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(54) Device to glue posters and the like and glueing process of them.

(57) The invention is about a device to glue posters,wall-paper, etc. on surface and the glueing process of them.
It permits the mechanized poster glueing, making automatic this operation,so that the deposition process will result faster and above all it can be industrialized. The device is formed by a rools system, integrated to that one for the paste distribution. It can be portable or applicable to a mechanized arm, for glueing at inaccessible altitudes.
The poster wrapped in the container (2) of fig. (2) will be slide among the rools (6) and (7) till to reach the application wall with the edge.
Placing the rool (6) to the wall,the tube that sprays the paste (9) will be placed against the application wall.
Making the roll slide (6) , it will be realized the poster simultaneous winding off, and the pump actuation (laterally placed to the device); this pump will aspirate the paste from the tank and will spray it through the tube(9) on the poster and on the wall.
The pump can be actuated both by the manual operator force and by an external source, electrical or oleodynamic motor type.

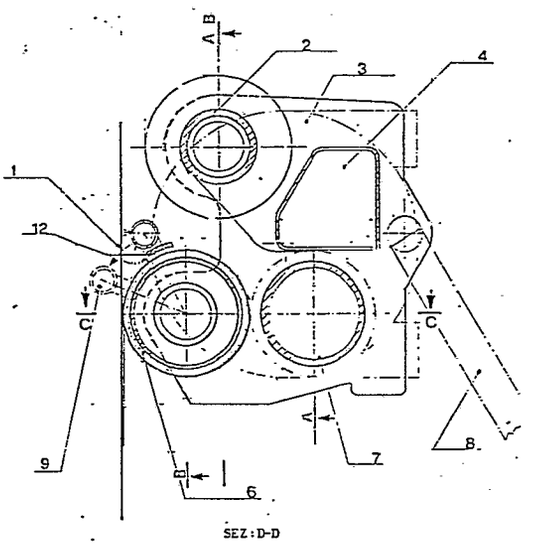

FIG. 2

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Description

DEVICE TO GLUE POSTERS AND THE LIKE AND GLUEING PROCESS OF THEM

The device of this invention permits the poster simultaneous and continuous glueing. The intention is reached through a device characterized as in clam 1.

Till now, the art status in this sector is limited to a manual application technique,with the poster disposition on the wall through hands, after paste apllication by brush.

The disadvantages of such a method are the application unpracticability because of the many drops of the poster not glued yet, the application difficulty on the great walls,often inaccessible, and the operation long times.

The device funtions with rolls systems, whose rools permit the paste and the poster automatic and simultaneous deposition,so avoiding to the operator all the manual operations.

The automatisation determines a different posters stocking,as they are rolled at the inside of cylindrical container, and the are connected each other so to make the device continous operate. In the future, for istance, it will not be necessary to produce posters one at a time, but on a continuous roll, inserting a dashed line for separation; naturally, this operation will reduced even the prime costs.

The device can be produced in two basic configurations,:

- Configuration 1 : Pressure method,the pump actioning is obtained through the deposition roll rotation on wall. The traction power is given by the operator force.
- Configuration 2 : Pressure method , the pump actionning is obtained by an electrical or oleodynamic motor.

The device of configuration 2 is a mechanical evolution of the basic model,which permits to industrialize the operation; it can be realized with metallic material, actioned with oleodynamic pump it will be assembled on a telescopic arm,whose basic strutture will be mounted on a vehicle like truck A typical use can be the posters glueing at relevant altitudes , so avoiding the scaffolding.

As a not limitative exsample, a device realization method is here given, described in detail,with reference to the following figures,where:

fig.1 represent a device front view

fig.2 represent the section D-D according fig. 1

fig.3 represent the device longitudinal section.

fig.4 represent the C-C section of fig.2

fig.5 represent the device washing plant diagramma.

fig.6 represent schematically the device utilizzation method.where (1) tube, (2) device, (3) external tank.

