

PAPER C: INFRINGEMENT AND VALIDITY OF SINGAPORE PATENT

3 October 2007, Wednesday

1400 – 1800 hrs

Maximum Time: 4 Hours (includes reading time)

Maximum Marks: 100



INTELLECTUAL PROPERTY
OFFICE OF SINGAPORE

INSTRUCTIONS TO CANDIDATES

1. This Paper consists of 31 pages, including this cover page.
2. Write your answers in English. Answers in any other language will not be marked. Answers in illegible handwriting will not be taken into consideration.
3. Only your answers and/or drawings to the question(s) written in the Answer Booklet(s) provided by the Examination Secretariat will be considered. You are to write on one side of each sheet in the Answer Booklet(s).
4. Marks are awarded more for the points selected for discussion and reasoning displayed than for conclusions reached.
5. Information provided in the question(s) may be obtained from actual situations or modified therefrom for the purpose of this examination. You should accept the facts given in the papers. Assume also that the prior art given is exhaustive.
6. Advise the client on infringement and validity of his patent and on the other questions asked by him. Your advice can be in the form of notes or a letter to the client but in either case you must provide the reasons for your advice.

To be continued

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7. The documents provided in the question are:

- (a) Document A – Letter from your Client (3 pages);
- (b) Document D1 – SG Patent SG 000001(5 pages of description plus claims and 1 page of drawing);
- (c) Document D2 – US Patent US 4,883,297 (3 pages of description plus claims and 2 pages of drawing)
- (d) Document D3 – SG patent application SG 123456 (3 pages of description plus claim);
- (e) Document D4 – Notes "new developments" (2 pages of description and 1 page of drawing);
- (f) Document D5 – US Patent US 5,552,768 (3 pages of description plus claim and 2 pages of drawing).
- (g) Document D6 - Manual Securistick® (2 pages of description plus claim and 2 pages of drawing).

End

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Document A – Letter from your Client (1/3)

01 October 2007

SECURISTICK (Singapore) Pte. Ltd.

5 123 Ang Mo Kio Drive #02-01
023458 Singapore

Mr. Nelson TAN

Messrs TAN, TAN & TAN

10 12 Shenton Way #07-03
432897 Singapore

Dear Mr. Tan,

15 We produce and sell the SECURISTICK® which is an improved door security device for keeping doors in closed positions to prevent the doors from being opened by unauthorized individuals. We include a manual (D6) of our product for your perusal. D6 describes the features of our product in greater detail.

20 Last week we have received a letter from a Mr. di Rubare, stating that we are infringing his patent SG 000001 (D1) and that he wants us to stop producing and selling our product. We are a very small company and we were surprised by his letter because we never thought that there could be a patent for such a simple device. This is also disturbing us since we have made a profit of 100,000.00 S\$ in the year of 2006 until 1 February 2006 and a profit of
25 another 100,000.00 S\$ from April 2006 to June 2007 from selling our product in Singapore. We have not had any sales since June 2007, however.

We have since then done some investigations including patent register file inspections. It came out that his patent D1 is in force and it claims two priorities from patent applications in
30 Italy. The first priority application IT 2004 10134 was filed with the Italian Patent Office on 1 September 2004 and it contains the subject matter of claims 1, 2, and 3. The second priority application IT 2005 10042 was filed on 1 March 2005 and it contains the material related

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Document A (2/3)

elements of claim 4 without mentioning the material for use with a security brace according to claim 1. Only the patent application made in Singapore on 1 September 2005 contains
5 their combined subject matter in the complete form of claim 4. What does this mean?

The wording of the patent claim 3 in the originally filed and later searched and examined version - in Singapore - of Mr. di Rubare's patent reads "... the switch assembly comprises a sensor for detecting an environmental measurement value." This original wording of the
10 claim was comprised in the first priority application IT 2004 101 34. We found that there is also a sufficient basis for the wording of the amended claim 3 in IT 2004 101 34 and in the Singapore application as filed. Is there some other way to argue against the granted claim 3? We heard that one can request grant of a Singapore patent with any self-assessed set of claims, but is there any limit? This is important for us because the SECURISTICK® with the
15 motion alarm feature according to the claim 3 of Mr. di Rubare's patent sells extremely well. This is the only difference between the originally filed and later searched and examined version and the granted version of the claims in Mr. di Rubare's patent.

It was also a surprise that claim 4 of Mr. di Rubare's patent D1 apparently is for a material
20 DYCEM2005 that we are also using for our SECURISTICK®. We think that this material was publicly available before Mr. di Rubare filed his patents. Document D3 of the DYCEM company seems to be highly relevant for claim 4.

Document D4 are notes on a talk on a public trade fair that Mr. di Rubare gave two days
25 before the filing date of his patent SG 000001 in Singapore. The talk was held on 30 August 2005, 14:00 (afternoon session) and everyone could have taken part. In fact there were only four participants. The participants left their business cards, the notes were sent to them via email only on 04 September 2005, a few days after the filing date of D1. We can still provide the names of the participants but we do not think that you can use this document because it
30 was sent around after 1 September 2005, the filing date of the patent SG 000001. We include it for the sake of good order, maybe you know what to do with it.

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Document A (3/3)

- If we now stop producing and selling our product and if we lose a patent infringement law suit, must we also pay a compensation to Mr. di Rubare? If yes, would any damages be
- 5 calculated based on the whole profit that we made with this product or only on part of it?
- Please advise what we can do now. Is there anything else what we can do to strengthen our position?
- 10 Please do not suggest any amendment to the patent of Mr. Di Rubare! Attacks against a claim on a basis that the respective subject matter is not sufficiently disclosed are not wanted, too.
- In your advice, please do not overdo it with interpretations of the claim wording or of any
- 15 wording in the documents. We are experts in this technical area and we know the relevant technical expressions, unless there is a concrete reason for further explanation.
- We are going away on holidays today, so we cannot answer any of your possible questions. Please answer our letter with the given information.
- 20 Best regards
- SECURISTICK (Singapore) Pte. Ltd.
- 25 Enclosures:
SG Patent SG 000001 (D1)
US Patent US 4,883,297 (D2)
SG patent application SG 123456 (D3)
Notes "new developments" (D4)
- 30 US Patent US 5,552,768 (D5)
Manual Securistick® (D6)

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Document D1- SG Patent SG 000001 (1/6)

SG 000001

Priorities:

- 5 1 September 2004 (IT 2004 10134)
1 March 2005 (IT 2005 10042)

Filing date 1 September 2005

Published 1 March 2006

- 10 Date of Grant: 1 July 2007

Name of Inventor: DI RUBARE, Santo

Proprietor of Patent:

- 15 DI RUBARE, Santo
Strada del Sole 1
987654 Milano
ITALY

- 20 TECHNICAL FIELD

- The present invention generally relates to a portable security door stop for doors having an actuating handle to manipulate the door between open and closed position and more particularly to such a door stop, adapted to be realisable disposed in angularly bracing relation between the door handle and an adjacent floor surface to maintain the door in its closed position against any intruder attempting to open the door from its opposite side.
- 25

BRIEF DESCRIPTION OF THE DRAWING

- 30 FIG. 1 is a side elevational view of the portable security door stop of the present invention showing the stop in an extended operating position on a door and a carpeted floor surface. FIG. 2 is a somewhat enlarged fragmentary cross-sectional view through the upper-door

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handle engaging end of the stop taken generally along the line II--II of FIG. 1.

