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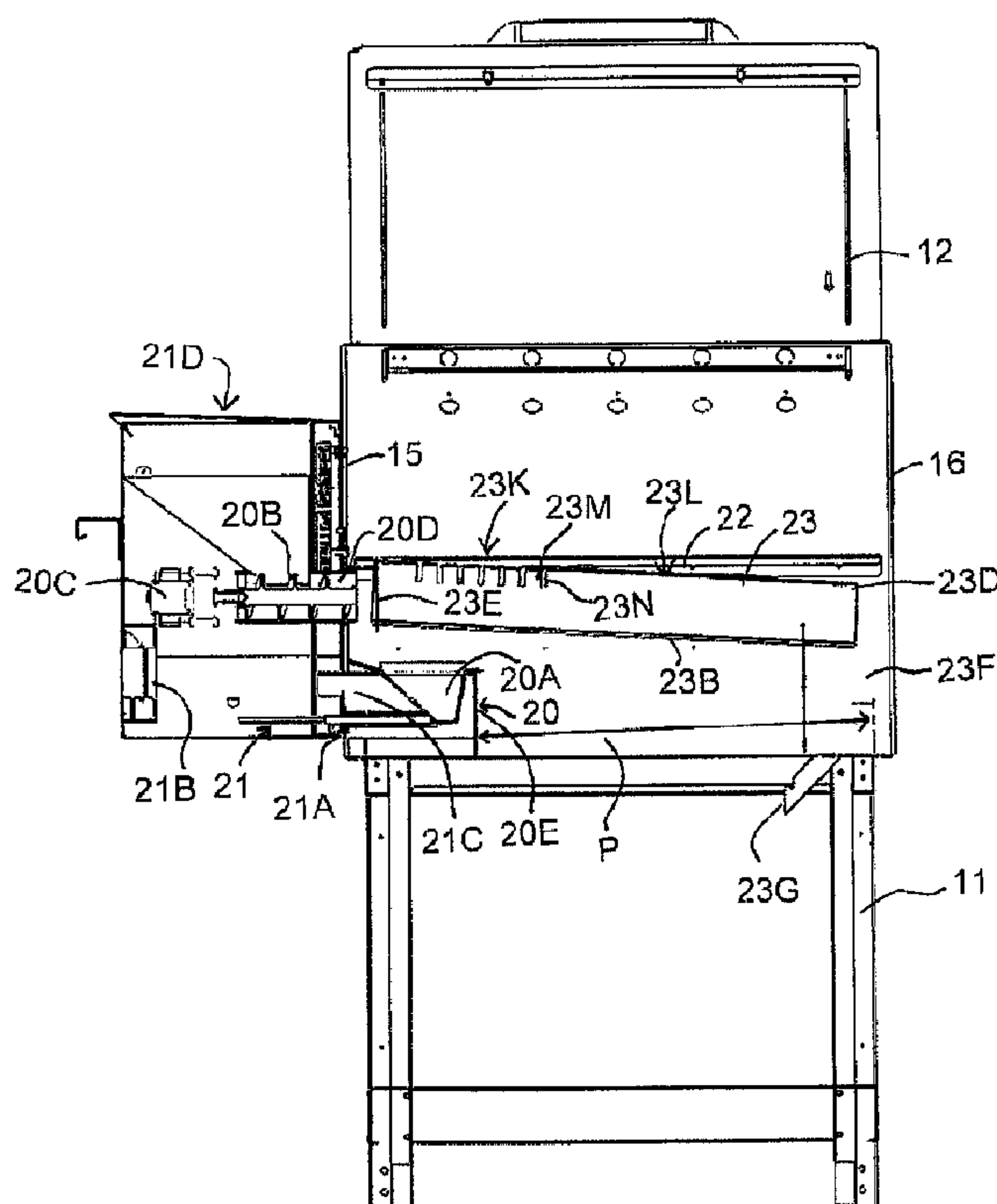
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(54) Titre : GRIL DE CUISSON UTILISANT UN COMBUSTIBLE EN GRANULES

(54) Title: COOKING GRILL USING PELLET FUEL



(57) Abrégé/Abstract:

A cooking grill has a container with a heating bowl inside one end wall with a fuel pellet feed for combustion within the bowl and an automatic igniter for starting the combustion. A grate is arranged over the heating bowl at the first end of the container and over the part of the container beyond the heating bowl. An arch-shaped cover underneath the grate acts to spread heat along the container and onto parts of the grate beyond the heating bowl and to carry liquid toward the second end of the container for collection. The cover has a first portion at the heating bowl with slots for direct release of searing heat to food products on the grate with the remainder of the cover being substantially imperforate. A slide portion is provided to close the slots.

