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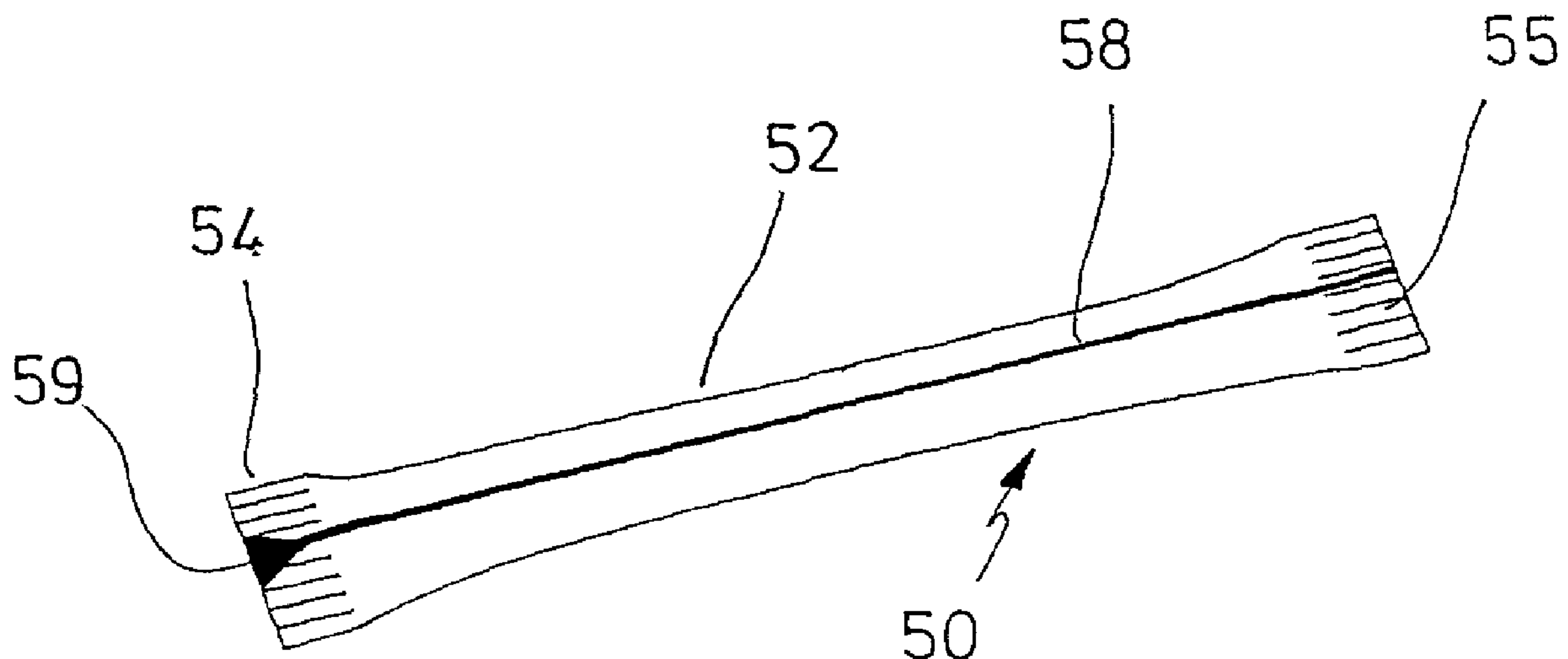
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(54) Titre : PAQUET DE PORTIONS DE TABAC HACHE FIN ET METHODE DE PRODUCTION DE PAQUETS DE PORTIONS DE TABAC HACHE FIN

(54) Title: FINE-CUT-TOBACCO PORTION PACK AND PROCESS FOR PRODUCING FINE-CUT-TOBACCO PORTION PACKS



(57) Abrégé/Abstract:

A fine-cut-tobacco portion pack (50) for use in making home-made cigarettes contains a wrapper (52) which encloses on all sides a fine-cut-tobacco filling with at least one separated tobacco portion for making a cigarette. The wrapper (52) is preferably provided with an opening device (58) for opening the wrapper (52).