The device is formed by the following main components of fig.2:

- Roll containig posters (2); it must contain the rolled posters.
- Structural support (3); it must support the rolls and mechanisms, giving a sufficient structural rigidness to whole device.
- Paste tank (3) of fig.6 ; this element is external and contain the paste.
- Deposition roll (6); it has the function to place the poster on the wall and contemporary it acts as motor roll for the pump to make the paste in pressure for spraying it on the wall.
- Poster guide roll (7); it has the function to guide the poster from the container exit(2) to wall support.
- -Telescopic support (8); It has the function to support the device during the operations of poster glueing.
- Paste impregnating cylinder(9); It has the function to spray paste put in pressure by the pump. The system is mounted on oscillanting arms that are contrasted by an elastic element. This system permits to place the tube next the wall,during the glueing phase, and to remove it from the rolls at rest.
- Pump (10) of the fig. (3); the pump has the function to put the paste under pressure, aspirated from the external tank and envoyed to the impregnating cylinder.
- Belt drive(11) of fig.3; the drive connects the deposition roll (6) to the pump (10).
- Cutting system (12) of fig.2 ; it has the function to cut the poster, it actions through a teleflex command, placed on the support.

A realized model presents the following sizes and capabilities:

- poster max. width	cm 70/100
- lenght:	compatible with the container
- tank capability	1.1
- operation weight	kg 4

Naturally, the eventual more elevated poster widths do not limit the device utilizations, as it can be glued starting from partial width strips, corresponding to the device width. The device functionning can be so described, making reference to fig. 2.

a- Assembly on the roll (2) the rolled posters; if they are separated, connect each other to the extremities with tape.

b- Connect the paste container through an apt rubber tube to the pump.

c- Unstring manually the first poster till to make it reach the rolls inlet (6) (7) (see fig.2).

d- Handle the device through the support (8) and put it to the wall with the deposition roll (6).

e- Make the roll (6) slide on the wall, slowly and constantly, taking care of making a pressure against the wall.

The wall can present roughnesses, for this the roll is covered with soft rubber to avoid any jam.

The device use is very simple, it does not require particular instructions. It is just necessary little care for maintenance, as at each glueing end it is necessary to make run into the paste circuit some water for washing, according to the diagram of fig. 5, where there is the washing tank (1), paste tank (2),

switch (3), pump (4).
Typical device applications are the glueing of any type of posters, but it can be used even for wall-paper deposition for rooms decoration.

About the wall-paper, it will be used a paper continuous roll, cartridge rolled and inserted in the container roll (2). Naturally, it is necessary to cut the paper at the right point. Besides, it can be salved to the device a reference element (i.e. lateral small wheel) that can be guided through an alignment guide, so to stretch the wall-paper along a directrix, in a precise way.

Claims

1. Device to apply printed material, as posters, wall-paper, advices and the like on surface (1), characterized by (reference to fig.2):
- a structural support (3)
- an element or container support (2) connected to the structural support (3) and receiving itself the printed material to glue in a collected and/or rolled way.
- a deposition element or support (6) connected itself to the structural support and actuating a contact between the printed material to glue and the surface (1).
- a distribution system (9) of an adhesive material on the surface of the printed material to glue, before it is in contact with the surface (1).
- a cutting system (12), mechanically performed.

2. Application process of printed material on surface.
- Collect and/or wrap and/or roll the printed material on an element or container support of storage, on a continous way.
- Unreel the printed material from the support or container element.
- Apply an adhesive material on the printed side, that must be glued or applied on the surface.
- Wrap the printed material on a support or deposition element, so to be in contact with the surface, realizing this way the printed material application on the surface.
- Eventually separate the printed material from the deposition support or element.

3. Device according with claim 1, charactreized by the fact that it is connected to a telescopic support (8) through its structural support (3). The device, according to the configuration, can be manually supported, or mounted on a mechanized arm and placed on vehicle.

4. Device according with claim 1 , characterized by the fact that the printed material is formed by separated parts, connected each other and rolled on the container roll (2).

5. Device according with the claims 1 and 4, characterized by the fact that the printed material is formed by a continuous strip rolled on the container roll (2).

6. Device according with claim 1, characterized by the fact that the deposition roll (6) has a soft rubber coat to absorbe the eventual surface roughnesses (1).

7. Device according with claim 1, characterized by the fact that the guide element is slaved to the container element (2) and deposition element (6).

8. Device according with claim 1, characterized by the fact that the adhesive liquid distribution is a pressure type, pump generated, with a separated tank.

