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Description

The present invention relates to ventilated tables, and more specifically, but not exclusively, to ventilated autopsy or dissection tables.

The air surrounding an autopsy or dissection table may sometimes be contaminated with potentially infectious viruses and bacteria which represent a health hazard to personnel working close to the table. As will be readily appreciated effective protection must be provided against these viruses and bacteria, especially where, as in the case of hepatitis B and tuberculosis, they may be life threatening. Moreover, the cadaver of specimen may give off upleasant odours or formaldehyde fumes which must be removed if the pathologist and mortuary technicians are to carry out their work in comfort.

Generally speaking there are four types of autopsy or dissection tables available:-

a) the plain stainless steel slab.

b) the plain stainless steel slab with a continuous flow of water over the work top.

c) total body handling systems.

d) the ventilated autopsy table.

Types (a) and (b) are relatively simple in design and have the advantage of being very easy to keep clean - after use the work top can be wiped down and sterilised with the minimum of effort. However, neither type provides any protection against air born infectious diseases, odours or fumes eminating from the cadaver or specimen and the pathologist and mortuary technicians must rely for protection upon the use of sterile procedures, face masks, etc.

Type (c) isolates the pathologist and the mortuary technicians from direct physical contact with the cadaver or specimen and provides full protection. However, by its very nature it is a complex and expensive system.

Type (d) provides a continuous downflow of air over the cadaver or specimen which draws air born infectious diseases, odours and fumes away from personnel standing close to the table. U.K. Patent No. 1531457 describes just such a ventilated autopsy table in which the table top is provided with a multiplicity of air inlets over its surface and an air extraction system is provided in the base of the table which draws air past the cadaver or specimen on the table top down through these air inlets. As the air passes through the air extraction system it is filtered to remove any contaminates carried thereby.

The ventilated autopsy tables of U.K. Patent No. 1531457 suffers from at least two major drawbacks. Firstly, the downflow of air is uniform around the whole cadaver, when in actual fact the most critical area of the table is around the head and torso of the cadavour. Secondly, pieces of body tissue and body fluids collect in, around and beneath the perforated areas of the table top making it difficult and time consuming to clean the autopsy table effectively.

It is an object of the present invention to provide a ventilated table which provides greater ventilation at one end than the other.

It is a further object of the present invention to provide a ventilated table which is effectively self cleaning.

It is still another object of the present invention to provide a ventilated table having a facility for biological cleaning.

According to the present invention there is provided a ventilated table comprising a table top having a multiplicity of air inlet openings therein, a plenum chamber, and air extractor means for drawing air down around the table top through said air inlet openings into the plenum chamber, characterised in that the air inlet openings are provided in and around the pheriphery of the table top. Preferably, the density of air inlet openings in the pheriphery of the table top is greater at one end that it is at the other.

In use as an autopsy table the head and torso of a cadaver will usually be positioned at the end of the table top having the greatest density of air inlet openings to ensure the maximum downflow of air thereby. This serves to minimse the risk of air born infectious diseases eminating from the body cavities of the cadaver being inhaled and also removes unpleasant body odours and fumes.

By providing the air inlet openings in and around the pheriphery of the table top a non-perforated area is provided at the centre of the table top where a cadaver or specimen can be worked upon. This non-perforated work area is easy to clean and there is much less likelihood of body fluids and tissues from the cadavours or specimens placed on the table top collecting in the air inlet openings. To further minimise the possibility of body fluids and tissues spreading from the non-perforated work area into the air inlet openings around the pheriphery the centre of the table top is advantageously dished or trough shaped so as to lie below the level of the perforated pheriphery. Preferably, the non-perforated work area is also downwardly inclined towards the end of the table with the greatest density of air inlet openings, which is provided with one or more drainage slots. This ensures that body fluids do not collect around the edge of the cadaver or specimen, and facilitates washing down of the table top.

Conveniently, the table top is supported on a drip tray or under sump, and the drip tray defines a substantially U-shaped cross section from one end of the table to the other. A drain and an air duct are provided in the floor of the drip tray. Liquids and solids are prevented from running into the air duct by a cowl provided over the top of it.