FIG. 3 is side elevational view of the portable security door stop showing it in a retracted

5 transporting position removed from the door.

FIG. 4 is a three-dimensional view of an auxiliary pad for selective mounting on the foot member of the stop adapting it for use on relatively hard floor surfaces.

FIG. 5 is a fragmentary cross sectional view taken through the lower end of the stop generally along the line V--V of FIG. 3 but with the pad of FIG. 4 installed in operating

10 position thereon.

OVERALL STRUCTURE OF THE DOOR STEP OF THE INVENTION

Referring more particularly to FIG. 1 of the drawing a portable security door stop embodying
15 the principles of the present invention is generally indicated the reference numeral 10. The stop is adapted to be utilized with, for example, a swinging-type door 11 having a knob-type lock set generally indicated by the reference numeral 12 mounted thereon. The lock set has a pair of inner and outer hand gripping knobs 14.

20 The security door stop 10 of the present invention includes an elongated tubular upper section 20 of any substantially rigid material having opposite upper and lower ends, 22 and 23, respectively. A knob or door handle engaging yoke 25 is constructed of a substantially flat rigid material having a cylindrical shank 27 slidably extended into the upper end 22 of the upper section 20.

25

ALARM UNIT

An electrically battery powered audio alarm unit 35 is slidably disposed within the tubular upper section 22 inwardly adjacent to the shank 27 of the yoke 25. The alarm unit consists of
30 a sounding device 36 and a battery 37 electrically connected by a suitable series-type wiring circuit, not shown, with a contact 34 on the shank of the yoke. The audio alarm unit 35 is triggered with the switch assembly provided therewith upon a movement of the door. The switch assembly can comprise a sensor for an environmental measurement value such as sensor for detecting a motion of the security door stop 10.

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MANUAL LENGTH ADJUSTMENT

- 5 The security door stop 10 further provides a lower tubular section 45 having an inside diameter slightly larger than the outer diameter of the upper section 20 permitting the sections to be telescopically slidable between their maximum extended and retracted positions of FIGS. 1 and 2, respectively.

10 ELECTRICAL LENGTH ADJUSTMENT

- It has turned out to be of advantage to provide a remote-controlled electric motor for adjusting the length of the device, the electric motor being responsive to remote-control radio signals to extend and retract the brace. The electric motor selectively extends and retracts
- 15 the upper section with respect to the lower section. This makes the device operable not only from the inside of the room but also from the outside. It can be extended after the occupant leaves the room to lock the door 11 and it can be retracted from outside the room to permit opening the door 11.

20

FLOOR PAD

- A floor engaging foot member 65 is pivotally mounted on the lower end 47 of the lower section 45 and has a floor engaging pad or block 75.

25

MATERIAL OF FLOOR PAD

- It has proven to be useful to make the floor engaging pad or block 75 from composite material with non-slip properties, the composite material comprising a layer of highly-
- 30 plasticised polyvinylchloride, comprising about 40% by weight of polyvinylchloride and about 60% by weight of a high molecular weight plasticisers, a fibre backing, and an intermediate layer of a polymeric material between the highly-plasticised polyvinylchloride layer and the fibre backing.

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Document D1 (4/6)

The plasticisers which are usable in the highly plasticised PVC layer are considered to fall into two classes, high molecular weight or polymeric plasticisers (of molecular weight about 5 750 to 1250), and low molecular weight or monomeric plasticisers. Both types are usable, but high molecular weight plasticisers, such as chainstopped poly (propylene glycol adipate) or poly (1,3-butane diolazelate), are preferred, because of their lower volatility. The intermediate layer of a polymeric material between the highly-plasticised polyvinylchloride layer and the backing at least reduces the migration of plasticiser from the highly-plasticised 10 polyvinylchloride layer to or through the backing.

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Document D1 (5/6)

Claims:

1. A security brace for doors having doorknobs or the like, the security brace comprising
5 a telescoping brace (10) having a lower part (45) and an upper part (20), being
moveable with respect to each other, means (28) attached to one end (22) of the
brace (10) for holding the brace (10) to a doorknob (14), a foot (65) attached to the
other end (47) of the brace (10) for engaging a floor (16), and an electric motor
10 connected between the a lower part (45) and an upper part (20) for adjusting the
length of the brace (10), the electric motor being responsive to remote-control radio
signals to extend and retract the brace (10).
2. Security brace according to claim 1,
characterised in that
15 an electrically battery powered audio alarm unit (35) is disposed within the brace (10),
the audio alarm unit being triggered by a switch assembly upon a movement of the
door.
3. Security brace according to claim 2,
20 characterised in that
the switch assembly comprises a motion sensor.
4. A security brace according to claim 1 further comprising a floor area pad (75) for a
25 security device which comes into contact with the floor (17) of a room in front of a
door (11), the floor area pad (75) comprising a layer of composite material with a
layer of highly-plasticised polyvinylchloride, comprising about 40% by weight of
polyvinylchloride and about 60% by weight of a high molecular weight plasticisers of
molecular weight of more than about 750, a fibre backing layer, and an intermediate
30 layer of a polymeric material between the highly-plasticised polyvinylchloride layer
and the fibre backing layer.

