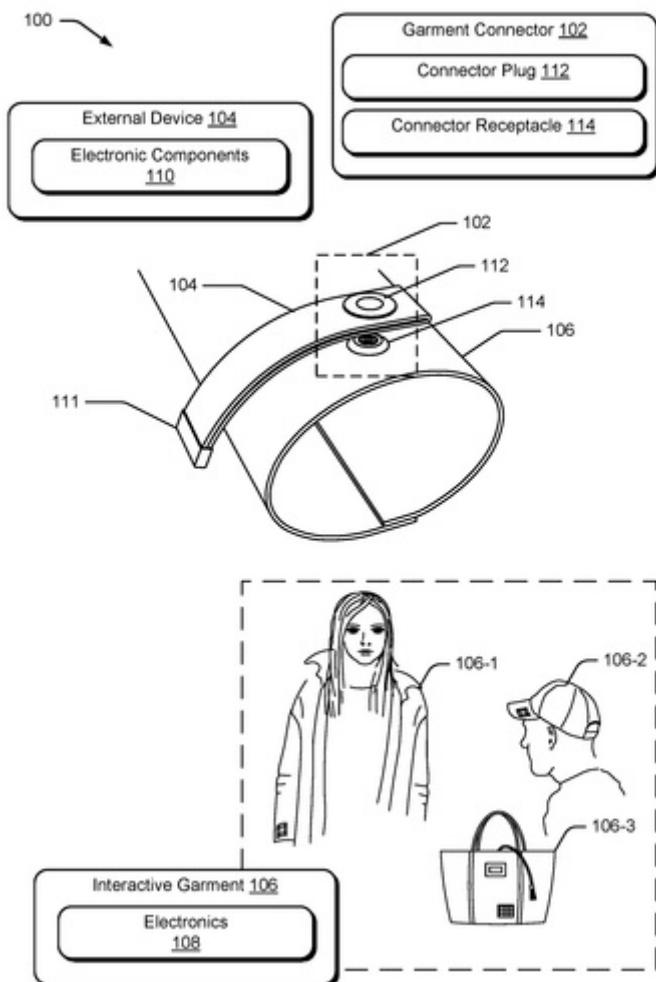
## Connectors for connecting electronics embedded in garments to external devices

US2017125940

2017-05-04

Google

This document describes connectors for connecting electronics embedded in garments to external devices. The connector is configured to connect an external device to a garment to enable communication between electronics embedded in the garment and electronic components of the external device. The connector may include a connector plug and a connector receptacle. The connector plug may be implemented at the external device and is configured to connect to the connector receptacle, which may be implemented at the garment. In one or more implementations, the connector plug includes an anisotropic material that is configured to connect to a printed circuit board (PCB) implemented at the connector receptacle.



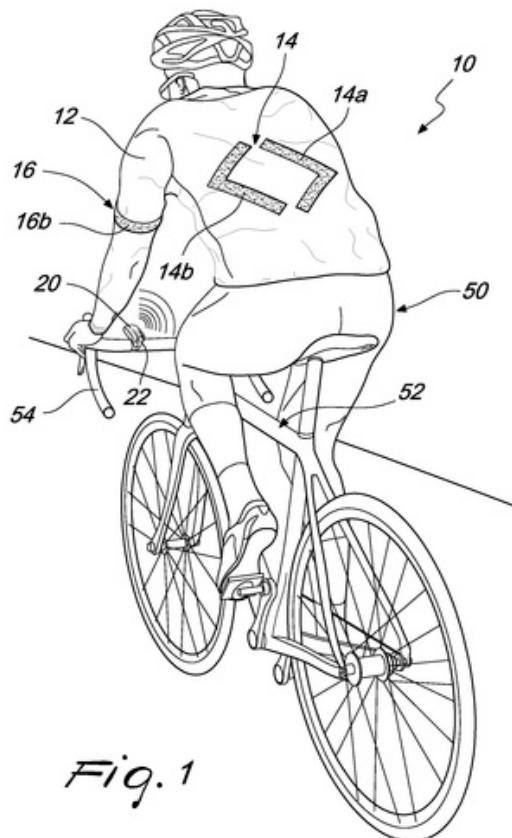
## Smart safety garments with signal lights

WO2017036507

2017-03-09

Casarín Antonio

A smart safety garment (10) with signal lights, comprising a basic garment (12), at least a pair of turn signal lights (14, 16) embedded on the external surface of said basic garment (12), and an electronic assembly (60) for the control, the management and the monitoring of said smart safety garment (10) comprising a control unit (62), said at least a pair of turn signal lights (14, 16) being connected or connectable to said control unit (62), characterized in that said electronic assembly (60) further comprises a braking sensor (64), connected or connectable to said control unit (62), adapted to perceive a deceleration and to generate a corresponding braking signal intended to said control unit (62), said control unit (62) being configured to power up said at least a pair of turn signal lights (14, 16) according to said braking signal.