Although the air inlet openings around the periphery of the work area are remote from the actual cadaver or specimen being worked upon, and the work

area itself is so designed as to ensure that most fluids will run down through the drainage slots into the drip tray beneath, there will inevitably be some body fluids and tissues which enter the plenum chamber through the air inlet openings. If these are not removed immediately they tend to congeal and stick to the interal surfaces of the table making it difficult to clean effectively. In order to mitigate this problem flushing means are provided beneath the table top for supplying flushing liquid from each of a plurality of positions around the table top. Preferably said flushing means comprises a plurality of spray jets connected to a source of high pressure water, which spray jets are directed towards the internal walls of the table and across the air inlet openings, so thereby ensuring that body fluids and tissues dropping through the air inlet openings are continously washed off the interal walls of the table. Furthermore, as air passes through the curtain of water formed by the spray jets it is scrubbed of impurities and contaminates.

The table top may rest on a ledge, groove or channel provided on an inturned rim of the drip tray. However, it may be more convenient to rest the table top on the spray jets.

Preferably, the autopsty table comprises a support pedestal. In addition to enclosing the services pipes to and from the autopsy table this also incorporates a lift mechanism for varying the height of the table. Conveniently, the lift mechanism is hydraulically operated and is controlled by a foot operated pedal. The support pedastel, the service pipes and the air duct are all telescopic to accommodate variations in the height of the table. As well as being adjustable in height the table can be rotated and tilted relative to the support pedastel to allow inspection of a cadaver or specimen on the table top from any position.

Preferably, the drip tray is provided with an aperture in the side to which a pressurised canistor may be connected. This cannistor contains a biological cleansing agent which can be released into the plenum chamber to disinfect the interior thereof. After use the cleansing agent can be washed away by spraying the interior of the plenum chamber with water through the spray jets.

It should be understood that the simple configuration of air inlet openings around the pheripery of the table top and the provision of flushing means beneath the table top makes the autopsy table of the present invention particularly easy to keep clean.

Indeed it has been found in use that the ventilated table is virtually self cleaning and that it is only necessary to sterilise the table after each use. Certainly, it not usually necessary to scrub down the table, both inside and out as is the case with conventional ventilated tables.

An embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 shows a plan view of an autopsy table according to the present invention;

Fig. 2 shows a sectional view of the autopsy table of Fig. 1 along lines II - II;

Fig. 3 shows a sectional view of the autopsy table of Fig. 1 along lines III - III.

Fig. 4 shows a section through the support pedestal shown in Fig. 2 and 3 along lines IV - IV; and,

Fig. 5 shows a detail of the region between the table top and the drip try in the autopsy table of Fig 1.

Referring to Figs. 1 to 3 of the accompanying drawings there is shown an autopsy table comprising a table top 1 removably mounted on an under sump or drip tray 2 supported on a support pedestal 3. The drip tray 2 is essentially trough shaped and defines with the table top 1 a plenum chamber. In the bottom of the drip tray 2 there is provided an air duct 4 and a drain 5, both of which are connected to appropriate connecting pipework enclosed within the support pedestal 3. The air duct 4 is covered by a cowl 6 to prevent liquids and solids which have collected in the drip tray 1 from running into it. The drain 5 is covered by a drain filter (not shown) and an overflow outlet (not shown) in the side of the drip tray 1 warns the user of any blockages.

The support pedestal 3 is telescopic and is extended and retracted by means of an hydraulically operated jack 7 to vary the height of the table top 1. For convenience the jack 7 is operated by a foot pedal 8. To accommodate variations in the height of the table top 1 the pipework to the drain pipe 5 and to the air duct 4 is also telescopic, although as an alternative flexible piping may be used instead.

Referring to Fig. 4 of the accompanying drawings it will be seen that the drip tray 1 is supported on a box shaped metal carriage frame 9 which carries a plurality of precision V rollers 10 on opposing sides. These V rollers 10 are slideably engaged with a vertically orientated track member 11 secured to and supported by the outer casing 12 of the support pedestal 3. This arrangement guides the table as it is raised and lowered and mimimises twisting and vibration of the table on the support pedestal 3. An access door 13 is provided in the side of the outer casing 12 for maintenance purposes.

As can be seen in Figs. 2 and 3 the table top 1 defines a dish shaped profile - that is to say the centre of the table top 1 is depressed relative to the peripheral edge thereof - and the depressed central area 14 of the table top 1 is downwardly inclined towards drainage slots 15. In use, a cadaver is rested on this depressed central area 14 to be worked on. During dissection of the cadaver any body fluids run down the slope of the depressed central area 14 and through the drainage slots 15 into the drip tray 2 beneath. Likewise, after use, when the table top 1 is washed down any fragments of tissue which are left

on the depressed central area 14 of the table top 1 will be washed away down the drainage slots 15.