ABSTRACT

A cooking grill has a container with a heating bowl inside one end wall with a fuel pellet feed for combustion within the bowl and an automatic igniter for starting the combustion. A grate is arranged over the heating bowl at the first end of the container and over the part of the container beyond the heating bowl. An arch-shaped cover underneath the grate acts to spread heat along the container and onto parts of the grate beyond the heating bowl and to carry liquid toward the second end of the container for collection. The cover has a first portion at the heating bowl with slots for direct release of searing heat to food products on the grate with the remainder of the cover being substantially imperforate. A slide portion is provided to close the slots.

COOKING GRILL USING PELLET FUEL

This invention relates to a cooking grill for outdoor grilling and barbecuing of the type which uses compressed fuel pellets of wood for combustion, an particularly to an improvement to a grill of this type where extra heat can be
5 obtained for short term searing of meat.

BACKGROUND OF THE INVENTION

Recent developments in barbecuing have led to manufacture of a cooking grill of the type comprising a container mounted on legs and having an openable top lid for enclosing a cooking area. A source of heat is provided within
10 the cooking area for applying heat to a food products to be cooked carried on a grate within the cooking area. The source of heat includes a heating bowl with a pellet feed system for discharging pellets of fuel into the bowl at a predetermined rate for combustion within the bowl to generate heat. An automatic igniter is provided for starting the combustion so that the pellet burner is as convenient as gas but
15 provides much improved food quality. The heating bowl is located at a first end of the container leaving a part of the container up to the other end located beyond the heating bowl. The grate is arranged over the heating bowl at the first end of the container and over the part of the container beyond the heating bowl. An arch-shaped cover extends along the container underneath the grate located over the
20 heating bowl and extends into the part of the container beyond the heating bowl so as to spread heat from the heating bowl along the container and onto parts of the grate beyond the heating bowl and so as to carry liquid including fat falling from the

food products on the grate toward a second end of the container for collection. One example is sold under the trade name Louisiana-Grills.

SUMMARY OF THE INVENTION

It is one object of the invention to provide an improved grilling
5 arrangement for use in a grill of the above general type.

According to the invention a cooking grill of the type described above is modified so as to include a cover having a first portion arranged over the heating bowl including a plurality of openings for allowing direct release of heat from the heating bowl upwardly to food products on the grate above the heating bowl when
10 required with the cover being substantially imperforate beyond the heating bowl and the cover has a component by which the plurality of openings are closed by the component to prevent direct release of heat from the heating bowl upwardly to food products on the grate above the heating bowl when required.

The term "heating bowl" used herein is not intended to limit the
15 element concerned in terms of its shape or its material and the bowl may be formed of metal or other materials and may have any shape provided it acts to receive and contain pellets during combustion with the heat and gases of combustion rising to the cover.

In one arrangement the component forms a separate imperforate cover
20 sheet which is placed over the openings.

In another arrangement the component includes a plurality of openings matching the openings in the cover and is movable relative to the cover from an open position to align the openings to a closed position to misalign the openings.

Other arrangements can also be provided where the openings allow the heat to escape directly upwardly but can be closed or covered to halt the direct escape.

Preferably the openings form a series of parallel slots since these can cause the typical sear marks on the food product but other shapes of opening can be provided in a pattern of any array.

Preferably if the slots are used they are transverse to the container so that the arch shape of the cover acts to strengthen the metal strips forming the cover between the open slots.

Preferably the slots extend across the heating bowl from one side to the other side to maximize the heat escape when required.

Preferably the openings form an array arranged to extend over substantially the whole of the heating bowl and terminate at a position at or just beyond the heating bowl, again to maximize the heat escape when required.

As in typical products of this type, the cover is preferably arched so as to define center apex along the container and descending on each side so as to shed liquid to the sides where the cover has channels formed along the sides to direct the liquid along the cover. However other shapes of cover shedding in different direction can also be used. Also the cover preferably extends to a position

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adjacent but spaced from a second end of the container so as to discharge the liquid into a catchment container where it can be discharged to a collection vessel for disposal.

Preferably the grill is of the type where there is provided an automatic
5 igniter such as a heated glow element and an air blower, for the pellets in the heating bowl. However this is not an essential element and manual lighting can be employed.

Preferably the pellets are fed into the bowl by an auger from a supply tank at one end of the container where the auger feed through an opening at one
10 end of the container into the bowl carried on the inside of the end wall of the container. Preferably the container is cylindrical but other shapes and arrangements can be used.

BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of the invention will now be described in conjunction
15 with the accompanying drawings in which:

Figure 1 is an isometric view of a grill according to the present invention showing the openings in the cover at the heating bowl in the closed position.

Figure 2 is an isometric view of a grill the same as that of Figure 1
20 showing the openings in the cover at the heating bowl in the open position.