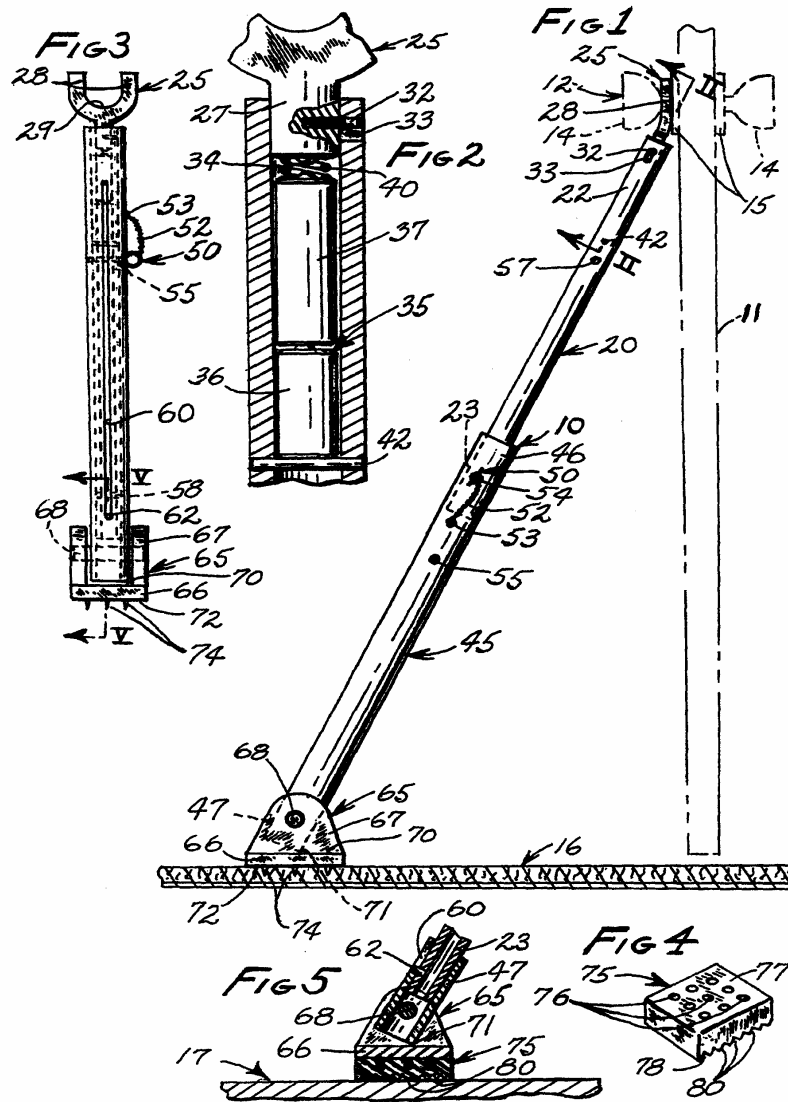
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Document D2 - US Patent US 4,883,297 (1/5)

United States Patent [19]

[11] Patent number: 4,883,297

Smith

[45] Date of Patent: November 28, 1989

[54] Power Operated Guard

5 **[57] Abstract**

An inclined security brace has telescoping parts that are extended and retracted by an electric motor. The motor is activated by radio controls having a circuit that controls the direction of retraction or extension. The brace prevents entry to a room by pass keys.

[76] Inventors: **Smith; Daniel R.** (Santa Barbara, CA)

[21] Appl. No.: **07/251,316**

[22] Filed: **September 30, 1988**

10

In the drawings forming an integral part of this specification:

15 FIG. 1 is a diagram of a presently preferred embodiment of my invention showing a brace and retracting to lift the brace foot from the floor.

FIG. 2 is a diagram of the devise of FIG. 1 with the brace extended so that the foot engages the floor, and showing remote control radio transmitters.

FIG. 3 is an elevation view, partly in section showing the brace of FIG. 1 separated into two parts for convenient storage or transportation.

20 FIG. 4 is a sectional view along the line IV--IV of FIG. 3 showing one of the two snap brackets for holding the bottom portion of brace to the upper portion.

FIG. 5 is a diagram on a smaller scale of the two brace portions together by the snap brackets of FIG. 4.

FIG. 6 is a top view or plan view of the foot of FIG. 3 and a portion of the brace.

25 FIG. 7 is an elevation view of a flexible foot shoe with projecting to engage carpet in a room.

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FIG. 8 is an elevation view of an attachment.

FIG. 9 is a schematic circuit for the device.

5

Referring to FIG. 1 there is illustrated a brace 10 embodying my invention having an outer tube 11 within which reciprocates an inner tube 12. A room (not shown) has a floor 16.

10 Disposed on the bottom end of the brace 10 is a pivoted foot 17. Projecting horizontally from the brace is a pivot arm 18 normally held in a horizontal position. This arm 18 rests against an object to hold the brace 10 at an angle to the object, which angle may be 30 degrees or greater for best results. The brace 10 is shown in its retracted position in FIG. 1.

15 Illustrated in FIG. 2 is the brace 10 in its extended condition wherein the foot 17 engages the floor 16. The extension is accomplished by an internal motor 19 supplied with electrical current from any suitable source, such as internal batteries. The motor 19 is controlled by a radio receiver and associated electronics 21 which may be an off-the shelf arming and disarming circuits. Coded radio waves are sent directly to the radio receiver 21 by a hand held transmitter 22 and radio waves are transmitted by a hand held transmitter 23. When the
20 code supplied by the transmitters is identical to the code recognized by the receiver 21, then the brace 10 will extend or retract depending upon the state of a flip-flop in the electronics 21.

Referring still to FIG. 3, the upper tube 15 has on its upper end a yoke 27 to which is attached a strip of fabric 28.

25

The yoke 27 is part of a cap on the tube 15 in which are disposed a plurality of batteries 29 which are preferably rechargeable and recharging can be done in place by an optional recharging unit 30 which can be plugged into any conventional outlet.

30 Illustrated in FIG. 5 is a break down of the brace 10 wherein the lower tubes 13 and 12 and the foot 17 are held to the tube 15 by a pair of snap brackets 41 shown in detail in FIG. 4.

Referring now to FIG. 8 there is illustrated an attachment 42 having a channel 43 which has an extension 44 terminating in a ratchet adjustment 46. To the left of the adjustment 46 is a

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shank 47 terminating in a hook 48 that engages a complimentary hook 49 in the foot 17. The two hooks are engaged when the attachment 42 is generally vertical and thereafter the
5 attachment is rotated to a horizontal position. The adjustment 46 is tightened against the restraint of the horizontal arm 18. The purpose of attachment 42 is to prevent persons in high risk areas from inserting rods to push the foot 17 inwardly to release the brace 10. A soft rubber bumper 51 can be provided to hold the channel 43 in the position shown.