The peripheral edge of the table top 1 is perforated to provide air inlet openings 16 through which air can be drawn past the cadaver on the table top 1 down into the plenum chamber and away through the air duct 4. This downflow of air past the cadaver prevents infectious diseases, fumes and odours being inhaled by the pathologist and mortuary technicians. The density of these air inlet openings 16 is greater at the end of the table top 1 where the drainage slots 15 are found, and it is towards this end that the head and torso of the cadaver are positioned. The reason for this is that infectious diseases, fumes and odours tend to emanate from the opened body cavities and not from muscular tissue around the lower limbs.

Referring now to Fig. 5 of the accompanying drawings it will be seen that around the perimeter of the table 1 there is provided a right angled flange 17. The table top 1 is supported in the drip tray 2 through this flange 17 which rests on a plurality of round section stub pipes 18 projecting outwardly from the interior wall of the drip tray 2. Each stub pipe 18 is connected to a water supply tube 19 and has a spray nozzle 20 at the end thereof which is directed towards the sides of the drip tray 2 across the width of the perforated periphery of the table top 1. Each stub pipe 18 and spray nozzle 20 forms a water spray jet from which water is sprayed on the interior walls of the drip tray 1. In doing so it effectively cleans the interior of the plenum chamber of any body tissues or fluids which have entered through the drainage slots 15 or the air inlet openings 16. Moreover, the air which is drawn into the plenum chamber has to pass through the curtain of water formed by the spray jets before it reaches the air duct 4 and this has the effect of scrubbing it of impurities and contaminates. The water which collects in the drip tray will, of course, run away down the drain 5.

The autopsy table of the present invention is, by virute it is design particularly easy to clean, indeed it has been found in use that it is virtually self cleaning. The drip tray is kept clean by the water sprayed from the spray jets, but should it be necessary to carry out a full manual scrub down this is simplicity itself. With exposed, and since both component parts are of simple design with very few awkward corners and protrusions to get into cleaning can be carried out with the minimum of effort.

Should sterilisation of the table be necessary this can be carried out by covering the table top 1 with a cover (to prevent the escape of any disinfectant) and connecting a pressurised cannister containing an atomising disinfectant spray to the overflow. This is facilitated by means of a bayonet quick release fitting. The interior of the plenum chamber is then exposed to an aerosol of fumigant which will effectively kill bacteria, etc. After the aerosol of disinfectant has settled it can be washed away down the drain 5 by turning on the spray jets.

Claims

1. A ventilated table comprising a table top (1) having a multiplicity of air inlet openings (16) therein, a plenum chamber, and air extractor means for drawing air down around the table top (1) through said air inlet openings (16) into the plenum chamber, characterised in that the air inlet openings (16) are provided in and around the periphery of the table top (1).

2. A ventilated table according to Claim 1, characterised in that the density of air inlet openings (16) in the table top (1) is greater at one end than the other.

3. A ventilated table according to Claim 2, characterised in that the non-perforated work area of the table top (1) is downwardly inclined towards the end with the greatest density of air inlet openings which end is provided with one or more drainage slots (15).

4. A ventilated table according to any one of Claims 1 to 3, characterised in that the table top (1) is supported on a drip tray or under sump (2) of substantially U-shaped section, which drip tray (2) defines, with the table top (1), the said plenum chamber.

5. A ventilated table according to Claim 4, characterised in that a drain (5) and an air duct (4) are provided in the floor of the drip tray (2).

6. A ventilated table according to any preceding claim, characterised in that flushing means (18, 20) are provided beneath the table top (1) for supplying flushing liquid from each of a plurality of positions around the table top (1).

7. A ventilated table according to Claim 6, characterised in that the flushing means (18, 20) comprises a plurality of spray jets (20) connected to a source of high pressure flushing liquid which spray jets (20) are directed towards internal walls of the table and across the air inlet openings (16).

8. A ventilated table according to Claim 6 or 7, characterised in that the table top is supported on the flushing means (18, 20).

9. A ventilated table according to any preceding claim, characterised in that an inlet is provided to the plenum chamber below the table top through

which a bioligical cleaner may be introduced into the interior of the table.

Patentansprüche

1. Entlüfteter Tisch mit einem Tischoberteil mit einer Vielzahl von Lufteinlaßöffnungen, einer Plenumkammer und einer Luftextraktionseinrichtung zum Einsaugen von Luft rund um das Tischoberteil (1) durch die Lufteinlaßöffnungen in die Plenumkammer, dadurch gekennzeichnet, daß die Lufteinlaßöffnungen (16) im Randbereich des Tischoberteils (1) rundum verteilt angeordnet sind.