Figure 3 is a vertical cross-sectional view of the grill of Figure 1 showing the openings in the cover at the heating bowl in the closed or covered

position.

Figure 4 is a broken isometric view of the grill of Figure 1 showing the openings in the cover at the heating bowl in the open position.

Figure 5 is an isometric view of the cover only of the grill of Figure 1.

5 In the drawings like characters of reference indicate corresponding parts in the different figures.

DETAILED DESCRIPTION

The cooking grill shown in the drawings includes a cylindrical container 10 mounted on legs 11 and having an openable top lid 12 for enclosing an interior cooking area 13. The container 10 has a cylindrical peripheral wall 14 closed at two ends by end walls 15 and 16. The lid 12 forms a continuation of the cylindrical wall to cover an opening 17 between the end walls 15 and 16. The lid is carried on internal hinges 18 and is closed by a handle 19 so as to provide an attractive continuation of the cylindrical wall.

15 A source of heat 20 is provided within the cooking area for applying heat to a food products to be cooked carried on a grate 22 within the cooking area and bridging the container at a height above the heat source and bridging a top edge 17A of the opening 17 at the front and carried on a support ledge at the rear to form a conventional horizontal flat perforated grate for the food products.

20 The source of heat 20 includes a metal heating bowl or pan 20A carried on the inside of the end wall 15 of the container with an auger pellet feed system 20B driven by a motor 20C for discharging pellets of fuel through an opening

20D in the end wall 15 into the bowl 20A at a predetermined rate for combustion within the bowl to generate heat.

An automatic igniter 21 is provided for starting the combustion. This includes an electrically heated glow element 21A and an air blower 21B so that air
5 passes through the wall 15 at the bowl through an opening 21C and the heat and air cause combustion in the pellets to automatically start. The igniter is operated for a period of time and then halted to allow combustion to continue driven by the feed of the pellets and the rate of air flow. The operating components of the igniter are contained in a housing 21D mounted on the end wall 15 outside the interior
10 combustion area 13.

The heating bowl is located at a first end 15 of the container leaving a part P of the container up to the other end 16 located beyond the end wall 20E of the heating bowl. The grate 22 is arranged over the heating bowl 20A at the first end 15 of the container and over the part P of the container beyond the heating bowl so that
15 food products can be placed on to the grate throughout the area of the container 10 under the lid 12.

An arch-shaped cover 23 extends along the container underneath the grate 22 located over the heating bowl and extends into the part P of the container beyond the heating bowl 20A so as to spread heat from the heating bowl along the
20 container 10 and onto parts of the grate 22 beyond the heating bowl and so as to carry liquid including fat falling from the food products on the grate toward the second end 16 of the container for collection.

The arch-shaped cover defines a center apex 23A along the container and descending on each side to up-standing side flanges 23B, 23C so as to shed liquid to the sides where the cover has channels formed along the sides by the flanges to direct the liquid along the cover to the remote end 23D adjacent the wall 16. The cover has a first end 23E close to the end wall 15 and extends to a position adjacent but spaced from the second end wall 16 of the container and is mounted on the sides of the container 10 so that it is inclined downwardly toward the wall 16 so as to discharge the liquid into a catchment container 23F at the wall 16 where it can be discharged to a collection vessel at a spout 23G for disposal.

10 In this embodiment, the cover is formed in two sections including a main cover section 23H and a second closure portion 23J. The main cover section 23H has a first portion 23K arranged over the heating bowl 20A including a plurality of openings 23M for allowing direct release of heat from the heating bowl 20A upwardly to food products on the grate 22 above the heating bowl 20A when
15 required. The cover section 23H is substantially imperforate beyond the heating bowl. Thus the openings are arranged only at the heating bowl to allow direct upward release of heat to the food on the grate. The incline of the cover causes the cover to be closely adjacent or just below the grate at the heating bowl so that the food on the grate is directly adjacent the heat from the heating bowl for a very hot
20 searing action. Other food on the remainder of the grate does not have this direct line of sight to the heat and hence is heated in the conventional manner by convection of heat in the air passing around the end of the cover and by radiation

from the heated cover.

The openings 23M form an array arranged to extend over substantially the whole of the heating bowl and terminate at a position 23N at or just beyond the heating bowl to maximize the heat escape when required.

5 The openings 23M form a series of parallel slots 23P transverse to the container so that the arch shape of the cover acts to strengthen the metal strips 23Q forming the cover between the open slots 23P. The use of slots can cause the typical sear marks on the food product. The slots extend across the heating bowl from one end 23R adjacent one side flange 23B to an opposed end adjacent the
10 other side flange 23C to maximize the heat escape when required.