9. Device according with claim 8, characterzed by the fact that the pressure is obtained through an external source.

10. Device according with claim 1, characterized by the interchangeability of the posters container roll.

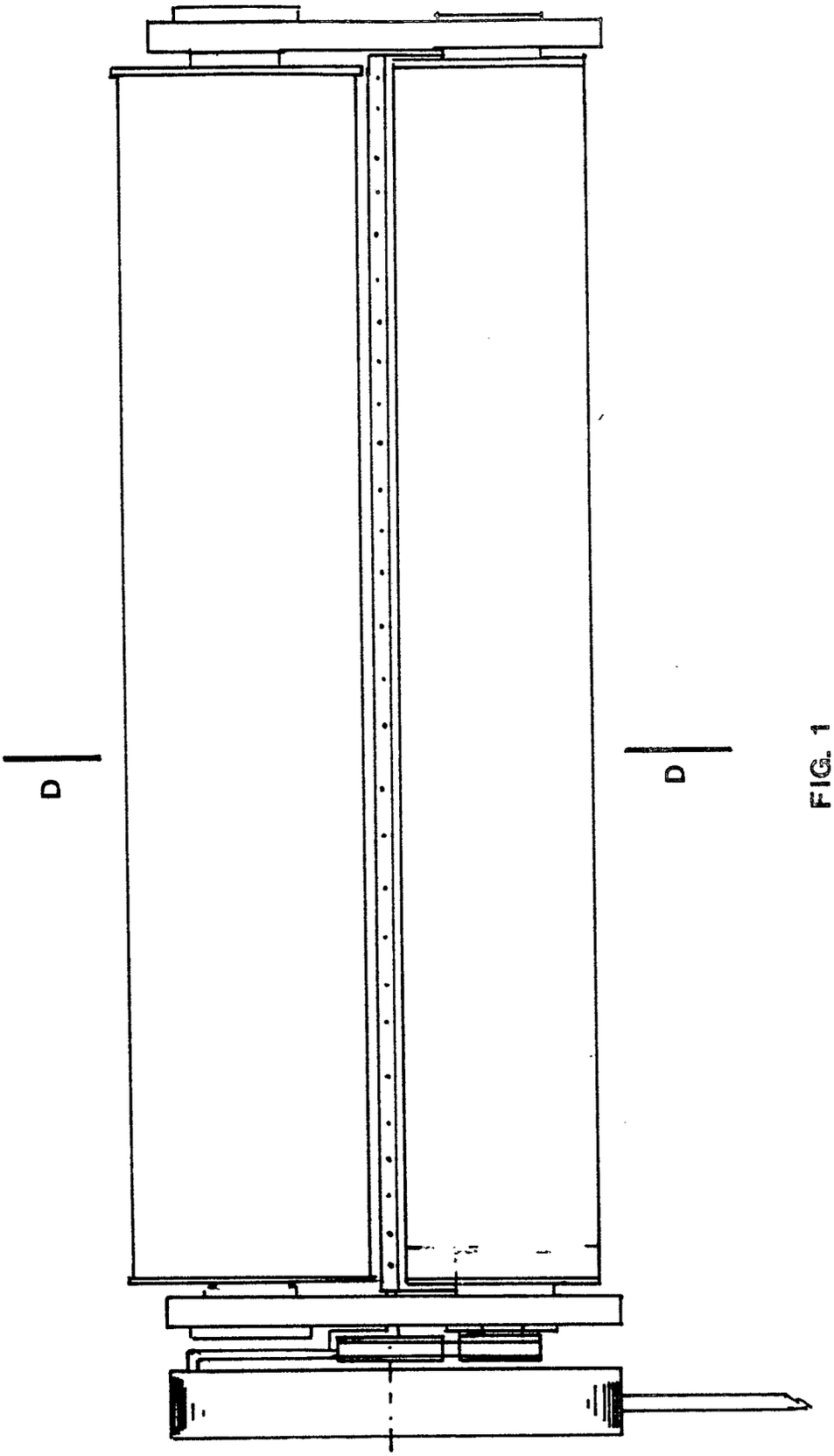
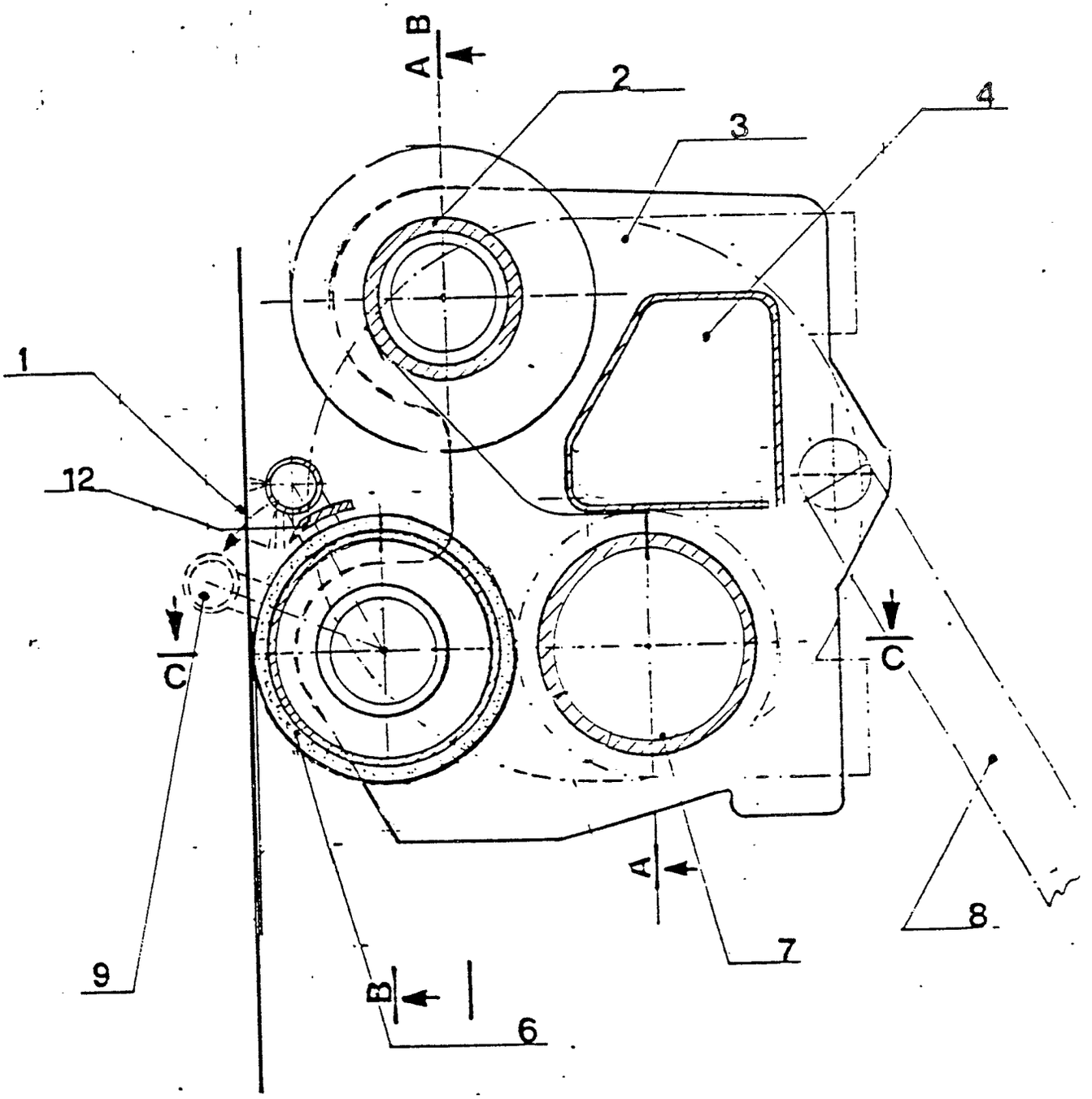
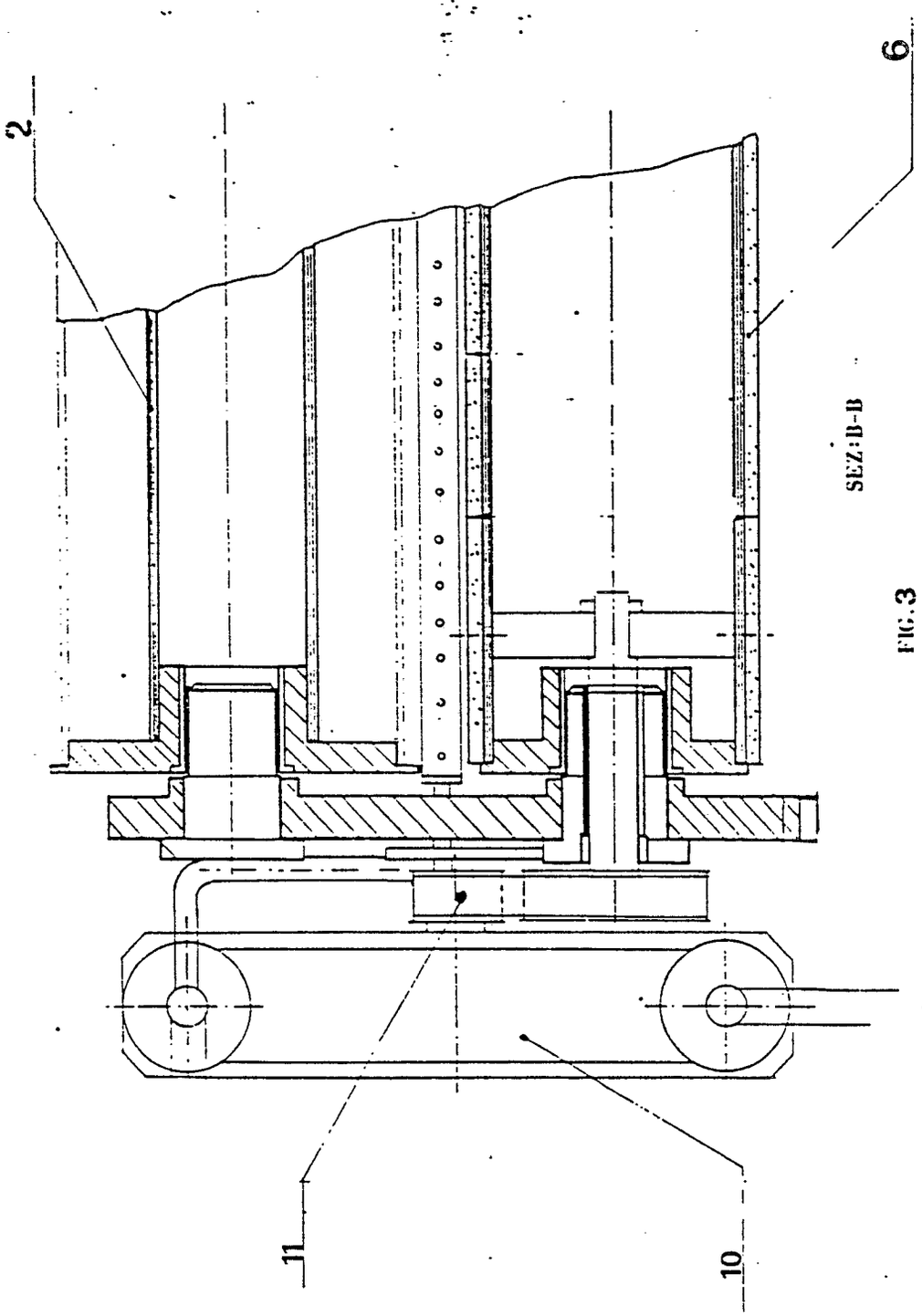


