Nov. 22, 1932. I. L. BETTINGER 1,888,258

ELECTRICAL CORD TAKE-UP DEVICE

Filed Dec. 16, 1930

FIG. 1

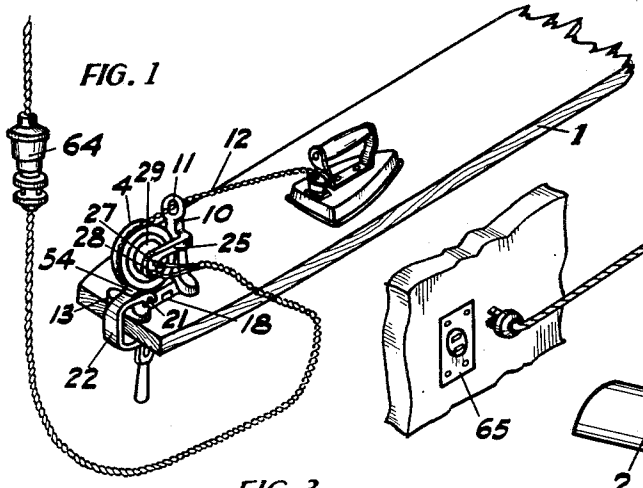


FIG. 2

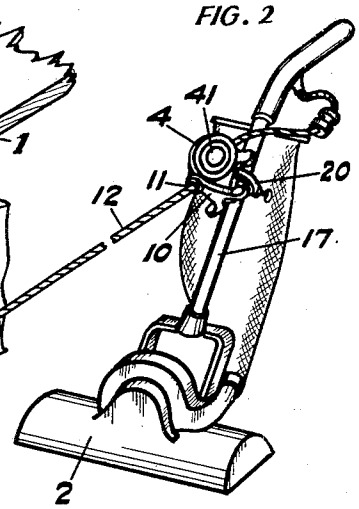


FIG. 3

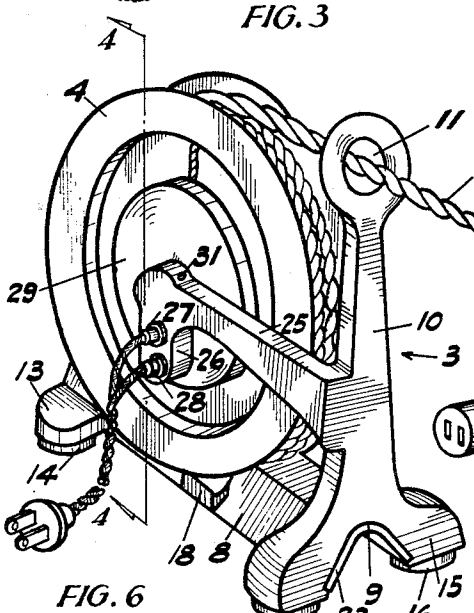


FIG. 4

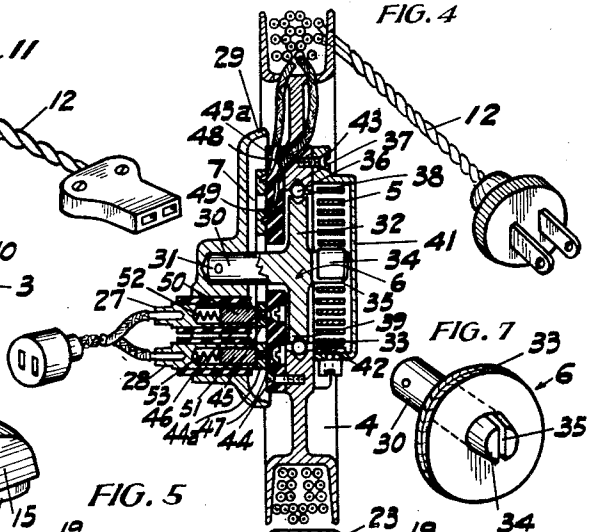


FIG. 7

FIG. 5

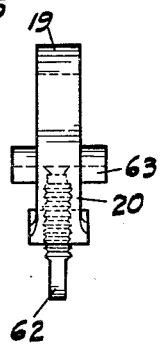
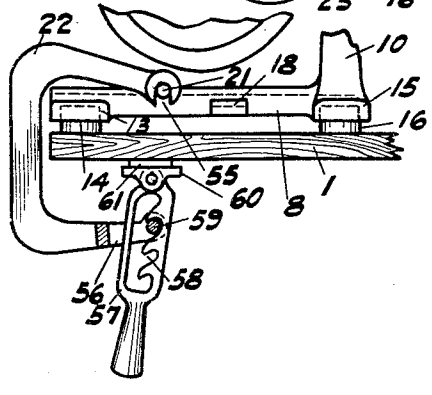
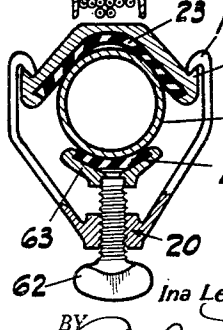


FIG. 6





INVENTOR.
Ina Letitia Bettinger
BY
ATTORNEY

Patented Nov. 22, 1932 1,888,258

UNITED STATES PATENT OFFICE

INA LETITIA BETTINGER, OF NATIONAL CITY, CALIFORNIA

ELECTRICAL CORD TAKE-UP DEVICE

Application filed December 16, 1930. Serial No. 502,756.

My invention relates in general to household utilities and in particular to a tensioning device for use in conjunction with electrical appliances, the principal object being to always keep the electrical cord through which current is supplied to the electrical appliance taut, thereby eliminating entanglement of the appliance with the cord or operator; unnecessary wear on the insulation whereby the current might be shorted; and also obviating the vexations arising in general from a loose dangling cord.

The device is especially adapted for use in connection with electric irons, floor lamps, and electrical vacuum cleaners. There has been a keen demand for such a contrivance, wherein is achieved the absorbing of the slack when reverse movements are made in the operation of ironing, lighting, and sweeping as mentioned supra.

A further important object of the invention is in the incorporation of means for making electrical contact between the stationary cord and the conductors wound on the reel.

A still further object of the invention resides in its peculiar adaptability of design whereby it may be readily applied to an ironing board. floor lamp, and an electric sweeper.