The second part 23J of the cover 23 forms a component by which the plurality of openings are closed by the component when moved to a position overlying the openings to prevent direct release of heat from the heating bowl to the food products on the grate above the heating bowl when the searing actions is not
15 required. Thus the component 23J forms a separate imperforate cover sheet which is placed over the openings 23M.

In another arrangement, the second part 23J of the cover 23 includes a plurality of openings or slots 23M matching the openings in the main cover part 23H and is movable relative to the cover over a short distance from an open position in
20 which the slots are aligned to a closed position to misalign the slots. A component outside the container can be provided to effect the sliding movement of the second part 23J without the necessity to manually engage the part or even to open the lid.

CLAIMS:

1. A cooking grill comprising:
 - a container having an openable lid for enclosing a cooking area;
 - a source of heat within the cooking area for applying heat to a food
 - 5 products to be cooked;
 - a grate within the cooking area for placement over the source of heat onto which the food products are placed for cooking;
 - the source of heat comprising:
 - a heating bowl;
 - 10 a pellet feed system for discharging pellets of fuel into the bowl at a predetermined rate for combustion within the bowl to generate heat;
 - the heating bowl being located at a first end of the container leaving a part of the container located beyond the heating bowl;
 - the grate being arranged over the heating bowl at said first end of the
 - 15 container and over the part of the container beyond the heating bowl;
 - a cover extending along the container underneath the grate located over the heating bowl and extending into the part of the container beyond the heating bowl so as to spread heat from the heating bowl along the container and onto parts of the grate beyond the heating bowl and so as to carry liquid including fat
 - 20 falling from the food products on the grate toward a second end of the container;

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the cover having a first portion arranged over the heating bowl including a plurality of openings for allowing direct release of heat from the heating bowl upwardly to food products on the grate above the heating bowl when required;

the cover being substantially imperforate beyond the heating bowl;

5 the cover having a component by which the plurality of openings are closed by the component to prevent direct release of heat from the heating bowl upwardly to food products on the grate above the heating bowl when required.

2. The cooking grill according to claim 1 wherein the component forms a separate imperforate cover sheet which is placed over the openings.

10 3. The cooking grill according to claim 1 or 2 wherein the component includes a plurality of openings matching the openings in the cover and is movable relative to the cover from an open position to align the openings to a closed position to misalign the openings.

4. The cooking grill according to any one of claims 1 to 3 wherein
15 the openings form a series of parallel slots.

5. The cooking grill according to any one of claims 1 to 4 wherein the slots are transverse to the container.

6. The cooking grill according to any one of claims 1 to 5 wherein the slots extend across the heating bowl from one side to the other side.

20 7. The cooking grill according to any one of claims 1 to 6 wherein the openings form an array arranged to extend over substantially the whole of the heating bowl and terminate at a position at or just beyond the heating bowl.

8. The cooking grill according to any one of claims 1 to 7 wherein the cover is arched so as to define center apex along the container and descending on each side so as to shed liquid to the sides.

9. The cooking grill according to claim 8 wherein the cover has
5 channels formed along the sides to direct the liquid along the cover.

10. The cooking grill according to any one of claims 1 to 9 wherein the cover extends to a position adjacent but spaced from a second end of the container so as to discharge the liquid into a catchment container.

11. The cooking grill according to any one of claims 1 to 10 wherein
10 there is provided an automatic igniter for the pellets in the heating bowl.

12. The cooking grill according to any one of claims 1 to 11 wherein the automatic igniter includes a heated element and an air blower.

13. The cooking grill according to any one of claims 1 to 12 wherein the pellets are fed into the bowl by an auger.

14. The cooking grill according to any one of claims 1 to 13 wherein
15 the container is cylindrical.

15. The cooking grill according to any one of claims 1 to 14 wherein the cover is inclined downwardly in a direction away from the heating bowl to shed the liquid away from the heating bowl.

16. The cooking grill according to any one of claims 1 to 15 wherein
20 the cover is immediately underneath the grate at the heating bowl.