## Flexible fabric ribbon connectors for garments with sensors

WO2017013493

2017-01-26

Casarín Antonio

Elastic electrical connectors that may be incorporated into a garment to connect multiple electrical components in the garment. These electrical connectors are typically long strips of fabric substrate to which wires are attached along a length of one side in a sinusoidal or zig-zag pattern. The connector may also include an adhesive coating on one side to secure it to a fabric. The wires are electrically insulated, which may be a thermoremoveable insulation (e.g., a polyurethane having a melting point of <400°C). The wires may be attached to the surface of the fabric strip by a stitch at each peak and trough of the sinusoidal or zig-zag pattern with a length between peak and trough stitches between about 1 mm and 15 mm.

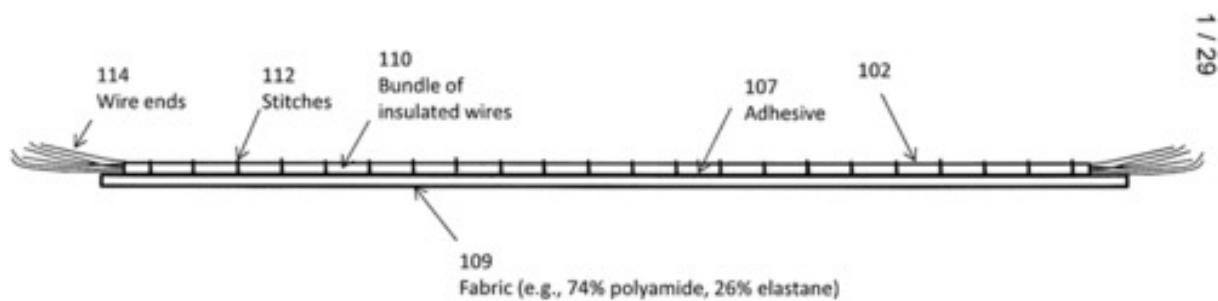
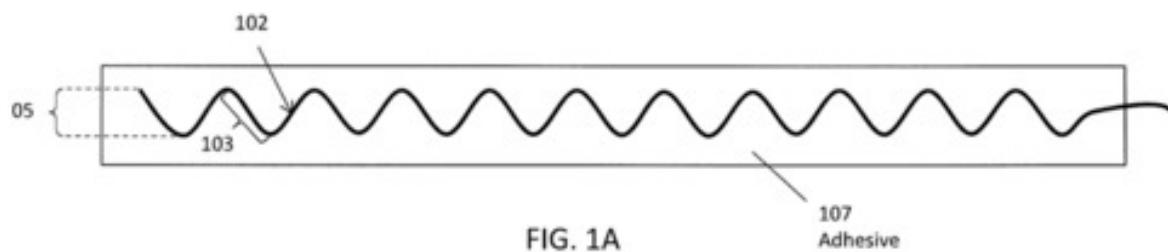


FIG. 1B

## Wearable smart device

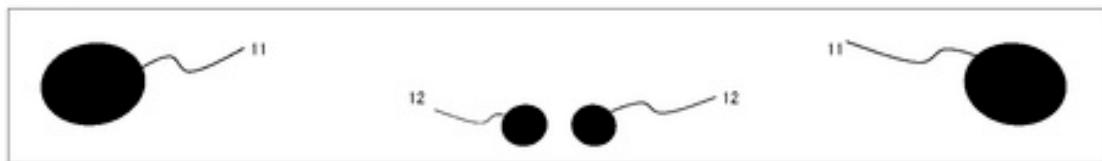
WO2017159456

2017-09-21

Toyo Boseki

[Problem] To provide a wearable smart device having electrical wiring comprising a stretchable conductive composition having exceptional durability to repeated bending and repeated twisting, a material to realize the wearable smart device, and a method for manufacturing the wearable start device. [Solution] Electrical wiring including fine wire in which the electrical wiring interval is 1 mm or less and the wiring width is preferably less than 1 mm is formed by printing a stretchable conductive paste that includes metallic conductive particles and an uncrosslinked elastomer, and furthermore the electrical wiring is dried and hardened under low-temperature conditions at 120°C or lower for 30 minutes or less, whereby a wearable smart device having electrical wiring configured from fine wire free of edge sagging is obtained.

