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(54) **BUILT-IN DOOR CHECK**
EINGEBAUTER TÜRSCHLIESSER
FERME-PORTE INTEGRE

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(56) References cited:
WO-A-96/05397 **FR-A- 1 435 325**
GB-A- 1 497 220 **US-A- 3 343 203**

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Description

TECHNICAL FIELD

5 **[0001]** My invention consist of visual disappearance of the gadget which, once it is inserted inside the door, leaves the external aspect unchanged.

Thanks to ita cylindrical form and the fact that is easy to fit in, it can be fitted in aluminium, ivon and wooden doors.

The hidraulic piston can work following two systems:

- 10 1) Double piston system (FIG. 4°)
2) Single piston system with internal spherical valve (FIG. 5)

[0002] The pre-exstig technique of old door-checks consisted of an external arm which pushed the door in order to shut it. The arm ivas scissor-shaped. As a result, its old-fashioned function was different from that of my invention, besides, it had a very inelegant appearance.

15 **[0003]** A hydraulic built-in door check is known from US-A-3 343 203 comprising the features of the preamble of claim 1.

DISCLOSURE OF INVENTION

20 **[0004]** The purpose of the built-in door check is to close a door automatically when it has been left open by means of the forward and backward sliding of the piston, in the internal starter shaft; by so doing, it opens and blocks the oil passage in order to lubricate the system. (FIG.4) The fastening of the door is activated by a spring which in turn is regulated by the piston. (FIG. 2')

On sliding, the piston blocks the oil influx, letting only the necessary amount in order for the door to close slowly.

25 On fastening, the click, which denotes the definitive fastening of the door, is obtained by widening a part of the cylinder which, given that i it is wider than the diameter, lets the piston slide without any resistance.

The starter shaft consist of 180° arc-shaped arm, a return spring and a hydraulic piston (FIG.1)). All three components are inserted in a cilinder. A plate with side holes at the far ends so that, it can be fixed onto the door and a central tunnel. (FIG. 1)

30 Shapped one, is attached to one of the ends of the cilinder.(

The closing click can be fixed or adjustable, the latter being possible in two ways:

- 1) by threading the starter shaft, which screws on to one of the ends of the arc-shapped arm leads to the lenthening or shortening of the starter shaft. In this way it carries the piston along with it; the piston is thusshifted to the deired position and brings about the more or less strong click.
35 2) by tightening the screw positioned on the plate.

BRIEF DESCRIPTION OF DRAWINGS

40 **[0005]**

FIG.1) -

Illustrates all the details or componente of the door-check.

45 FIG.2) -

Illustrates a cross-section of the cylinder showing the maximum diameter of the click and point where the piston slides inside the shortest diameter.

50 FIG.3) - Illustrates the connecting starter shaft of the componentes in

cluding the arm, the click regulation bolt.

FIG. 4) -

Illustrates the starter shaft and the piston and their function inside the cilinder.

55 FIG. 5) -

Illustrates the dual function of the piston;

FIG. 6) -

Illustrates the click-regulates fixing plate oh the door frame.

FIG. 7) -

Illustrates the definitive positioning of the door-check.

BEST MODE FOR CARRYNG OUT THE INVENTION

[0006] MY INvention named "BUILT-IN DOOR-CHECK", can be used for closing door of all kinds and models

INDUSTRIAL APPLICABILITY

[0007] In the industrial field, the built in door-check can be used in banks, shops, offices, dwelling and in any context in which it is necessary to clo close a door automatically without making use of one's hands.

Claims

1. A built-in door-check comprising:

- a cylinder (9) for insertion inside the door which makes possible an instantaneous click of a hydraulic piston (3,4,10), the instantaneous click denoting the definite fastening of the door,
- an arc-shaped arm (1) which guarantees a 180° door opening,
- a starter shaft consisting of a piston rod (2), a return spring, the hydraulic piston (3,4,10) and a click regulator,
- the screw threaded end of the piston rod is provided with a nut (11) connected to the arc-shaped arm (1),
- the hydraulic piston (10) comprising an internal spherical valve for the automatic control of the oil passage or the hydraulic piston (3,4) being constituted of a piston (4) alternated to another smaller piston (3).

characterised in that,

- the arc-shaped arm (1) is constituted of a U-shaped profile such that each profile end is fork shaped and has two lugs oppositely arranged, each lug has a hole for pivotal connection,
- the said nut (11) has two oppositely arranged pivot pins for the said pivotal connection with one fork end of the said arm,
- the said definite fastening of the door is obtained by a widened part of the cylinder allowing the piston to slide without any resistance,
- a plate (6) which enables the said arm (1) to come out.