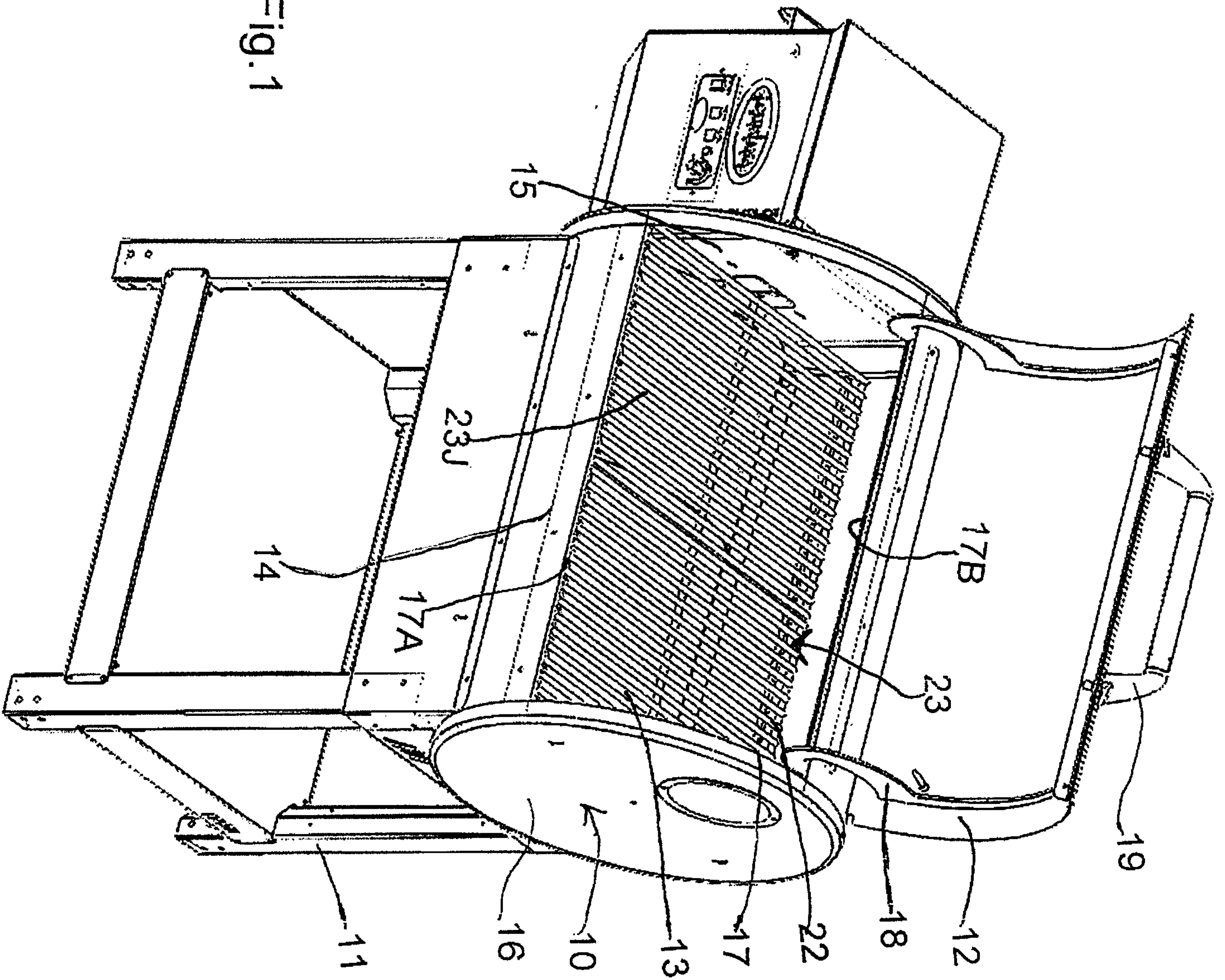


Fig. 1