2. Entlüfteter Tisch nach Anspruch 1, dadurch gekennzeichnet, daß die Dichte der Lufteinlaßöffnungen (16) im Tischoberteil (1) am einen Ende größer ist als am anderen Ende.

3. Entlüfteter Tisch nach Anspruch 2, dadurch gekennzeichnet, daß die nicht perforierte Arbeitsfläche des Tischoberteils (1) in Richtung auf das Ende mit der größten Dichte von Lufteinlaßöffnungen, welches mit einem oder mehreren Drainageschlitzen (15) versehen ist, nach unten geneigt ist.

4. Entlüfteter Tisch nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß das Tischoberteil (1) von einer Auffangschale oder einem Einlaufschacht (2) von im wesentlichem U-förmigem querschnitt abgestützt ist, wobei die Auffangschale (2) mit dem Tischoberteil (1) die Plenumkammer bildet.

5. Entlüfteter Tisch nach Anspruch 4, dadurch gekennzeichnet, daß im Boden der Auffangschale ein Ableitungskanal (5) und eine Luftleitung (4) angeordnet sind.

6. Entlüfteter Tisch nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß Spüleinrichtungen (18, 20) unter dem Tischoberteil (1) angeordnet sind, um Spülflüssigkeit von jeder einer Vielzahl von Positionen rund um das Tischoberteil (1) zuzuführen.

7. Entlüfteter Tisch nach Anspruch 6, dadurch gekennzeichnet, daß die Spüleinrichtung (18, 20) eine Vielzahl von Sprühdüsen (20) enthält, die an eine Hochdrucksprühflüssigkeitsquelle angeschlossen sind, wobei die Sprühdüsen (20) gegen Innenwände des Tisches und über die Lufteinlaßöffnungen (16) gerichtet sind.

8. Entlüfteter Tisch nach Anspruch 6 oder 7, dadurch gekennzeichnet, daß das Tischoberteil auf der Spüleinrichtung (18, 20) abgestützt ist.

9. Entlüfteter Tisch nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Plenumkammer unter dem Tischoberteil mit einem Einlaß versehen ist, durch welchen ein biologischer Reiniger in das Innere des Tisches eingeführt werden kann.

Revendications

1. Table ventilée comprenant un plan de table (1) possédant une pluralité d'ouvertures d'admission d'air (16), une chambre de tranquilisation et un moyen d'extracteur d'air pour extraire l'air autour du plan de la table (1) a travers lesdites ouvertures d'admission d'air (16) dans la chambre de tranquilisation, table caractérisée en ce que les ouvertures d'admission d'air sont prévues dans et autour de la périphérie du plan de la table (1).

2. Table ventilée selon la revendication 1, caractérisée en ce que la densité d'ouvertures d'admission d'air (16) dans le plan de la table (1) est plus grande à une extrémité qu'à l'autre.

3. Table ventilée selon la revendication 2, caractérisée en ce que la zone de travail non perforée du plan de la table (1) est inclinée vers le bas en direction de l'extrémité présentant la plus grande densité d'ouvertures d'admission d'air, extrémité qui est munie d'une ou de plusieurs fentes de drainage (15).

4. Table ventilée selon l'une quelconque des revendications 1 à 3, caractérisée en ce que le plan de la table (1) est supporté par un plateau de purge ou un carter inférieur (2) de section globale en forme de U, plateau de purge (2) définissant avec le plan de la table (1) ladite chambre de tranquilisation.

5. Table ventilée selon la revendication 4, caractérisée en ce qu'un drain (5) et un conduit d'air (4) sont prévus dans le fond du plateau de purge (2).

6. Table ventilée selon l'une quelconque des revendications précédentes, caractérisée en ce que des moyens de nettoyage (18, 20) sont prévus en dessous du plan de la table (1) pour fournir un liquide de nettoyage à partir de chaque position d'une pluralité de positions autour du plan de la table (1).

7. Table ventilée selon la revendication 6, caractérisée en ce que le moyen de nettoyage (18, 20)

comprend une pluralité de jets de pulvérisation (20) raccordés à une source de liquide de nettoyage sous haute pression, lesdits jets de pulvérisation (20) étant dirigés en direction des parois internes de la table et en travers des ouvertures d'admission d'air (16).

8. Table ventilée selon la revendication 6 ou 7, caractérisée en ce que le plan de la table est supporté par les moyens de nettoyage (18, 20).