Other features of moment reside in the mechanical details wherein is contributed novelty of design and invention.

Still other distinguishing novel characteristics will be manifest as the disclosure follows.

In the accompanying drawing is shown a preferred embodiment of the invention as well as adaptations illustrating its potential use.

The views in said drawing comprise:

A Fig. 1 illustrating in perspective one application of the invention for use with an electric iron;

A Fig. 2 illustrating in perspective one adaptation of the invention for use with an electric vacuum cleaner;

A Fig. 3 illustrating in perspective the invention apart from its attaching means;

A Fig. 4 showing a section taken on the line 4—4 of Fig. 3, and in relation thereto a section through the attaching means where the device is applied to a vacuum cleaner;

A Fig. 5 showing a left hand elevation of the attaching means shown in Fig. 4.

A Fig. 6 showing a fragmentary side elevation of the device to particularly illustrate the adjustable clamping element for attaching the device to an ironing board; and,

A Fig. 7 illustrating in perspective the sheave bearing.

The invention as illustrated is shown applied to an ironing board (1) in Fig. 1, and to an electric vacuum cleaner (2) in Fig. 2.

Broadly the principles of adaptation of the device for one use is generic to the application of the device for the other use and is to be so understood.

The device comprises in combination an implement 3, a sheave 4, having encased therewith a flat coil retractile spring 5, ball-bearingly mounted upon a circular bearing 6 to which an end of said spring is fastened; means for making electrical contact between the stationary cord and the conductors wound on the reel 7 adapted to have a source of electric current pass therethrough, means for connecting said switch in series and attaching means whereby the device may be fastened for utilization.