【図1】



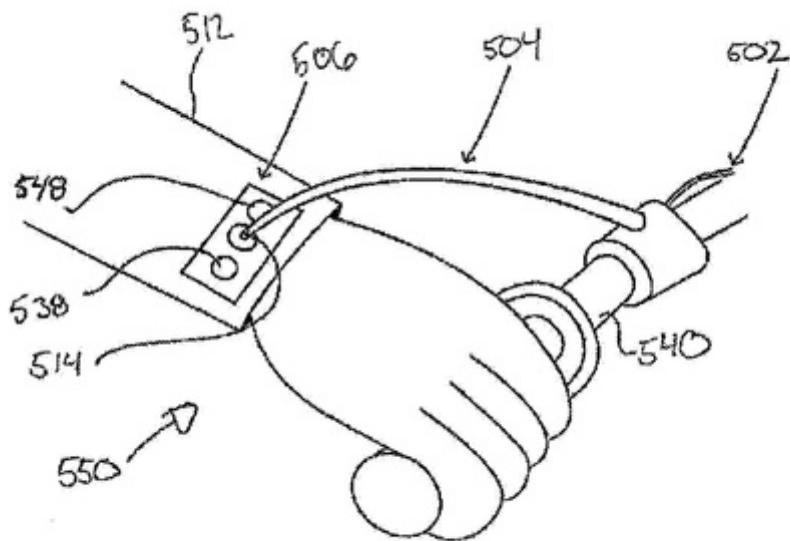
## Apparel power system

CA2943958

2017-04-02

Kimpex

An apparel power system and method of using such system is disclosed. The power system provides a source of electrical energy for electrically powered accessories attached or integrated to apparel worn by the user of a vehicle without requiring the use of wires and plugs connections between the user and the vehicle. The vehicle may be a snowmobile, ATV, UTV, motorcycle, watercraft and the like. The electrical power of the vehicle is transferred from the handlebar to a glove or a wearable adaptor. Holding of the handlebar by the user creates a contact allowing electrical energy transfer from the handlebar to the glove which is subsequently transferred from the glove to accessories attached or integrated to an item of clothing such as a coat using embedded wires or overlying connection to provide the apparel with the ability to power various accessories such as heated gloves, heated vest, power visor, visibility lights, cell phone, and the like.



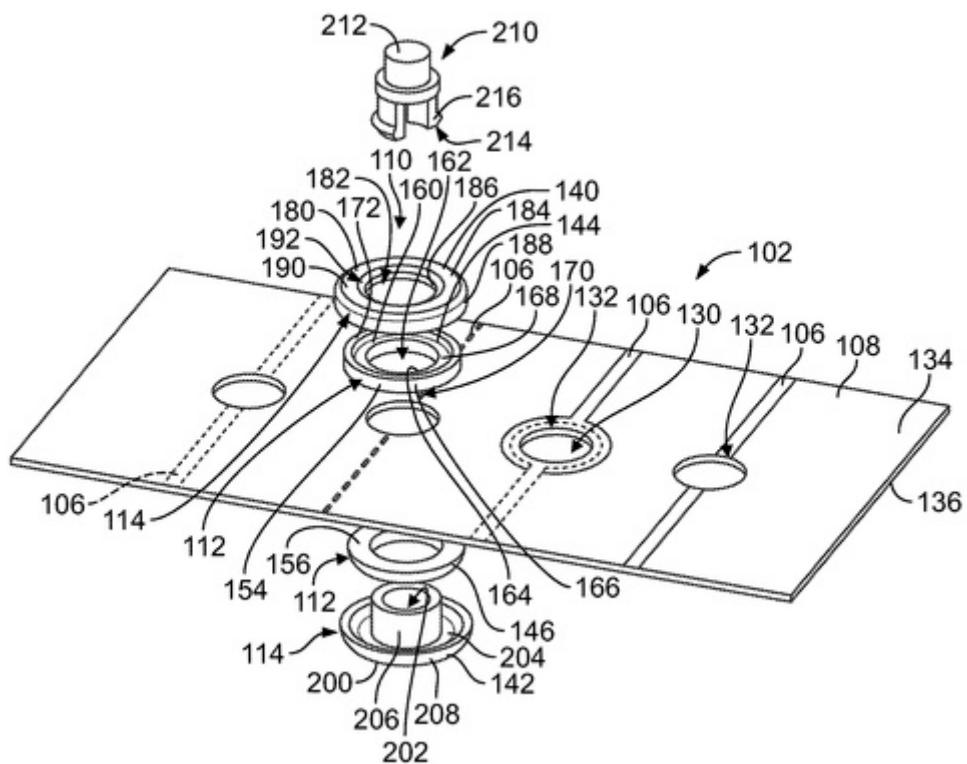
## Wearable connector for an electronic textile