10 The foot 17 has a layer of soft rubber or plastic 52 to grip the floor regardless of minor unevenness.

Claims:

- 15 1. A security brace for rooms having floors comprising:
- (a) a telescoping brace having relatively moveable parts;
 - (b) means attached to one end of the brace for holding the brace;
 - (c) a foot attached to the other end of the brace for engaging a floor;
 - (d) thread and nut means for extending and retracting the brace;
 - 20 (e) an electric motor connected to one of said thread and nut to rotate one with respect to the other;
 - (f) an arm extending from the brace to contact an object to hold the brace at an angle to the object.

25

30

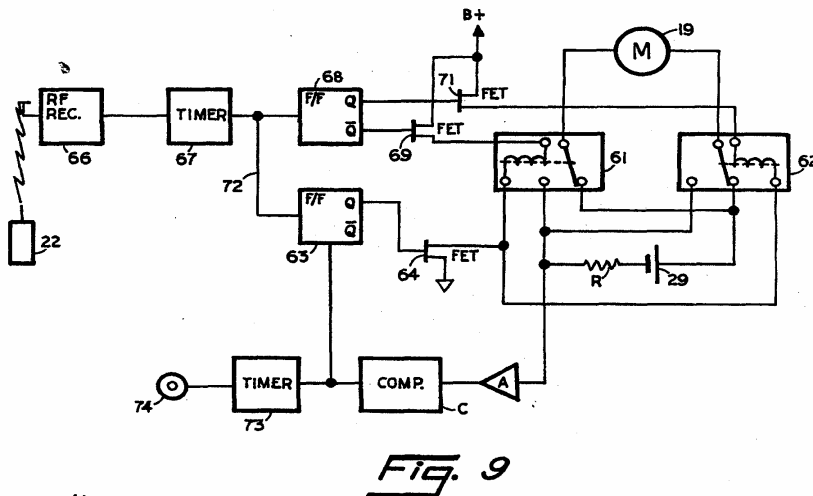
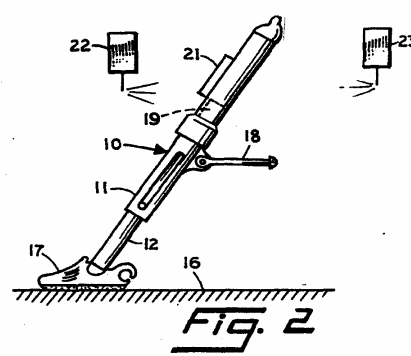
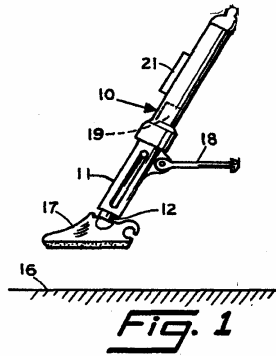
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Document D2 (4/5)

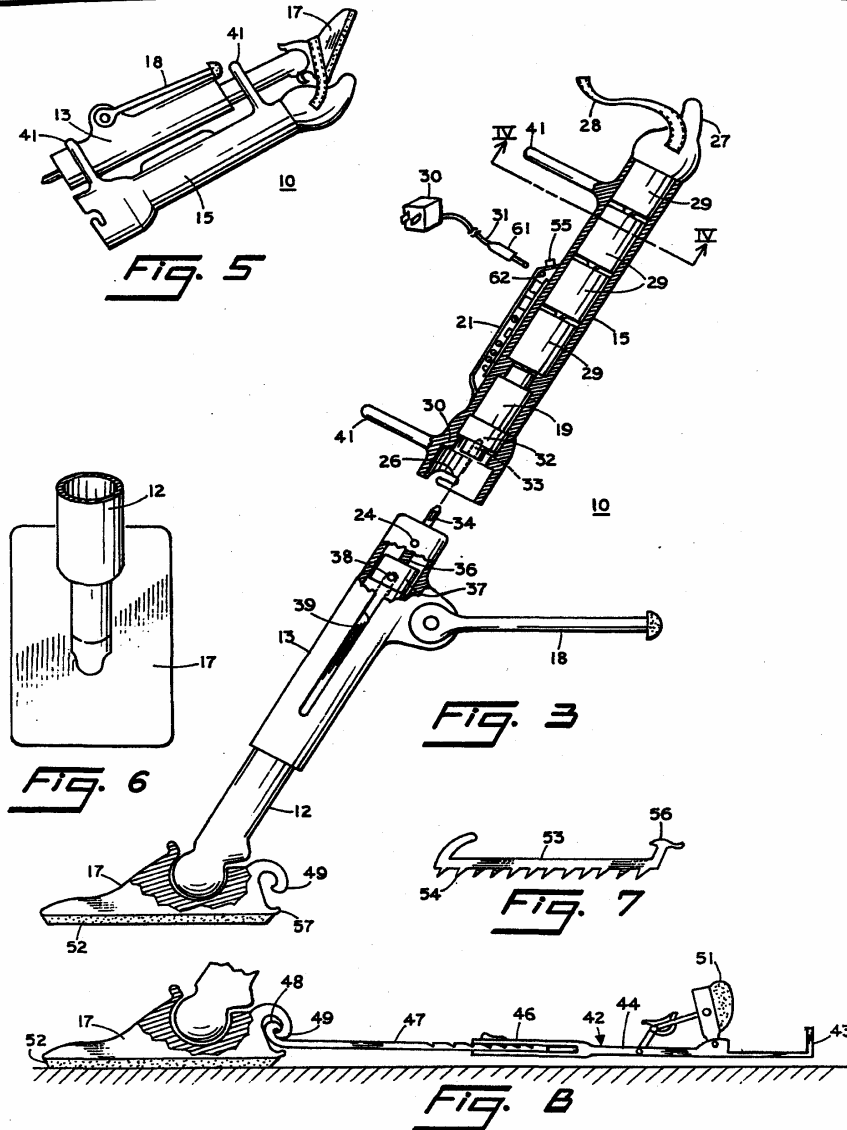


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Document D3 – SG patent application SG 123456 (1/3)

National SG application SG 123456

5 Filed 1 October 2004

Published 1 April 2006

(No priority claimed)

Applicant: Dycem Ltd., New York, USA

Inventor: DYCEM, Albert

10

Composite sheet material

15

This invention relates to a composite sheet material comprising a layer of highly-plasticised polyvinylchloride (PVC) which has useful non-slip and dust-and-bacteria-collecting properties, and a backing.

20

The usefulness of highly plasticised PVC depends to a large extent on the fact that its surface is always coated with a very thin layer of plasticiser, which contributes to the non-slip properties, and is responsible for the dust and bacteria-retaining properties. Although this layer of plasticiser is removed, along with the dirt and bacteria collected, during cleaning, it is quickly replaced by the migration of more plasticiser from the interior of the material to the surface.