The implement 3 consists of a base portion 8 substantially V-shaped, the vertex of whose angle 9 is rounded in nature and which extends throughout the length of the base portion. The implement simulates to a certain degree an andiron, the base portion as before referred to being somewhat lower with relation to the front portion in the present design.

Extending upwardly at right angles from one end of said base portion is a front portion 10, the terminus of which is provided with an eye 11 through which an electric cord 12 is adapted to play. The base portion 8 is provided with feet 13 at one end into which rubber shoes, 14, are insertable and the front portion is also configurated into feet 15 provided with similar receptacles into which like rubber shoes 16 are also insertable.

The base portion is rounded as aforesaid so that it may be configurated to the handle

17 of a vacuum cleaner and there are provided grips 18 on either side thereof with which the claws 19 of a clamp 20 are adapted to engage.

Said base portion is also provided with pin grips 21 (Fig. 6) with which a clamping element 22 is adapted to engage, whereby to aid in supporting the device to an ironing board.

The V-groove has an elastic liner 23, and a clamp 20 likewise has an adjustable elastic seat 24, both of which aid in gripping and preventing abrasion of the device when coupled to the handle of a vacuum cleaner.

Extending transversely with the front portion 10 is an arm 25, said arm has a downwardly directed portion 26 into which the electrical terminals 27 and 28 are projected, and on the inside face of said downwardly directed portion is integralized the disc cap 29. At the axial center of said disc cap is mounted the circular bearing 6, the spindle 30 of said bearing extending through said disc cap 29 and into said arm 25 wherein it is housed and to which it is secured by a pin 31.

The circular bearing 6 has in addition to the spindle 30 a circular flange 32 which is provided with an external circumferential chamfer 33 whereon the sheave 4 is ball-bearingly mounted. In line of the axis of the spindle 30 adjacent the circular flange 32 is continued a rounded portion 34 and into the latter recited portion is cut a slot 35 into which one end of the coil spring 5 is securely fastened.

As aforesaid the sheave 4 is mounted to rotate upon ball bearings on bearing 6. To provide for a ball bearing seat in the sheave in which the balls 36 may travel, there is provided an internal circumferential chamfer 37, similar to the external circumferential chamfer in the circular bearing 6.

The balls 36 are fed into the race 38 after the assembly of the sheave and bearing through a slot 39 which is later plugged up or welded.

On one face of the sheave is encased the coil spring 5, one end as aforesaid being securely fastened in the slot 35, the other end of said spring is fastened to the casing 41 by a screw 42; the casing 41 being in turn secured to the sheave by a screw 43. The spring 5 is first secured in the casing 41 by screws 42, and after the casing is applied to the sheave, the other end of the spring is fastened to the bearing. The balls are then fed into the race.

Upon the other face of the sheave is mounted a fiber or insulative circular disc 43*a* by means of screws 44, there being first applied to said disc 43*a*, a pair of annular electrical conductor rings 44*a* and 45, by means of screws 46 and 47.

Said rings 44*a* and 45 form in conjunction with the electrical terminals 27 and 28 means for transmitting current from the terminals 27 and 28 to the terminal wires 48 and 49 of the electrical take up cord 12 wound around the sheave 4. As the cord is unwound from the sheave against the opposition of the spring or upon the sheave as a result of the tension stored up in the spring by the unwinding of the cord, current will be supplied to said means from the terminls 27 and 28 as a result of the brushes 50 and 51 being acted upon by the springs 52 and 53 housed in said terminals and bearing thereagainst.

The assembled parts hereinbefore enumerated are joined in unison by means of the pin 31 inter-connecting the implement with the bearing in such a manner that electric current will always be transmitted from one terminal to another; and so that the sheave will be rotative upon the bearing as the electric cord is manually manipulated in the unwinding or automatically operated in the rewinding against and under the action of the spring for the purpose specified supra.