US9642398

2017-05-09

TE Connectivity

A wearable connector for an electronic textile includes a shell having an upper ring and a lower ring configured to capture the electronic textile therebetween. The shell provides an interior channel at least partially defined by the upper and lower ring. A conductive interface member is received in the interior channel of the shell and is electrically connected to the shell. The conductive interface member has a compressible interface configured to be electrically connected to a conductor of the electronic textile. The conductive interface member is compressed against the conductor by at least one of the upper ring and the lower ring when the lower ring is coupled to the upper ring.



## Branched tube network and temperature regulating garment

WO2017132672

2017-08-03

Cornell university

In an embodiment of the present disclosure, a garment for regulating a temperature of a wearer is provided. The garment includes a fabric configured to be worn by the wearer. The fabric includes channels parallel to a primary surface of the fabric. The garment includes a branched tube network for circulating a working fluid. The branched tube network is disposed in the channels of the fabric. The branched tube network includes a plurality of tubes wherein at least one end of each tube of the plurality of tubes is branched and connected to two daughter tubes, or more, the connection having a branch angle of between 1 and 359 degrees, inclusive. The tube network has at least two levels of branches.

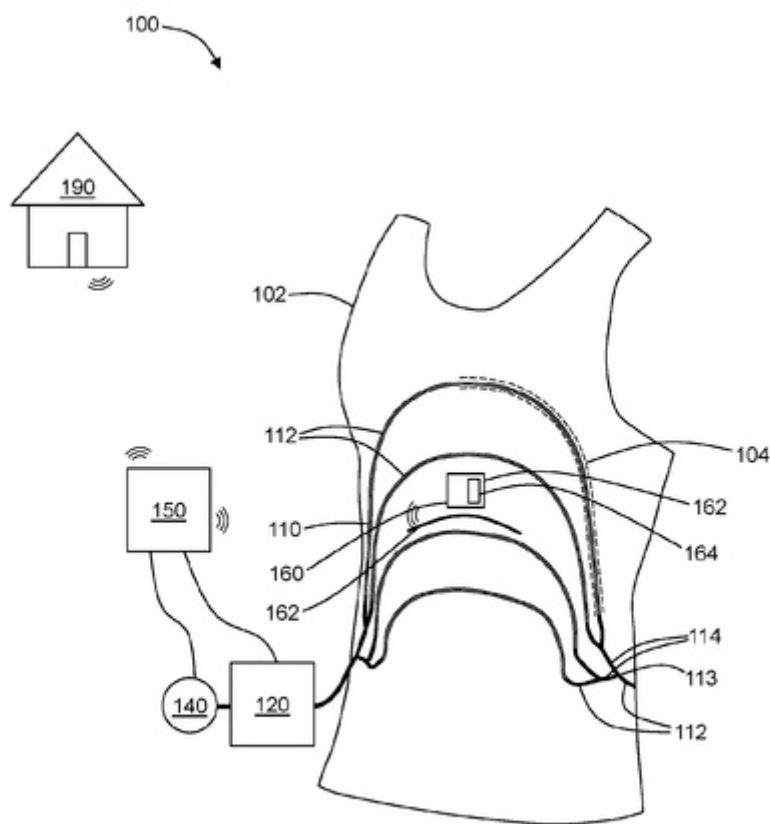


Fig. 1

## Wirelessly controlled led electronic necktie

US2017105465

2017-04-20

Kuddo Darius

A necktie with integrated, individually addressable, multi-colored light emitting diode (LED) modules arranged in a rectangular matrix format. These LED modules are connected together and controlled by means of an onboard microcontroller. Functionality is included in order to facilitate the installation of custom light patterns by the user after manufacture. The device includes an onboard wireless communication module in order to facilitate communication with an external control interface, such as an application on a smartphone, so the light patterns displayed by the LEDs may be modified based on user input.