Patentansprüche

1. Eine Einbautürkontrolle bestehend aus:

- einem Zylinder (9) zum Einfügen in die Tür, der ein sofortiges Klicken eines Hydraulikkolbens (3,4,10) ermöglicht, wobei das sofortige Klicken das sichere Schließen der Tür anzeigt,
- einem bogenförmigen Arm (1), der eine 180° Öffnung der Tür garantiert,
- einer Startwelle, bestehend aus einer Kolbenstange (2), einer Rückholfeder, dem Hydraulikkolben (3,4,10) und einem Klickregler,
- das Ende der Kolbenstange mit Gewinde bis zum Kopf ist mit einer Mutter (11) versehen und mit dem bogenförmigen Arm (1) verbunden,
- dem Hydraulikkolben(10), bestehend aus einem internen Kugelventil zur automatischen Steuerung des Ölflusses oder des Hydraulikkolbens (3,4) gebildet aus einem Kolben (4), der mit einem anderen kleineren Kolben (3) alterniert,

dadurch gekennzeichnet, dass

- der bogenförmige Arm (1) aus einem U-förmigen Profil besteht, wobei jedes Profilende gabelförmig ausgebildet ist und über zwei gegenüberliegende Laschen verfügt, von denen jede ein Loch für eine Drehverbindung hat,
- die genannte Mutter (11) zwei gegenüberliegende Drehzapfen hat für die genannte Drehverbindung mit einem Gabelende des genannten Armes,
- das genannte sichere Schließen der Tür durch einen erweiterten Teil des Zylinders erreicht wird, der dem

Kolben widerstandsfreies Gleiten erlaubt,
- eine Platte (6) es dem genannten Arm (1) ermöglicht herauszukommen.

5 **Revendications**

1. Tirant de porte incorporé comprenant:

- 10 - un cylindre (9) pour insertion dans la porte, qui permet le cliquet instantané d'un piston hydraulique (3,4,10), le cliquet instantané indiquant la fermeture définitive de la porte,
 - un bras curviligne (1) qui garantit une ouverture de la porte à 180°,
 - un démarreur d'arbre qui consiste en une tige de piston (2), un ressort de rappel, le piston hydraulique (3, 4, 10) et un régulateur de cliquet,
15 - le bout fileté de la vis de la tige de piston est équipé d'un écrou (11) raccordé au bras curviligne (1),
 - Le piston hydraulique (10) comprenant une vanne sphérique intérieure pour le contrôle automatique du passage de l'huile ou du piston hydraulique (3,4) est constitué d'un piston (4) s'alternant à un autre piston plus petit (3).

Étant **caractérisé** comme suit:

- 20 - le bras curviligne (1) est constitué d'un profil en U de sorte que chaque extrémité de profil est en fourchette et a deux pattes situés l'une à l'extrémité de l'autre, chaque patte ayant un trou pour le raccordement,
 - l'écrou sur-mentionné (11) a deux axes fixes situés l'un à l'opposé de l'autre pour le raccordement sur-mentionné avec une fin de fourchette du bras curviligne sur-mentionné,
25 - la fermeture définitive de la porte, comme indiqué auparavant, est obtenue grâce à une partie élargie du cylindre qui permet au piston de glisser sans résistance,
 - un plateau (6) permettant au bas sur-mentionné (1) de sortir.