FIG. 1



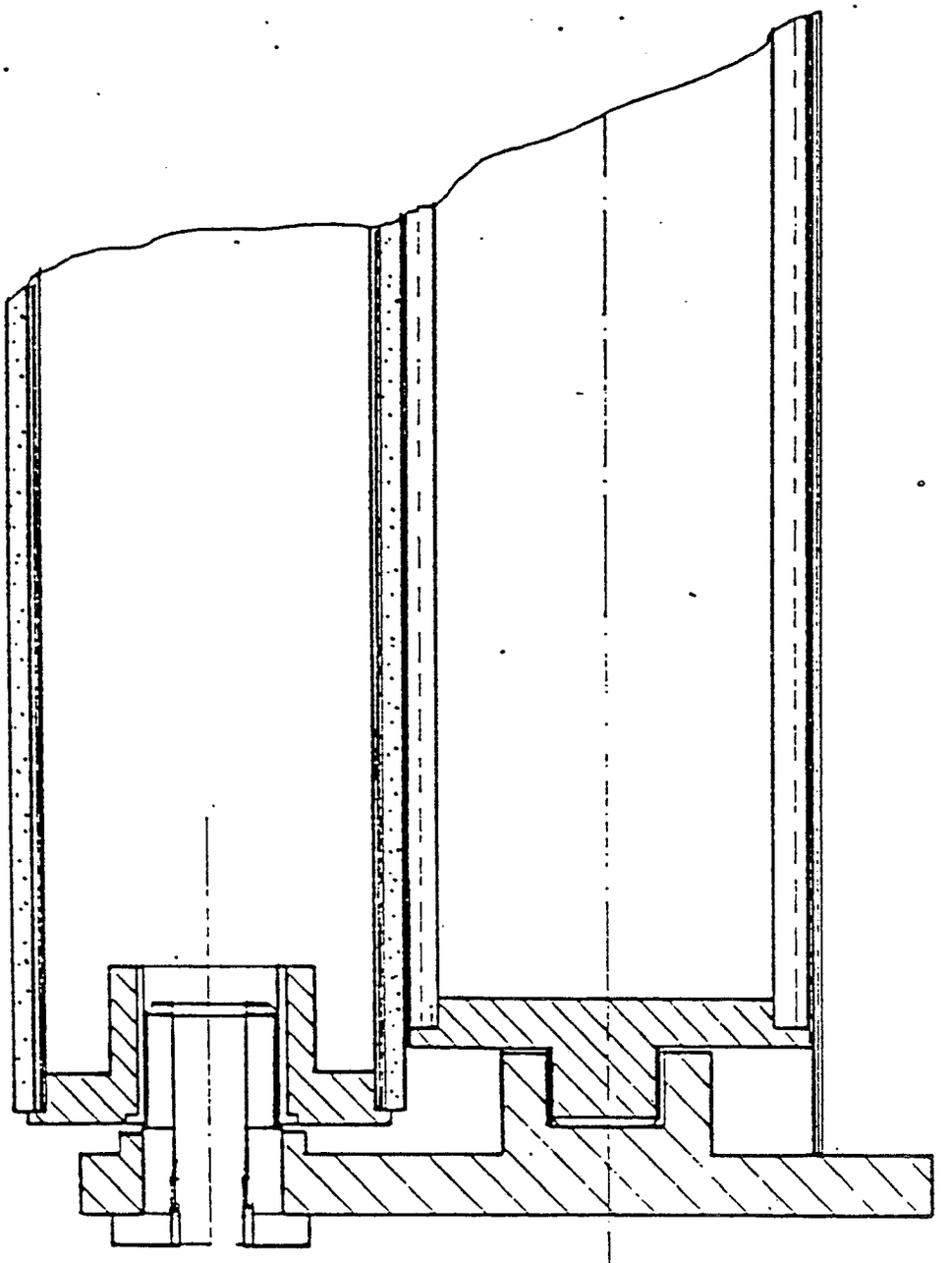
SEZ : D-D

FIG. 2



SEZ. B-B

FIG. 3



SEZ: C-C