Abstract

A fine-cut-tobacco portion pack (50) for use in making home-made cigarettes contains a wrapper (52) which encloses on all sides a fine-cut-tobacco filling with at least one separated tobacco portion for making a cigarette. The wrapper (52) is preferably provided with an opening device (58) for opening the wrapper (52).

(Figure 5)

**Fine-cut-tobacco portion pack and process for producing
fine-cut-tobacco portion packs**

The invention relates to a fine-cut-tobacco portion
5 pack for use in making home-made cigarettes and to a
process for producing such fine-cut-tobacco portion
packs.

For making home-made cigarettes, it is possible to
10 "roll" the same, in the case of which the user removes
fine-cut tobacco from a larger supply pack and encloses
it in a cigarette paper, if appropriate using a filter.
In a similar method, the user fills loose fine-cut
tobacco into a stuffing device and, with the aid of the
15 latter, forces the tobacco into a prefabricated
cigarette tube. In both cases, the user has to estimate
the size of the tobacco portion intended for the
cigarette, so that the quantity of tobacco occasionally
varies to a fairly great extent from cigarette to
20 cigarette. The steps of removing tobacco from the
supply pack and dividing up the tobacco easily result
in the environment being polluted since relatively
small pieces of tobacco drop off. Furthermore, the
tobacco may be contaminated by the user's fingers. This
25 method of making home-made cigarettes is fairly
laborious overall, irrespective of whether the
cigarette paper is rolled around the tobacco portion
manually or with the aid of a mechanical device or
whether use is made of a stuffing device and
30 prefabricated cigarette tubes.

EP 1 347 690 B1 discloses a fine-cut-tobacco portion
pack for making home-made cigarettes in which a fine-
cut-tobacco filling is enclosed in a tubular wrapper
35 which is open at both ends and is made of non-smokable
material. This wrapper is pushed into a prefabricated
cigarette tube, and the tobacco is then transferred
into the cigarette tube with the aid of a stuffing
device as the wrapper is pulled out. This fine-cut-

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tobacco portion pack is part of a system which, moreover, requires prefabricated cigarette tubes and is therefore not aimed at users who prefer "rolling" cigarettes.

5

The object of the invention is to find a possible way of making it easier to make home-made cigarettes, in particular to "roll" cigarettes or to stuff cigarettes, this method having been mentioned in the introduction,
10 with the aid of a stuffing device for loose tobacco.

This object is achieved by a fine-cut-tobacco portion pack having the features of Claim 1, and by a system having a number of such fine-cut-tobacco portion packs
15 according to Claim 15, and by a process for producing such fine-cut-tobacco portion packs having the features of Claim 17. Advantageous configurations of the invention can be gathered from the subclaims.

20 The fine-cut-tobacco portion pack according to the invention is suitable for use in making home-made cigarettes and has a wrapper which encloses a fine-cut-tobacco filling on all sides. The fine-cut-tobacco filling preferably has a tobacco portion for making a
25 single cigarette; this tobacco portion is separated per se since there are no further tobacco portions. As an alternative, the wrapper may contain a fine-cut-tobacco filling with a plurality of separated tobacco portions, which makes it possible to make a plurality of
30 cigarettes. Here and in the following, a "tobacco portion" is understood as meaning the quantity of fine-cut tobacco which is necessary for one (a single) cigarette.

35 The fine-cut-tobacco portion pack according to the invention provides the user, once the wrapper has been opened, with a tobacco portion for making a cigarette without there being any need beforehand, in a fairly laborious manner, to remove the tobacco from a larger

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supply pack and divide up the same. This also prevents, or at least considerably reduces the likelihood of, the environment being polluted and the tobacco being contaminated. The task of making home-made cigarettes, in particular by "rolling" or by stuffing with the aid of a stuffing device for loose tobacco, is made significantly easier by the fine-cut-tobacco portion pack according to the invention. If the wrapper is sealed tight, it also retains the moisture in the tobacco and maintains the freshness and the aroma of the fine-cut-tobacco filling, which results in a considerable improvement in quality.

If the fine-cut-tobacco filling has tobacco portions for making a plurality of cigarettes, e.g. two cigarettes, a few cigarettes or even a larger number of cigarettes, these tobacco portions are separated, that is to say pre-divided, so that the abovementioned advantages are likewise achieved.