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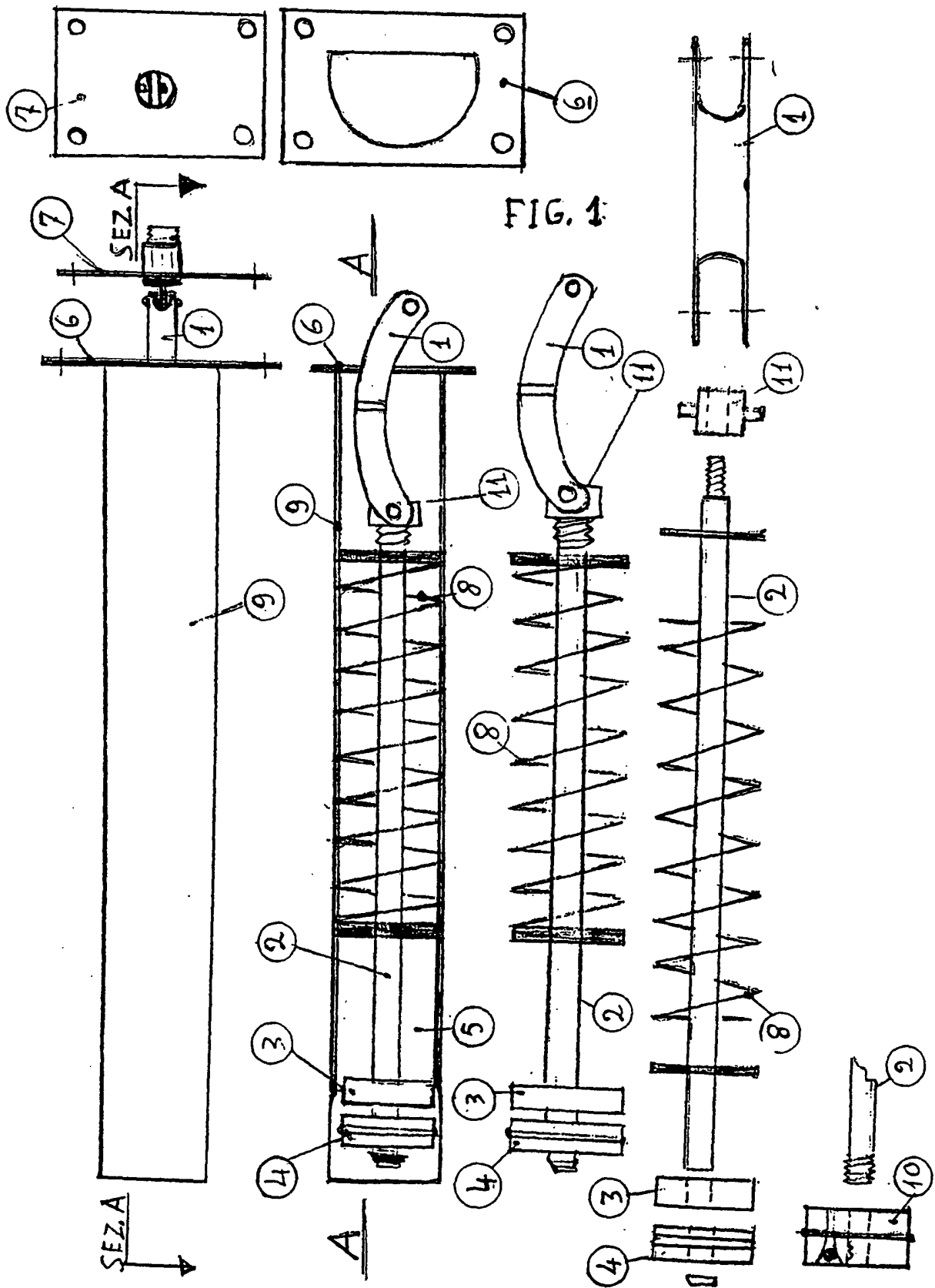
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