Dual attaching means are provided on the implement whereby the device is attachable both to an ironing board as shown in Fig. 1 or a vacuum cleaner as shown in Fig. 2 as previously pointed out, i. e., grips 18 for the claws 19, and pin grips 21 for the clamping element 22.

The clamping element 22 includes a U-frame having an upper fork 54 into which are formed open eyes 55, which are adapted to straddle the pin grips 21, and a lower fork 56 adapted to straddle a ratchet link 57 having formed thereinside an internal ratchet race 58. Extending through the arms forming the fork 56 is a pin 59 engageable with the teeth of the ratchet race 58 whereby the pivoted bearing 60 fastened to one end of the link 57 and containing a rubber insert 61 may be manually adjusted to accommodate itself to ironing boards of different thicknesses.

The bearing and shoe insert being pivoted to the link, and the frame being pivoted to the implement and link, provide a unique gripping arrangement so that proper grippage of the device to an ironing board is assured as the handle of the link is manually manipulated to exert pressure on the insert against the bottom face of the ironing board.

The clamp 20 includes a pair of arms provided with inturned claws 19. Said arms are adapted to pass astride the implement and adapted to overlie the grips 18. They cooperate with the saddle 63 into which is applied the seat 24 to grip the device to the handle of a vacuum cleaner as the screw 62 engageable with both the clamp and the saddle is manually manipulated to exert pressure both between the base of the implement and the handle, and between the saddle and the handle, thereby serving as a unique mount-

ing for attaching the device to a vacuum cleaner for the purpose specified.

Electric current in the present instance for the electric iron is shown as supplied from a switch drop 64, and for the vacuum cleaner as being supplied from a wall plug 65.

The mechanical description set forth, together with the application of the device outlined for the specific purpose renders unnecessary further description to make the operation of the device understandable.

I claim:

1. An electric cord take up device comprising an upright standard having at one side thereof a laterally extending arm, said arm being provided with a cap which extends in a substantially vertical plane, the concave side of said cap being directed toward the midwidth of said standard, said cap having a central bore extending into the concave side thereof, an upright bearing disc having a laterally extending spindle, said spindle being secured within said bore, said bearing disc having a peripheral chamfer therearound, a sheave adapted to have an electric cord wound thereon, said sheave having an internal bearing chamfer ball-bearingly related to the first recited chamfer, a retracting coil spring acting between said bearing and sheave to retract said sheave after unwinding of the cord, a pair of concentric circuit making rings mounted in an insulated relation to said sheave, brush elements carried by the aforementioned brackets to cooperate with said concentric rings and a dual electric cord, the conductors of which are operatively related to said rings.

2. In a device of the class described, an implement including a base provided with a longitudinal V-groove extending thereunder, the vertex of which groove is rounded for applying the device to a circular object, clamping means associated with said base portion adapted for attaching it to a support, means upstanding from said base, and a bracketed arm extending from said upstanding means, a stationary conductor detachably applied thereto, said arm having formed therewith a circular cap, a bearing containing a spindle non-rotatingly journalled in said cap, said bearing having a circular flange, a sheave ball-bearingly mounted upon said flange, conductors wound on said sheave, and means for making electrical contact between the stationary conductor and the conductors wound on the sheave.

3. In a device of the class described, an implement including a base provided with a longitudinal V-groove extending thereunder, the vertex of which groove is rounded for applying the device to a circular object, clamping means associated with said base portion adapted for attaching it to a support, means upstanding from said base, and a bracketed arm extending from said upstanding means, a stationary conductor detachably applied thereto, said arm having formed therewith a circular cap, a bearing containing a spindle non-rotatingly journalled in said cap, said bearing having a circular flange, a reel ball-bearingly mounted upon said flange, conductors wound on said reel and means for making electrical contact between the stationary conductor and the conductors wound on the reel.

INA LETITIA BETTINGER.