FIG_4

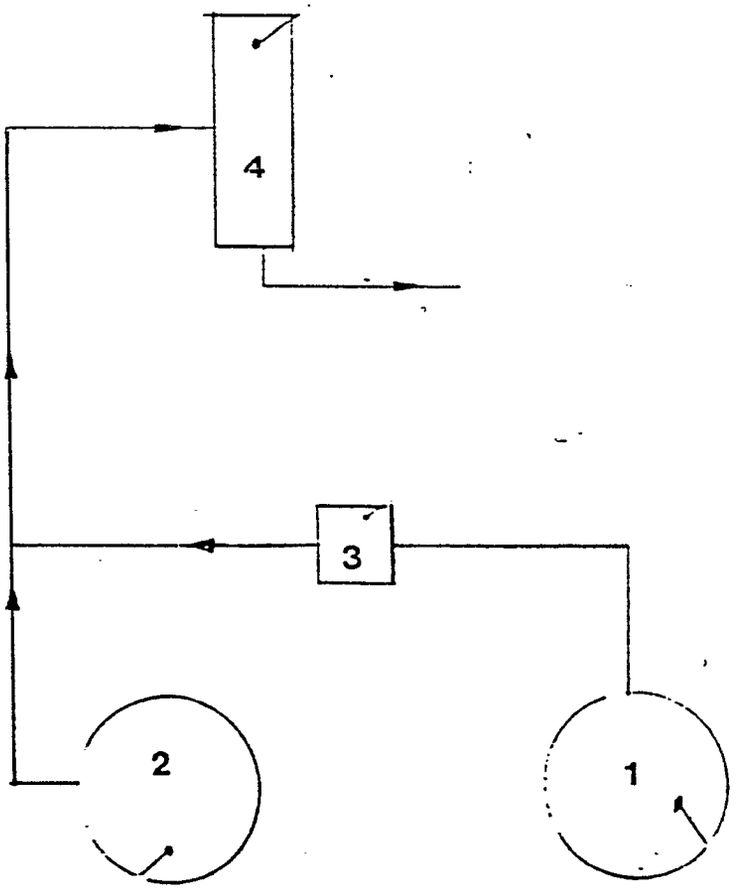


FIG. 5

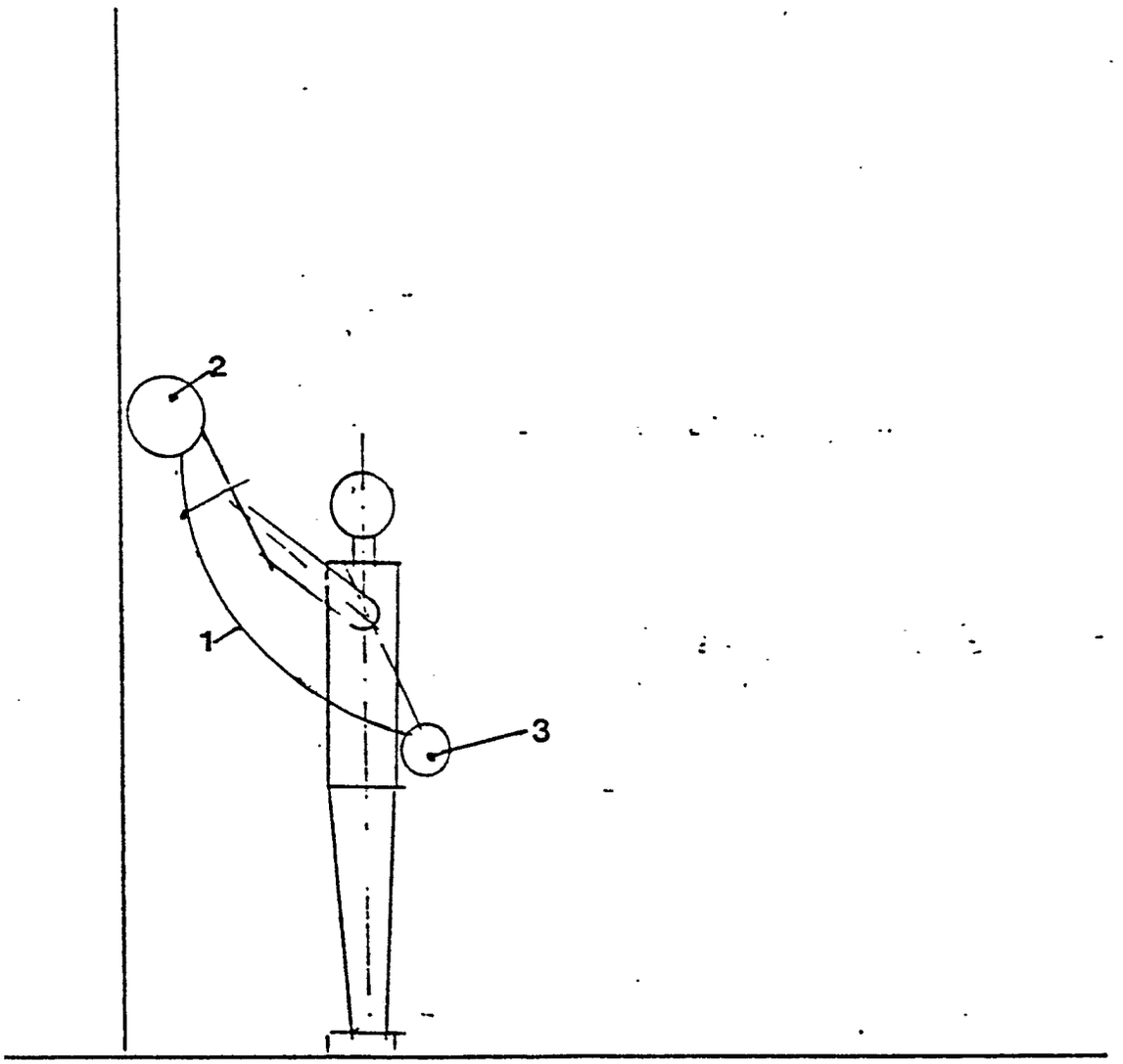


FIG.6