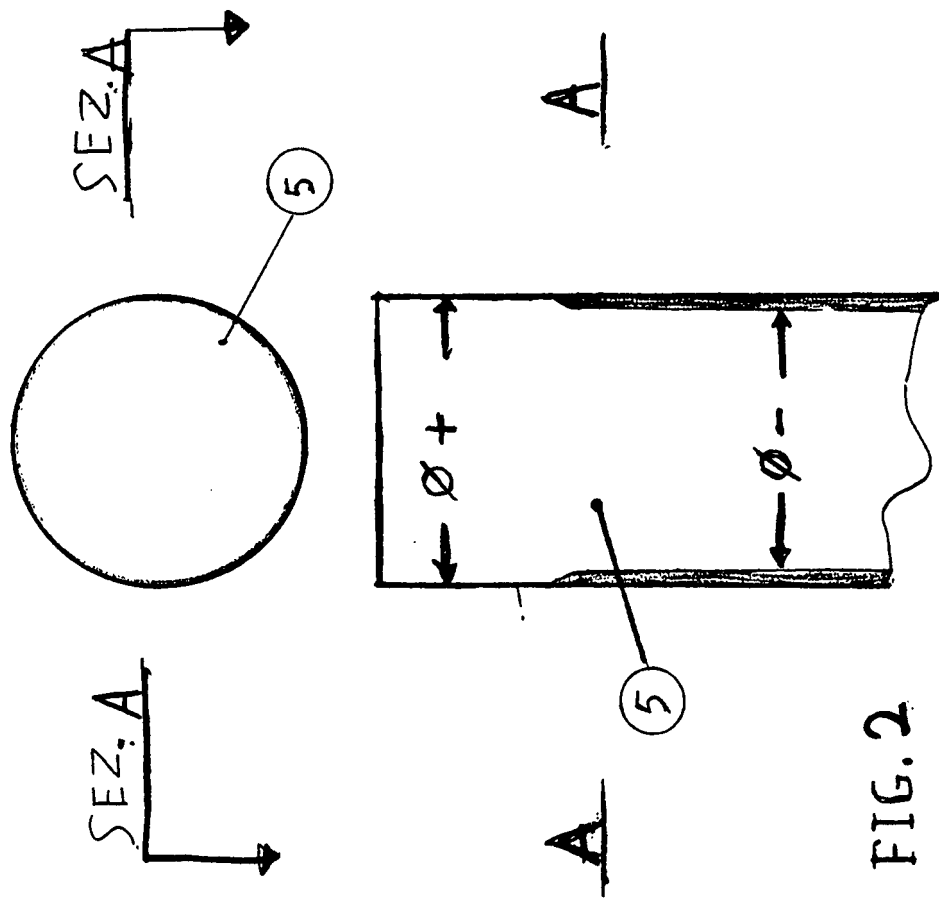
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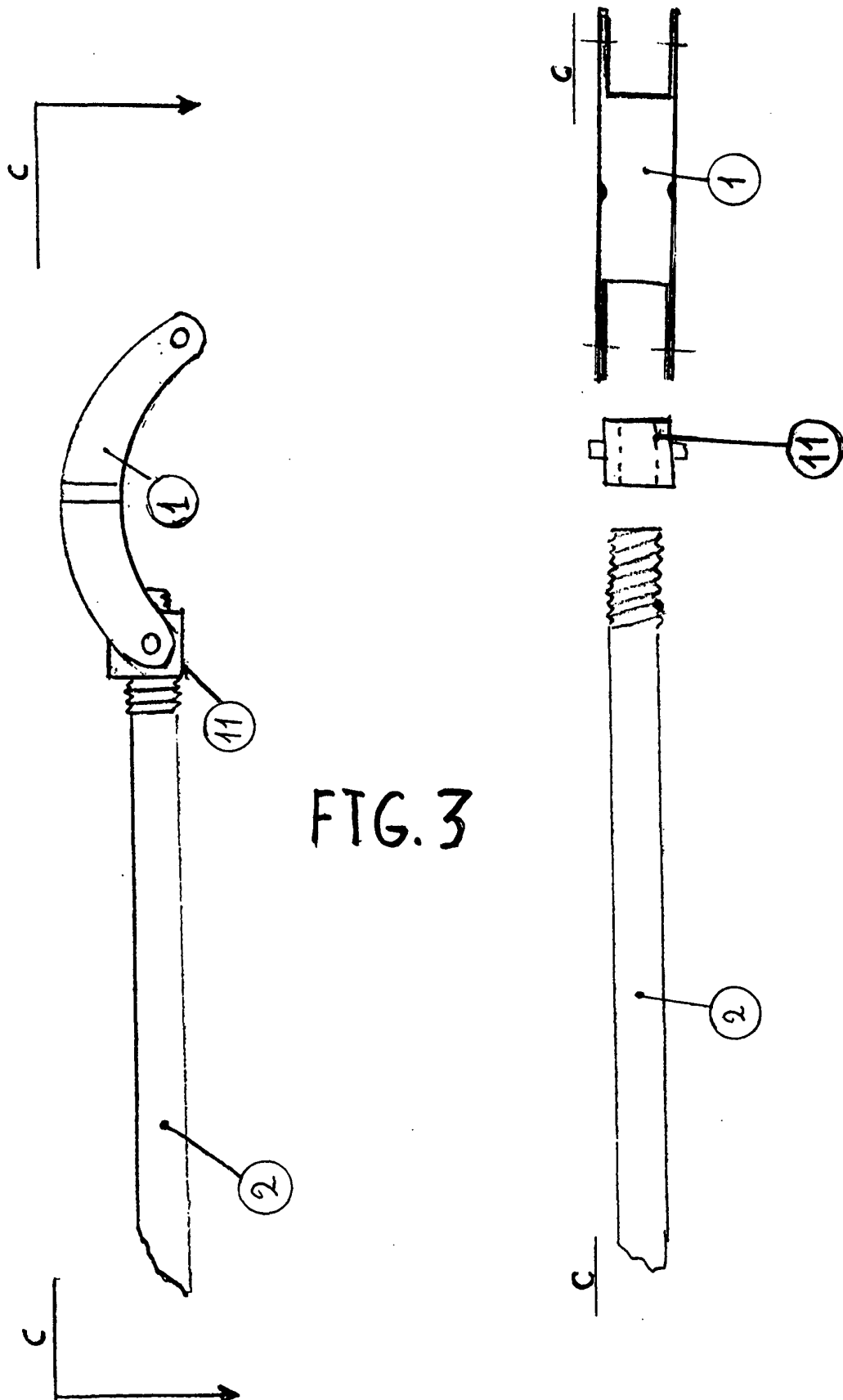