9. Table ventilée selon l'une quelconque des revendications précédentes, caractérisée en ce qu'une entrée est prévue vers la chambre de tranquilisation en dessous du plan de la table, entrée à travers laquelle un nettoyant biologique peut être introduit à l'intérieur de la table.

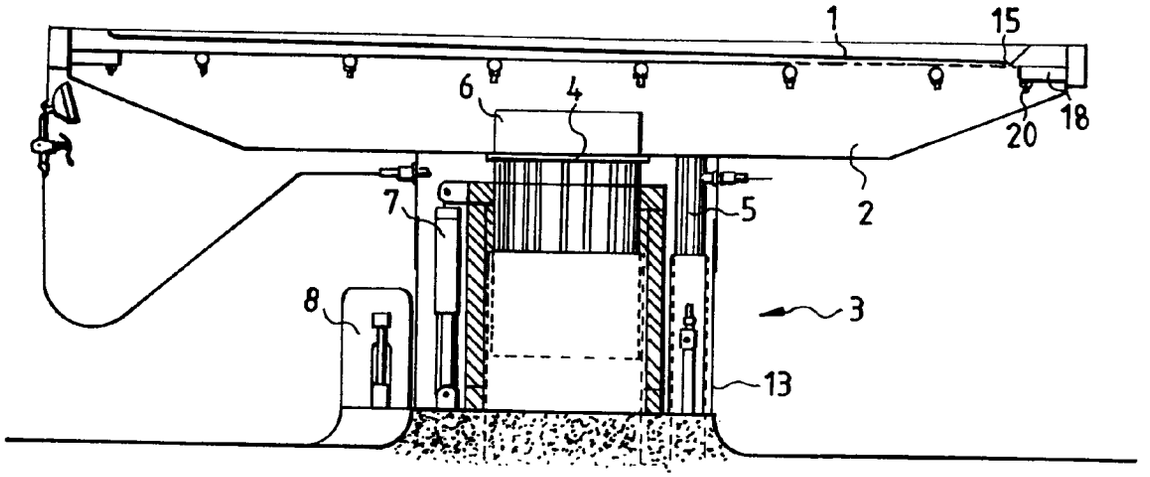


FIG.2

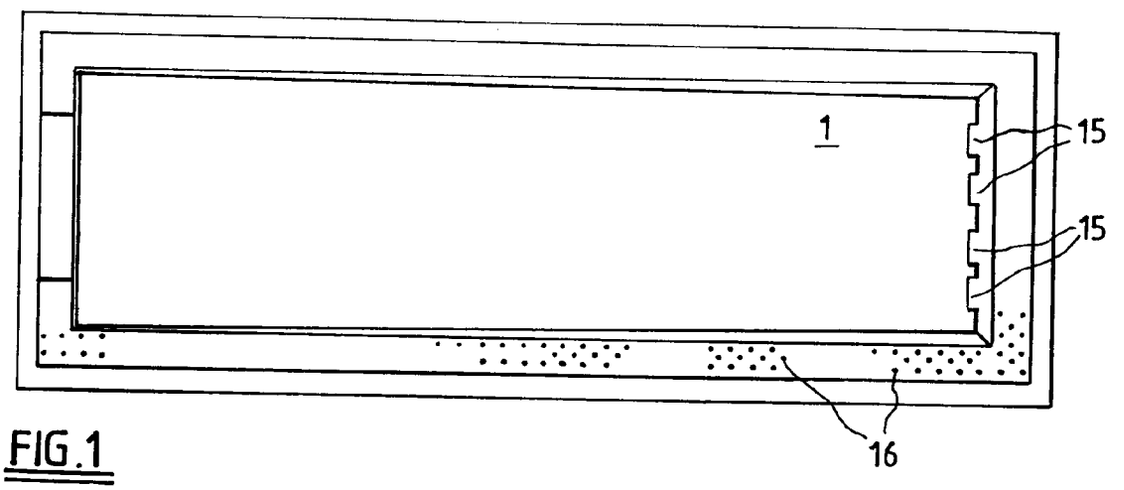


FIG.1

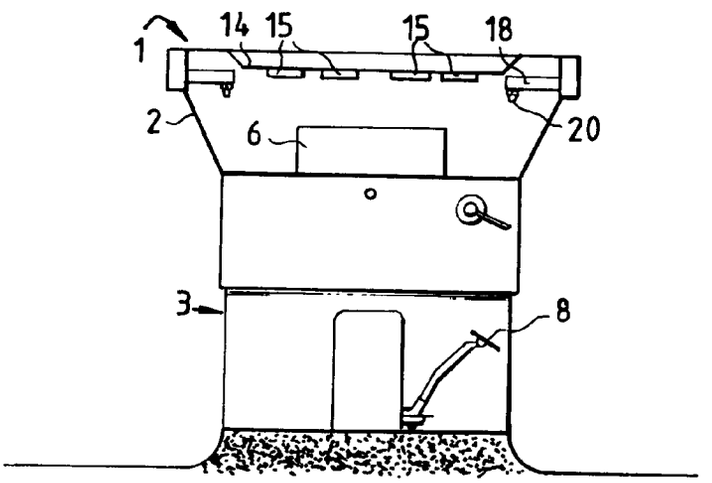


FIG. 3

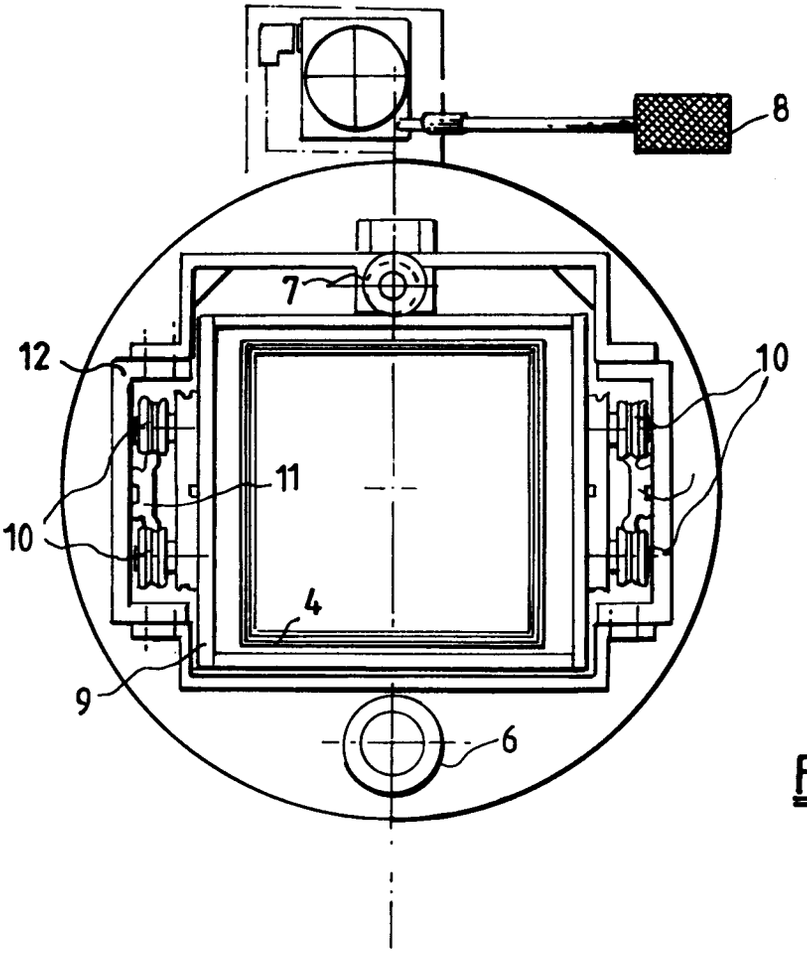


FIG. 4

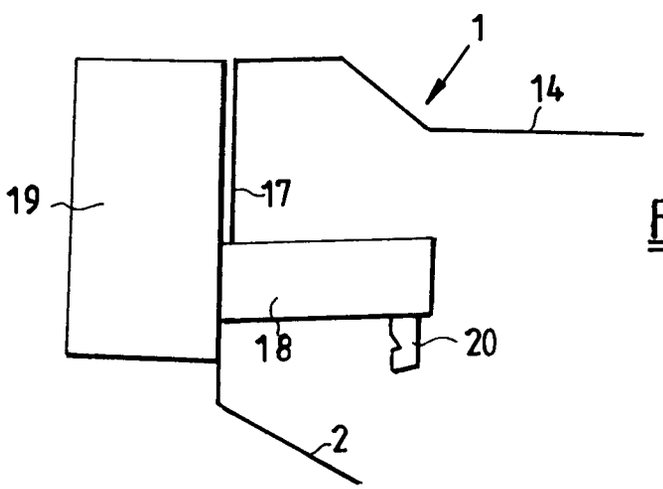


FIG. 5