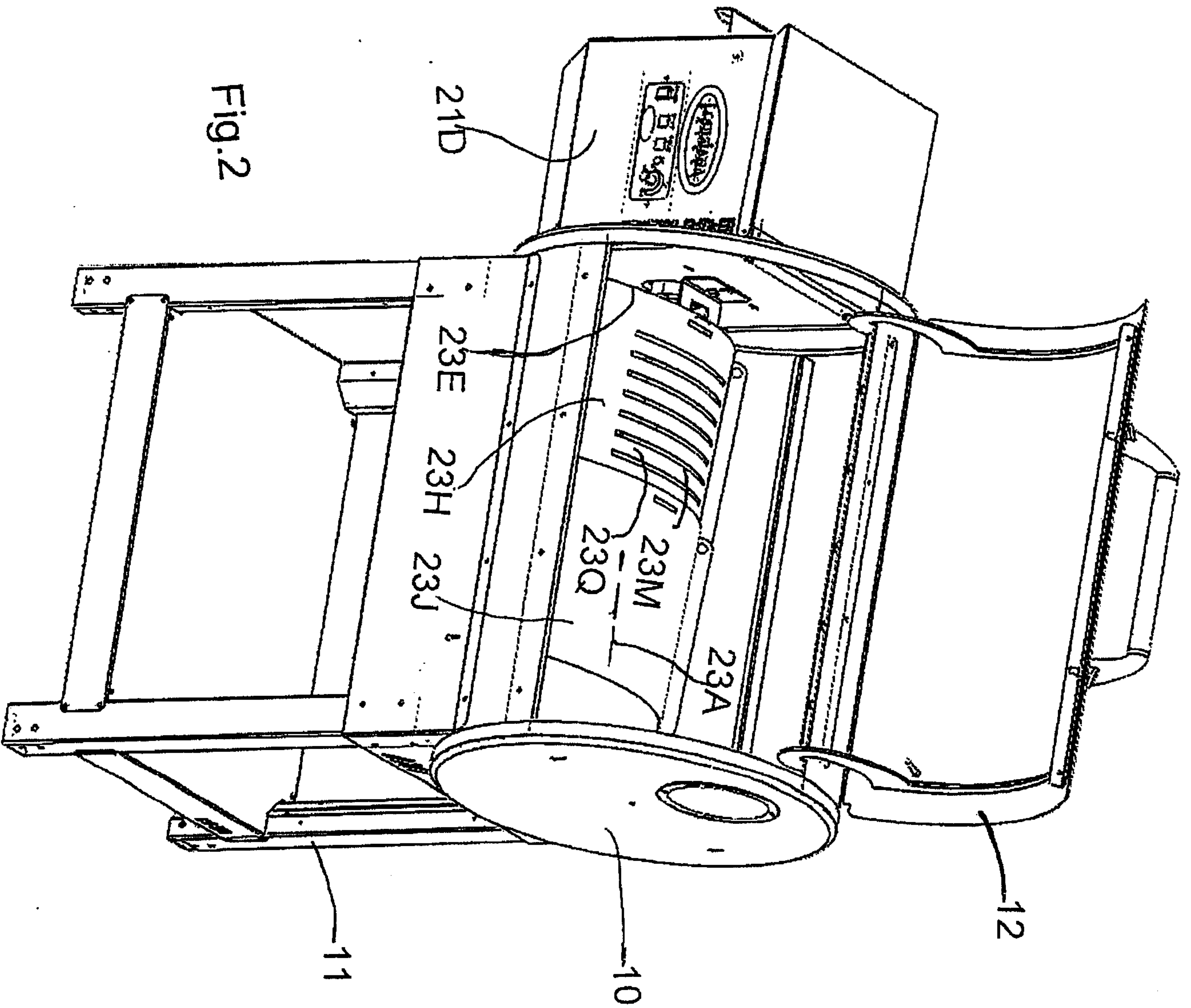


Fig.2

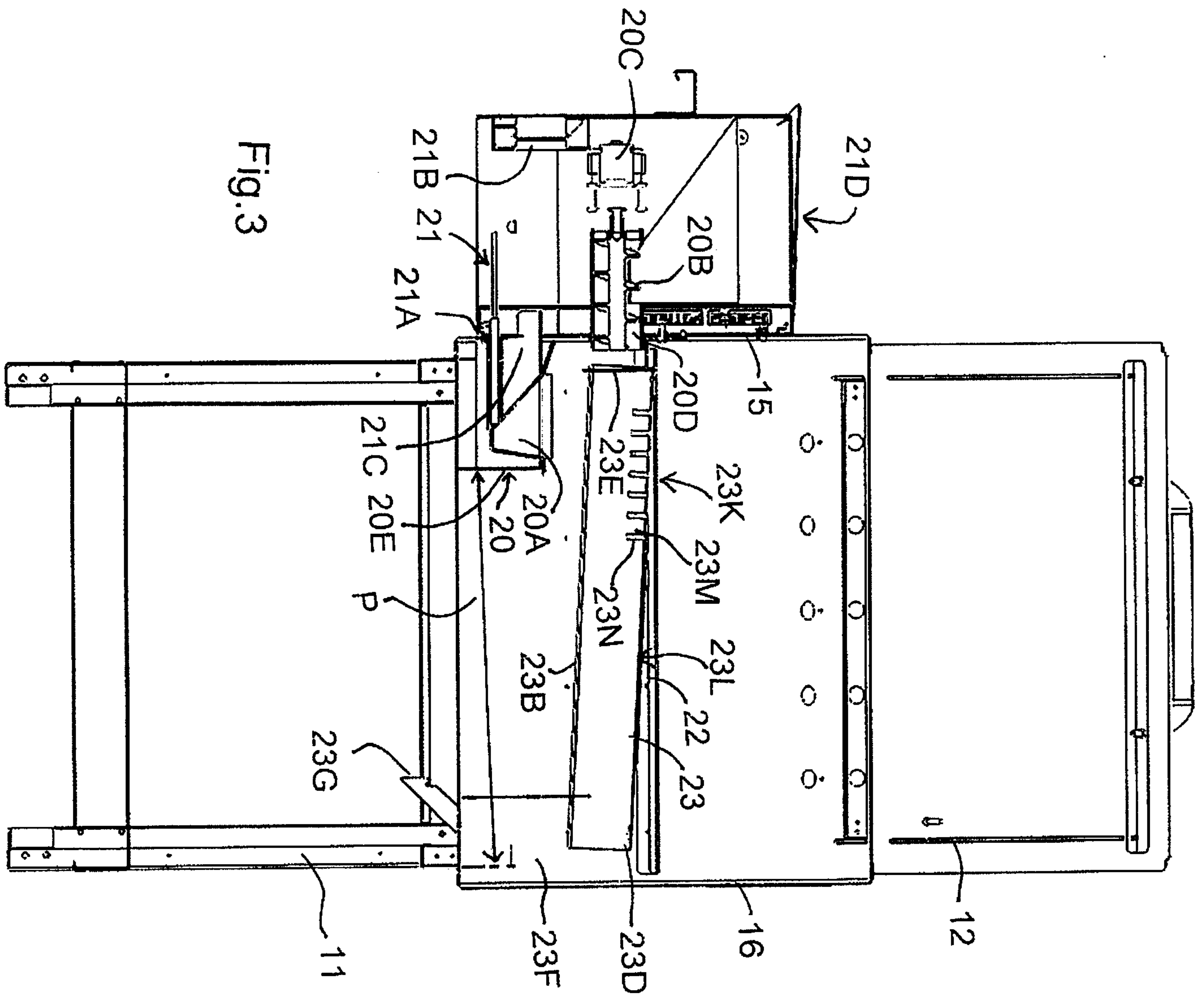