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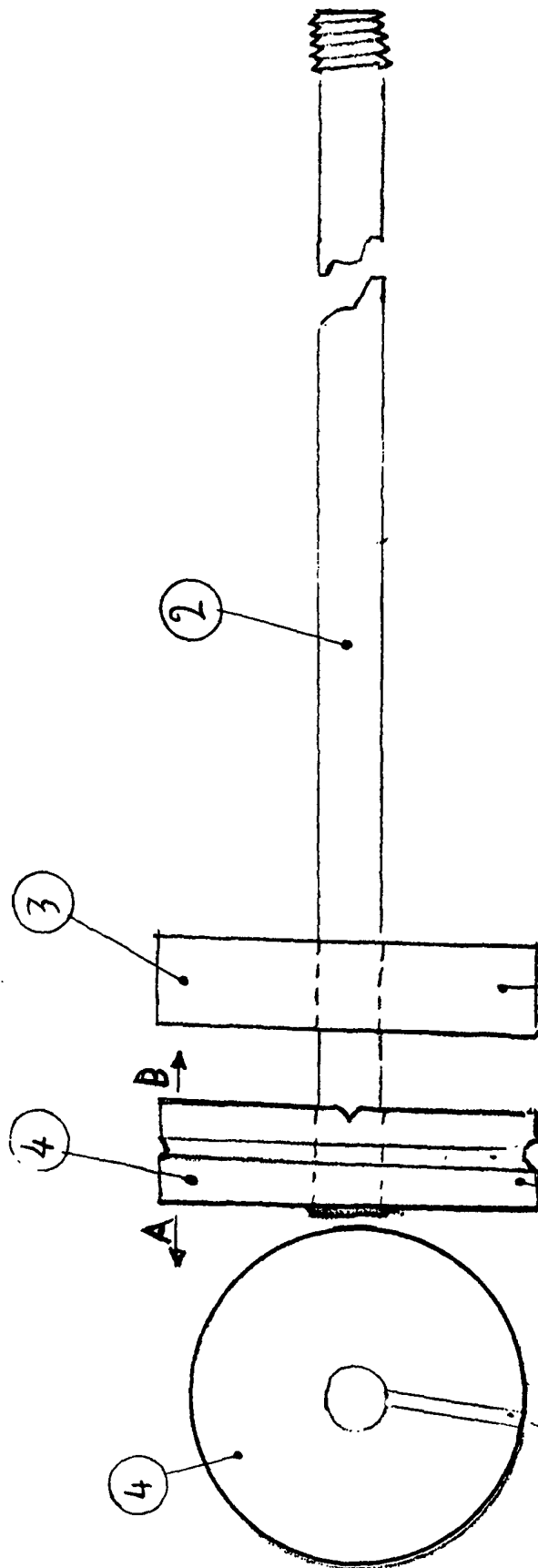
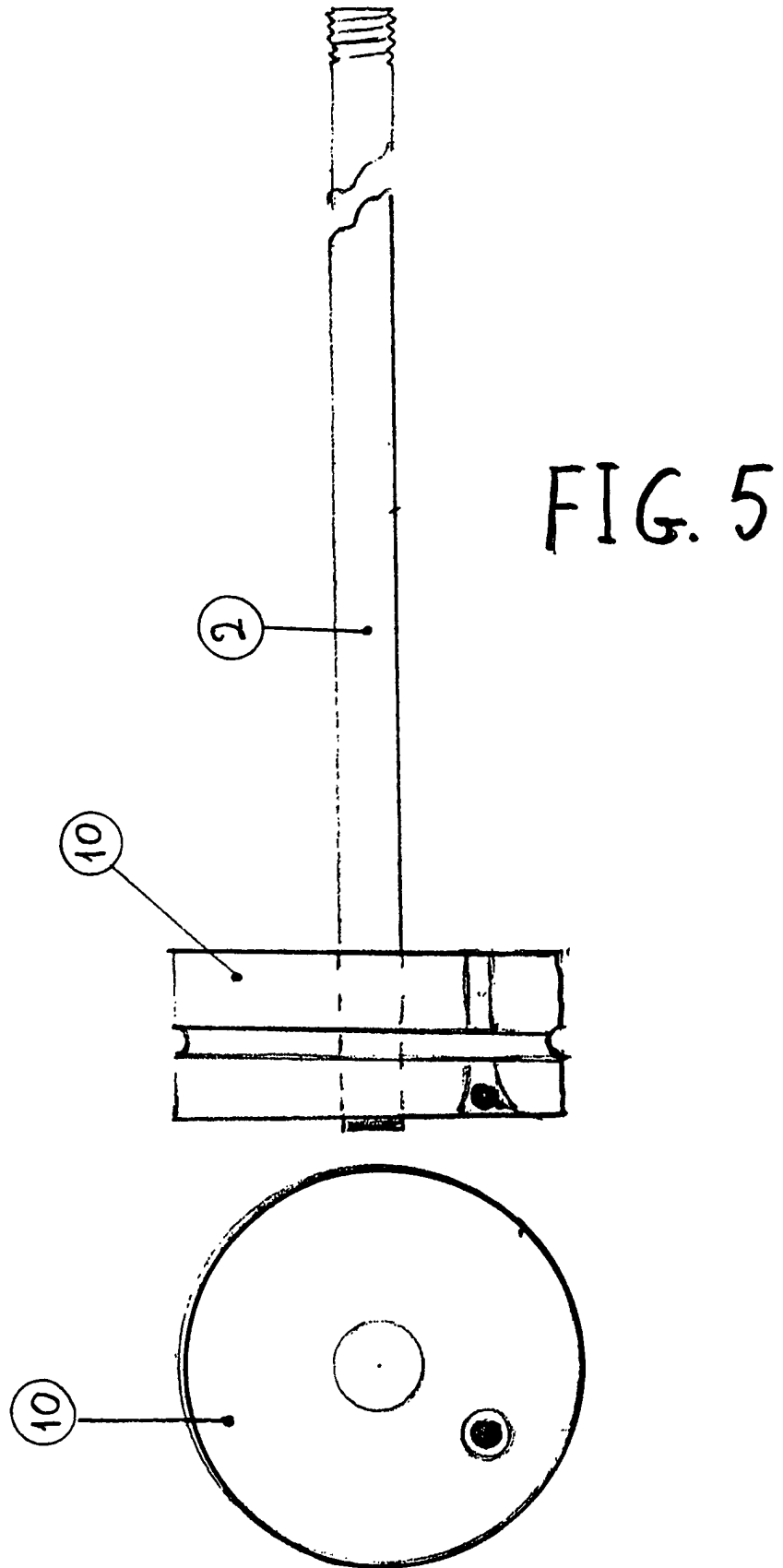