25

According to this invention we provide a composite material comprising a layer of highly plasticised polyvinylchloride comprising 15% to 45% by weight of polyvinylchloride and 55% to 85% by weight of plasticiser, a fibrous backing, and an intermediate layer of polymeric material between the highly plasticised polyvinylchloride layer and the backing, which material at least reduces the migration of plasticiser from the highly-plasticised polyvinylchloride layer to or the through the backing.

30

Thus, if the composite material is laid on a surface with the backing in contact with the surface, the backing protects the surface from damage by the plasticiser. Moreover, a conventional adhesive can be applied to the backing to enable the composite material to be bonded to a substrate, such as a floor or wall. This is particularly useful in environments

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5 where the amount of atmospheric dust and/or bacteria should be kept to a minimum, e.g. in hospital operating theatres, computer rooms, the pharmaceutical manufacturing industry and the precision engineering industry.

10 The intermediate layer must be of a material which can be bonded to both the highly-plasticised PVC and to the backing. One possibility is to use for the intermediate layer PVC containing a lower proportion of plasticiser than is contained in the highly-plasticised layer, and in the case it is not necessary to use the same plasticiser as is issued in the highly-plasticised layer. Although such an intermediate layer is fully compatible with the highly-plasticised layer, it may be gradually penetrated by plasticiser from the highly-plasticised layer, especially when the material is exposed to hot environments.

15 Further possibilities are polychloroprene or modified olefin polymers.

20 Preferably, the fibrous backing is a knitted, woven, or non-woven sheet of synthetic or natural fibres, for example, cotton, nylon, polyester, or polyolefin, jute or hessian fibres. Particularly suitable materials are spun bonded or melded thermoplastic fibrous materials, a particular advantage of this construction being that the backing may be cut with a hot knife, and welded by fusion techniques.

25 The plasticiser used in the highly plasticised PVC layer is a substance conventionally used to plasticise PVC. These are normally considered to fall into two classes, high molecular weight or polymeric plasticisers (of molecular weight about 750 to 1250), and low molecular weight or monomeric plasticisers. The highly plasticised PVC preferably contains a modifier of rheological properties, (i.e. a material which makes the plastisol pseudoplastic and/or thixotropic), preferably finely divided silica such as the commercially-available product Aerosil (Trade Mark). Other possible types of rheological properties modifiers are, for
30 example, those based on bentonite, china clay, hydrogenated castor oil, or aluminium or lithium stearate. When finely divided silica is used, the preferred range is 0.5 to 7 parts by weight, per 100 parts of highly plasticised PVC. The purpose of the rheological properties modifier is to prevent an unacceptable reduction in the viscosity of the highly plasticised PVC when this is heated during manufacture of the composite material.

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Various adhesives may be used to stick the composite material to substrates such as walls, ceilings, and floors. If the intermediate layer is not completely impervious to the plasticiser in the highly-plasticised layer, then the adhesive should preferably resist plasticiser migration. An example of a substantially plasticiser-impervious adhesive is an adhesive of the polyurethane type, e.g. "Bostic 2064" (Trade Mark).

An example of the composite material - which is going to be sold soon under the trademark DYCEM2005 - comprises a layer of highly-plasticised polyvinylchloride, comprising 30% of polyvinylchloride and 70% by weight of a high molecular weight plasticiser of preferably 800, a fibre backing, and an intermediate layer of a polymeric material between the highly-plasticised polyvinylchloride layer and the backing, which material at least reduced the migration of plasticiser from the highly-plasticised polyvinylchloride layer to or through the backing. The plasticiser is chosen from a chainstopped poly material.

The composite material also has valuable non-slip properties and can be stuck to any surface which is to contact another surface, where relative sliding movement between the two surfaces is undesirable. Examples therefore are the foot of a doorstopper security bar or the area of a security wedge which comes into contact with the floor. It has been very advantageous to provide a layer of this material on the foot area of such doorstopper security bar.

(no drawing)

25

CLAIM

A composite material comprising a layer of highly-plasticised polyvinylchloride, comprising 15% to 45% of polyvinylchloride and 55% to 85% by weight of a high molecular weight plasticiser, a fibrous backing, and an intermediate layer of a polymeric material between the highly-plasticised polyvinylchloride layer and the backing, which material at least reduced the migration of plasticiser from the highly-plasticised polyvinylchloride layer to or through the backing.

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Document D4 - Notes "new developments" (1/3)

“New Developments in the Entry Door Security Bar Sector “, Talk on the public trade fair
"SecuritAsia 2005", Bangkok, Thailand, by Prof. Santo di Rubare, expert on theft security
5 devices in Italy

This talk relates generally to building security devices, and more particularly to a portable bar
arrangement especially designed to prevent a door from being forced open.

10 Referring first to FIG. 1, there is indicated generally by numeral 10 a security brace for
barring entry into a room through its door. The device comprises an elongated pole member
12 having an upper end 14 and a lower end 16. Preferably the pole 12 may comprise first
and second aluminum tubes of generally equal length where the internal diameter of the first
15 tube and the external diameter of the second tube are such that the second tube can
telescopingly fit within the interior of the first tube. When in use, the unit will be extended
until apertures formed through the walls of each of the tubes are aligned to allow a pin, as at
18, to be inserted through the aligned apertures, thus locking the pieces in their extended
disposition.

20 Affixed to the lower end 16 of the pole 12 is a footpad member indicated generally by
numeral 22. It comprises a molded plastic base 24 having a spherical socket 26 formed in an
upper surface 28 thereof and a generally planar base 28 to which is affixed an elastomeric
non-slip circular pad 30 for use on bare floors. The circular pad 30 is made from composite
25 material with non-slip properties, the composite material comprising a layer of highly-
plasticised polyvinylchloride, comprising about 40% by weight of polyvinylchloride and about
60% by weight of propylene glycol adipate, a woven nylon backing layer, and an
intermediate layer of a polymeric material between the highly-plasticised polyvinylchloride
layer and the backing.

30 As shown in FIG. 4, where the area of use is carpeted, it has been found expedient to
replace the pad 30 with a surface having a plurality of integrally molded spikes for engaging
the carpet fibers.

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5 Affixed to the upper end 14 of the segment 19 of the telescoping pole 12 is a head member 44. When considering FIGS. 1, 2 and 3 together, it can be seen that the head member generally comprises a block having a planar base 46 having an integrally formed cylindrical post 48 projecting downwardly therefrom into the central opening of the tube segment 19.