Fig. 3

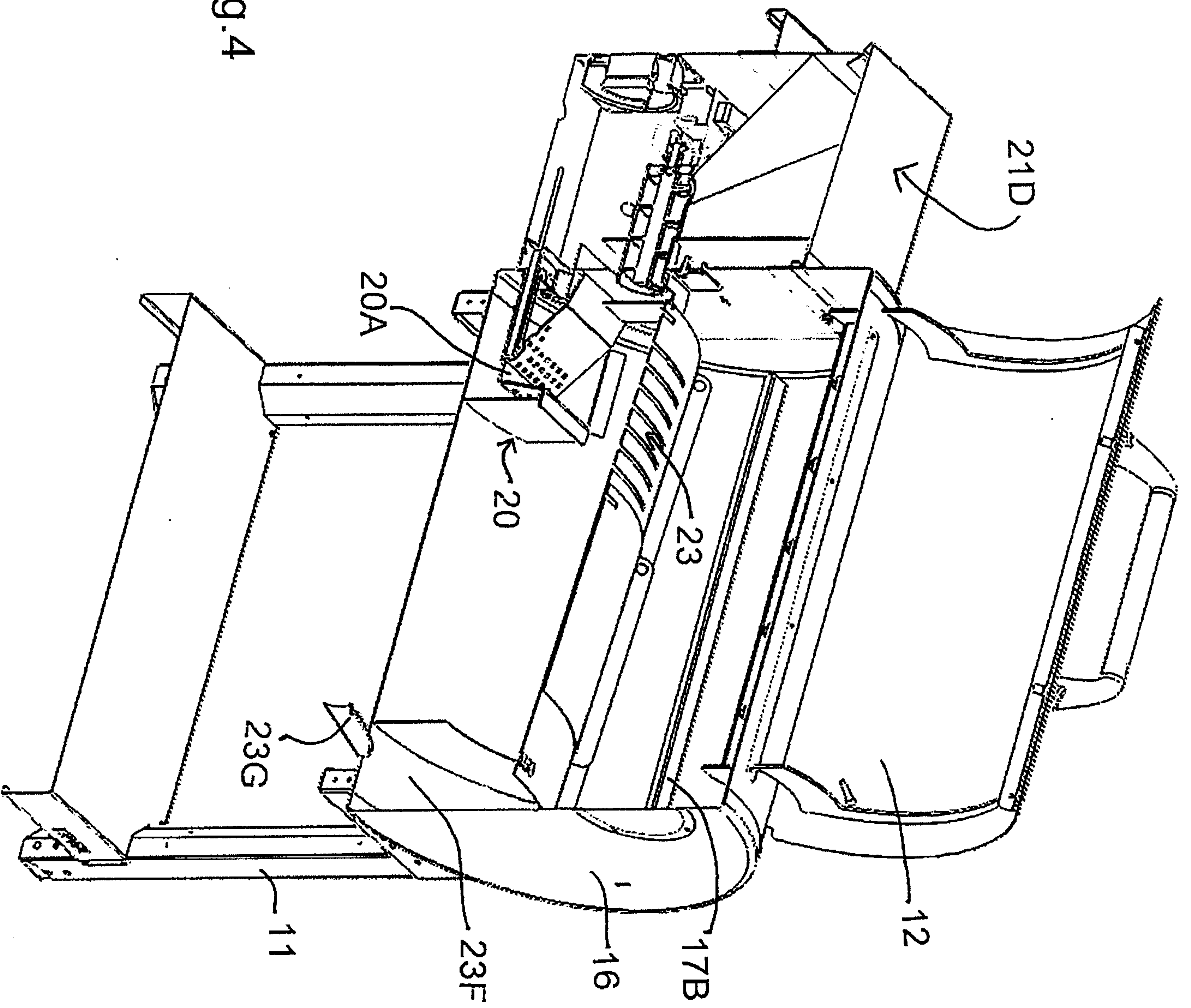