FIG. 4



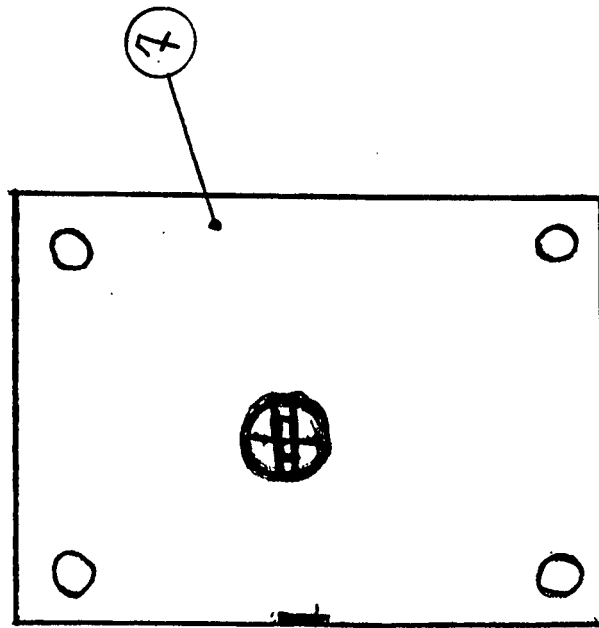


FIG. 6