10 The head member 44 includes a vertical front face 52 which projects upward for a predetermined distance before sloping upward and to the left when viewed as in FIG. 2.

The surfaces 54 and 56 are preferably covered with a non-abrasive material, such as an elastomeric pad 60 made from DYCEM material to prevent scratching of the door surface when put in place and removed.

15 FIGS. 1 and 3 reveal an arcuate recess 62 formed through the head member 44. A further arcuate recess 64 is formed inwardly into the surface 56.

20 Referring next to FIG. 5, the manner in which the security bar 10 of the present invention is used will be explained. In FIG. 5, there is shown a portion of an entry door 66 in which is installed a lockset indicated generally by numeral 68. The lockset includes a pair of knobs on opposite side surfaces of the door 66, the knobs being coupled to a shaft (not shown) which cooperates with a bolt as at 70. The floor of the building is identified by numeral 72.

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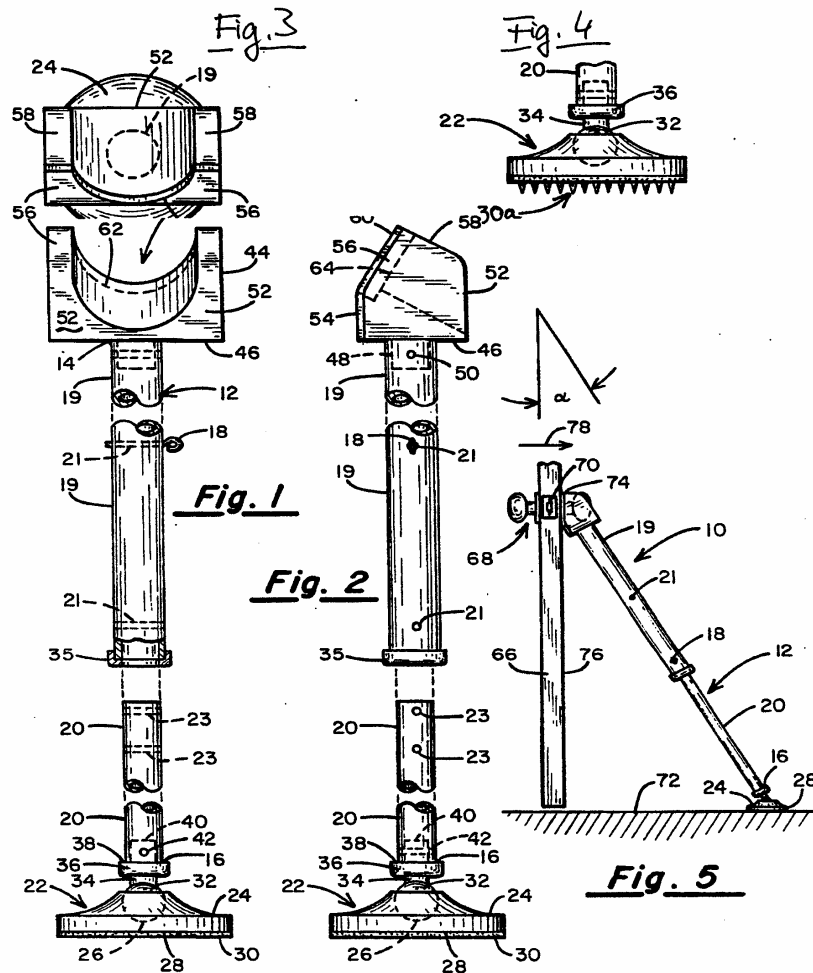
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Document D5- US Patent US 5,552,768 (1/5)



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United States Patent [19]
Mikiel et al.

[11] **Patent Number:** 5,552,768
 [45] **Date of Patent:** Sep. 3, 1996

[54] **PORTABLE WINDOW WEDGE WITH ALARM**

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[21] **Appl. No.:** 347,649

[22] **Filed:** Nov. 30, 1994

[51] **Int. Cl.⁶** G08B 13/08

[52] **U.S. Cl.** 340/546; 200/61.93; 292/343;
 292/DIG. 20; 292/DIG. 28

[58] **Field of Search** 340/546; 292/343,
 292/339, DIG. 20, DIG. 28; 200/61.93

[56] **References Cited**

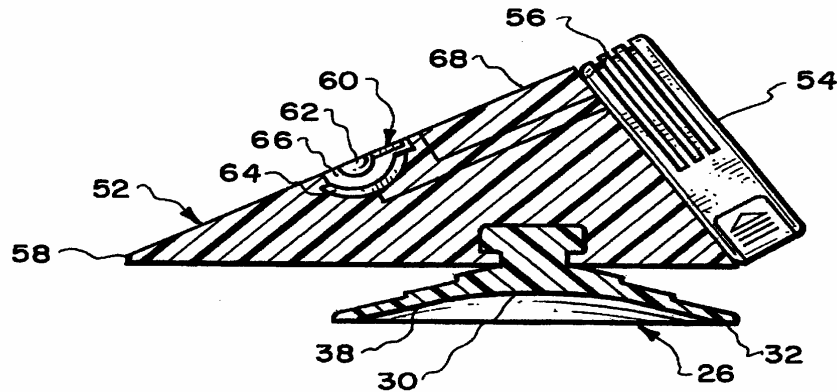
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Primary Examiner—Glen Swann
Attorney, Agent, or Firm—David O'Reilly

[57] **ABSTRACT**

A portable sliding window lock consists of a molded resilient triangular block having a suction cup securely fastened to its base. The suction cup is fastened to the base so that a jamming tapered tip on the triangular block is angled slightly toward the mounting surface. The portable sliding window lock is mounted on the vertical surface of a flat window pane adjacent the frame of a sliding window to intercept and jam the window frame with the sliding window partially open. This prevents forcing the partially open window any further open to gain access to an area. An optional feature includes an audible alarm mounted on the resilient triangular block which is set-off by a switch activated by force applied to a sliding glass window engaging the resilient triangular block.



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It is one object of the present invention to provide a simple, easy to use device that can lock a sliding glass window and the like in a partially open position.

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FIG. 1 is top view of a portable sliding window lock according to the invention.

FIG. 2 is a side view taken at 2--2 of FIG. 1.

FIG. 3 is a bottom view taken at 3--3 of FIG. 2.

FIG. 4 is a sectional view illustrating the mounting of the suction cup on the triangular sliding
10 glass locking device.

FIG. 5 is a perspective view of an optional design for the portable sliding window lock.