Fig. 4

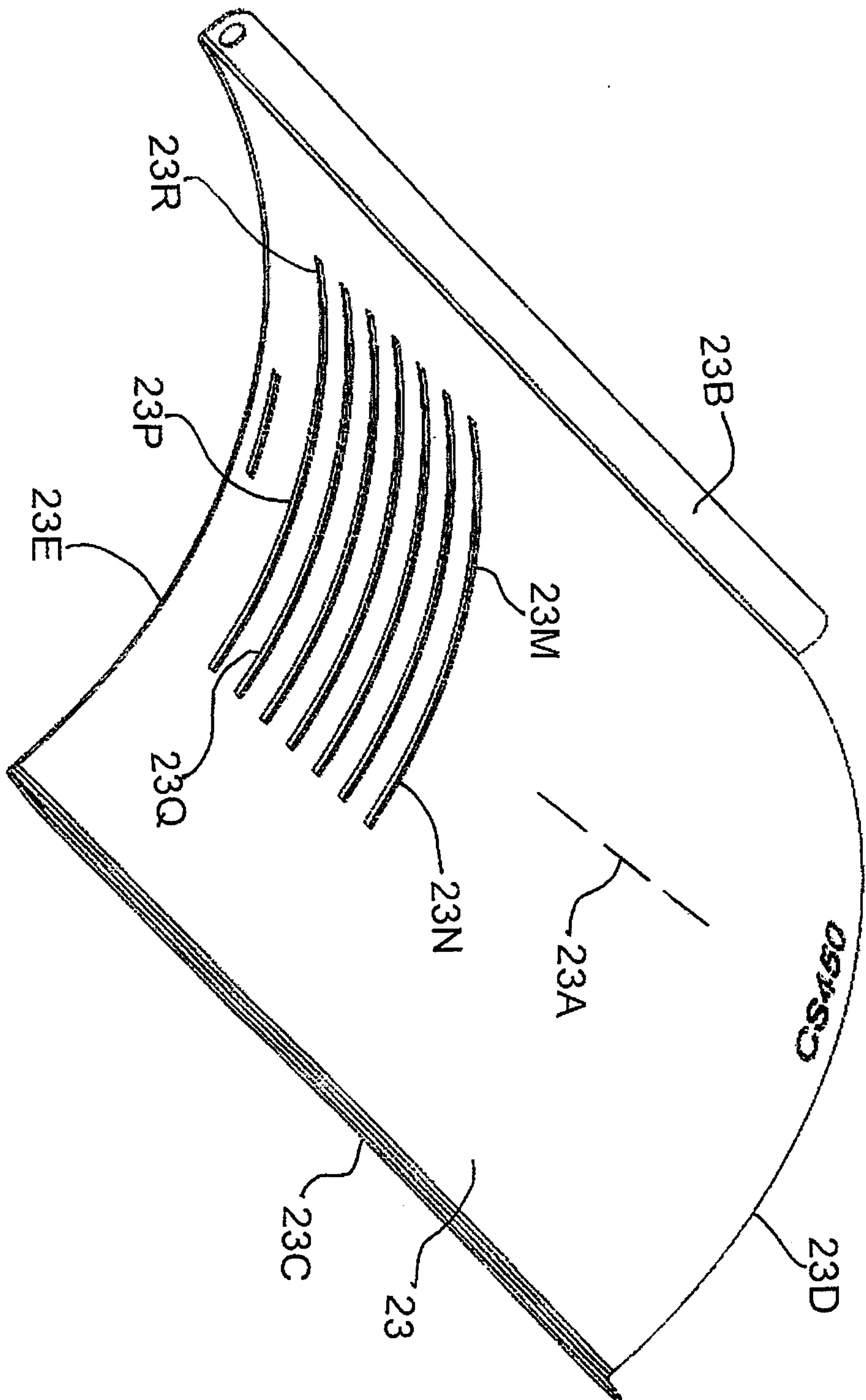


Fig. 5