FIG. 6 is a partial sectional view illustrating the portable sliding window lock mounted on a window pane.

FIG. 7 is a partial sectional view of a sliding glass window illustrating the manner in which
15 the portable sliding glass window lock prevents the sliding window from being forced open.

FIG. 8 is a sectional side view illustrating the portable sliding window locking device with an audible alarm.

DETAILED DESCRIPTION OF THE INVENTION

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A sliding window locking device 10 is generally shown in FIGS. 1 through 3. The portable sliding glass window lock is comprised of resilient triangular block 12 having an oblique jamming surface 14 tapering to a jamming point 16. Preferably, resilient lock 10 is constructed of a soft flexible, but durable, plastic material such as a polyurethane elastomer.

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To use the resilient triangular block 12, some means must be provided for securely fastening it to a vertical surface where it will not become easily dislodged. To accomplish this, a suction cup 26 is fastened to horizontal surface 18. Suction cup 26 includes a release tab 28 for quickly removing the portable sliding door lock whenever necessary. For example, in
30 emergencies, a quick pull on release tab 28 will break the vacuum of suction cup 26 on a vertical surface allowing the sliding glass door lock 10 to be easily removed. Preferably, suction cup 26 is made of a very flexible plastic (DYCEM material) and has a large concave cavity 30 inside peripheral gripping edge 32 to assure a firm grip on a smooth vertical

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surface.

5 An optional embodiment is shown in FIG. 5 in which resilient triangular block 12' is formed with a relatively wide oblique surface 14' combining a wide jamming tip 16' that is suitable for large windows or sliding glass doors.

Mounting of portable sliding window lock 10 and its operation is illustrated in FIGS. 6 and 7.

10 As an optional embodiment, an audible alarm may be included as illustrated in the sectional view of FIG. 8. This helps to wake up people in the environment of the device in the case that a thief tries to open a sliding glass window which is secured with the embodiment of the invention.

15 In this embodiment, resilient triangular block 52 has a suction cup 26 embedded in the resilient material as before. However, to provide an alarm to alert an occupant to an attempted break-in, an audible alarm 54 is secured to rear surface 56 of resilient triangular block 52. Audible alarm 54 is a battery-operated siren-type alarm that can be of any suitable design. It is mounted on surface 56 opposite jamming tip 58 end to prevent damage from
20 contact with the window frame. It might also be embedded in surface 56 of resilient triangular block 12 if desired.

Audible alarm 54 is activated by switch 60 embedded in resilient triangular block 52. Switch 60 is comprised of a pair of contacts 62 and 64 embedded in oblique surface 68 and resilient
25 triangular block 52. Contact 64 can be a coating in cavity 66 in resilient triangular block 52 with contact 62 being comprised of a conductive button mounted on a flexible arm.

What is claimed is a portable device for locking sliding windows and the like comprising;
30 a resilient triangular block having a horizontal surface and an oblique surface tapering to a jamming tip.

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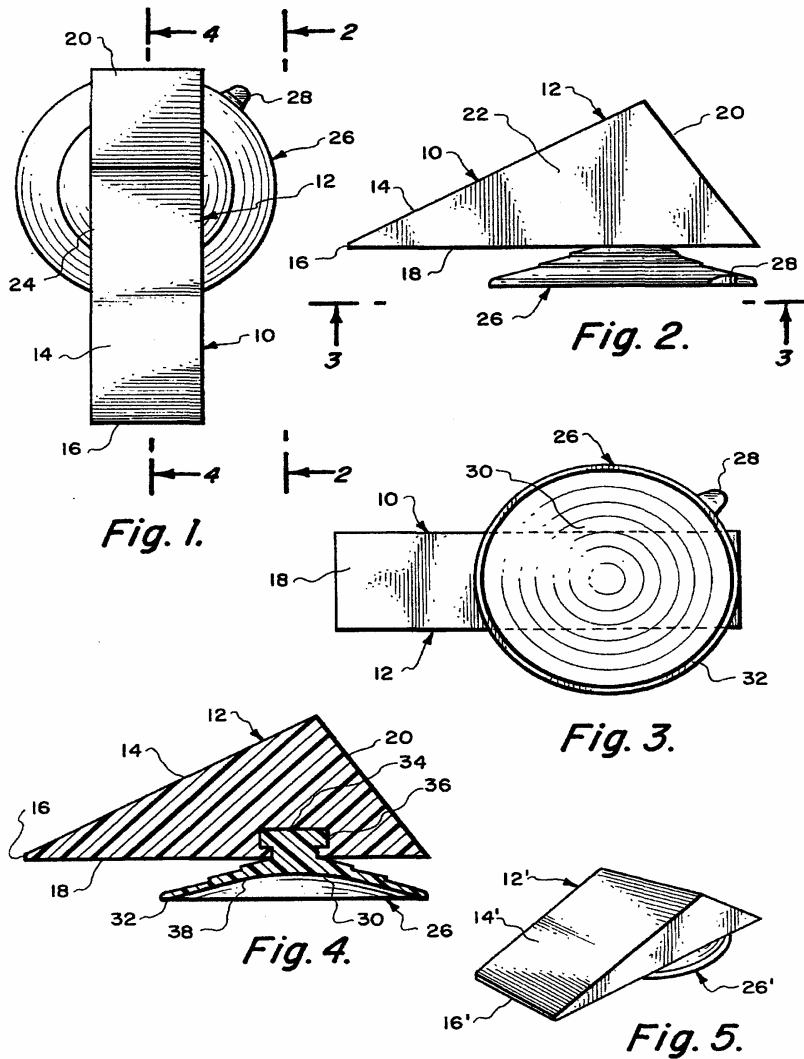
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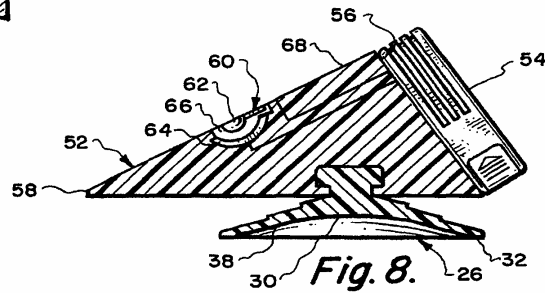
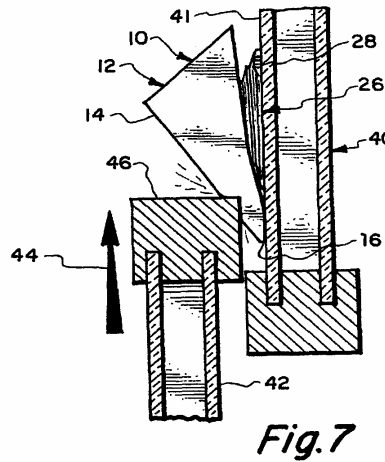
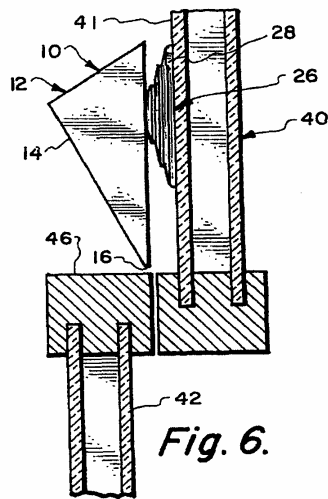
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Document D6- Manual Securistick® (1/4)

SECURISTICK® operation manual

- 5 SECURISTICK® is an improved door security device for keeping doors in closed positions to prevent the doors from being opened by unauthorized individuals.

Throughout the several views, the Figures illustrate an SECURISTICK® device 10 for a door 12 having a doorknob 14. The device 10 consists of an elongated leg brace 16, a base 18
10 located on a lower end of the leg brace 16 for frictional engagement upon a floor 20 and a structure 22 located on an upper end of the leg brace 16 for engaging the doorknob 14 on the door 12, so as to prevent an unauthorized opening of the door 12.

The leg brace 16 includes two telescopic sections 24, 26, in which the upper section 24
15 slides into the lower section 26. An apparatus 28 is for securing the two telescopic sections 24, 26 in extended and retracted positions, so as to make the leg brace 16 adjustable with respect to the location of the doorknob 14 on the door 12 and the distance of the doorknob 14 from the floor 20 (see FIG. 5).

20 The base 18 includes a non-skid foot assembly 40 and a mechanism 41 for pivotally mounting the foot assembly 40 to the lower end of the lower section 26 of the leg brace 16. The doorknob engaging structure 22 includes a bracket 42 for contacting the doorknob 14 and a mechanism 44 for pivotally mounting the bracket 42 to the upper end of the upper
25 section 24 of the leg brace 16.

The non-skid foot assembly 40 contains a pair of support members 46 to fit on opposite
30 sides of the lower end of the lower section 26 of the leg brace 16. A plate 48 is affixed to and extends between the underside of the support members 46. A non-skid surface 50 is located at the underside of the plate 48 to make contact with the floor 20.

The non-skid surface 50 is made from DYCEM2005®, produced by Dycem Ltd., and it can be washed with a soap and water solution to remove dirt which comes into contact with it.

The improved door security device 10 can force the door 12 upward against the door jamb

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82. This forms another obstacle, when an intruder attempts entry, by making it harder to open the door 12. The doorknob engaging structure 22 accomplishes this by pushing
5 upward against the doorknob 14, thus forcing the door 12 upward while preventing the doorknob 14 from turning. The bracket 42 keeps the improved door security device 10 in place on the doorknob 14 and does not allow the intruder to knock it out of the way or dislodge it from placement. The bracket 42 can be coated on the non-skid surface 58/68 with a rubberized or plastic coating 84, to prevent scratching of the doorknob 14 and any surface
10 of the door 12.

NEW: We can supply a remote-controlled electric motor for replacing the length adjustment mechanism. The motor moves the upper section 24 with respect to the lower section 26, thereby changing the overall length of the leg brace 16. This makes SECURISTICK®
15 operable not only from the inside of the room but also from the outside - without visible cables. It can be extended after the occupant leaves the room to lock the door 12 and it can be retracted from outside the room to permit opening the door 12.

NEW: We can supply an audible alarm device to detect and alert an occupant when an
20 intruder is trying to force open the door 12. A battery-powered audible alarm device (not shown here) is attached to the outer surface of the lower section 26. The audible alarm, which is provided by a siren, is triggered by a motion sensor in the audible alarm device.

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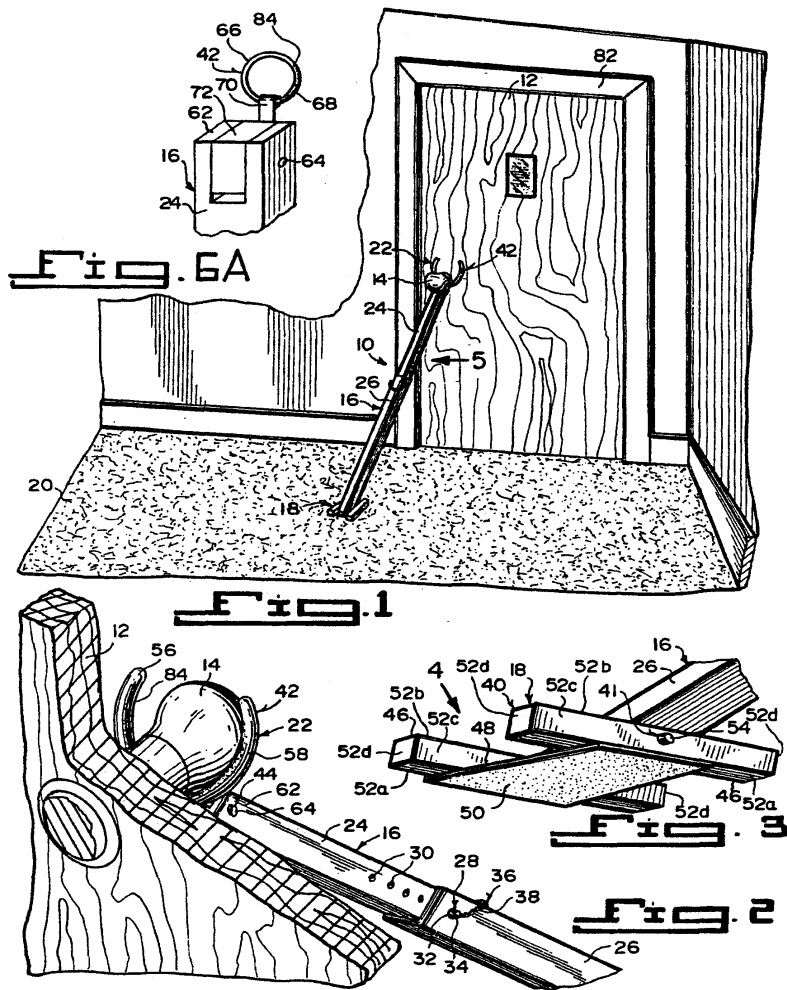
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