In the case of preferred configurations of the invention, the wrapper is provided with an opening means for opening the wrapper. Such an opening means makes it easier to open the wrapper, in particular if no auxiliary means is used for this purpose.

In addition, however, it is also conceivable for a device with the aid of which a fine-cut-tobacco filling contained in the wrapper is to be rolled in a cigarette paper, or introduced into a prefabricated cigarette tube, to be provided with an additional means which can be actuated to open the wrapper.

If the wrapper has an elongate basic shape, so that a longitudinal direction is predetermined, examples of possible opening means are longitudinal perforations in the wrapper or a longitudinal seam in the wrapper bonded by spots of adhesive, but also one or more transverse perforations, e.g. encircling transverse

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perforations at both ends of the wrapper. Such opening means are formed by weakenings in the wrapper at which the user can tear open the wrapper in a defined manner. A further possibility is a longitudinal slit in the wrapper, which can be manipulated by the user in order thus to remove the wrapper completely from the tobacco filling.

If the wrapper is to be sealed tight, for example a tear-open strip or a tear-open thread, as are known per se, are suitable as opening means. Further examples are a notch on the periphery of the wrapper, this constituting an aid for tearing the wrapper, a torsional region on the wrapper, that is to say a region (preferably at the end of the wrapper) in which the wrapper is twisted, or strings or threads with which the wrapper is tied up (e.g. in a torsional region). A further conceivable opening means is a lid, e.g., in the case of the wrapper being configured as a cardboard sleeve, a removable lid on one of the end sides. The opening means mentioned in this paragraph do not require any wrapper with a predetermined longitudinal direction and are therefore also suitable for wrappers which do not have an elongate basic shape.

Suitable materials for the wrapper are, for example, paper, aluminium foil, metal foils in general, plastic films, aluminium-laminated papers, plastic-laminated papers, laminates or nonwovens and also perforated material. The wrapper is preferably non-smokable. Cardboard and aluminium-coated papers are also possible materials for the wrapper.

The fine-cut-tobacco filling is preferably adapted in shape to a finished cigarette. In this case, the user need only shape the tobacco filling to a small extent, if at all, following its removal from the wrapper. An example of an appropriate wrapper is a wrapper of cylindrical basic shape which is sealed (that is to

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say, for example, adhesively bonded or welded) at a flat, transversely running seam zone at both ends or which is twisted and/or tied up (e.g. wound with a string, also without any knot being formed) at both
5 ends. This wrapper is preferably not formed from two layers which are sealed at outwardly projecting seam zones on two opposite longitudinal sides of the wrapper.

10 The at least one tobacco portion may also be of compact, e.g. tablet-like, formation. If the wrapper is configured as a blister pack, such a compact form is particularly advantageous since in this case the tobacco portion (or a preselected tobacco portion in
15 the case of a plurality of tobacco portions in a common wrapper) can be pushed out of the wrapper in a manner similar to a tablet.

In the case of a preferred embodiment, the at least one
20 tobacco portion has a cylindrical shape and is enclosed within the wrapper in a tubular casing, preferably made of paper. In order to achieve a compact form here, it is possible for the diameter of the cylindrical shape to be at least equal to the length of the latter. This
25 configuration is particularly advantageous if a plurality of tobacco portions are located in a common wrapper, since the casings ensure that the tobacco portions are separated.

30 In order to facilitate handling by the user, a number of fine-cut-tobacco portion packs may be arranged one beside the other, the fine-cut-tobacco portion packs being connected to one another by a fastening means. For this purpose, use may be made, for example, of at
35 least one material strip, preferably made of paper, on which the fine-cut-tobacco portion packs are fixed.

In the case of the process according to the invention for producing fine-cut-tobacco portion packs, a

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continuous linear arrangement of fine-cut tobacco is produced on an endless-rod machine and divided up into individual portions (which are preferably elongate, but may also have a compact shape). These individual portions are then wrapped with the wrappers of the fine-cut-tobacco portion packs, although it is also possible for some of the necessary process steps to have taken place prior to the dividing-up step. An individual portion here has the tobacco portion for making one (a single) cigarette. It is possible for each individual portion to be introduced into a separate wrapper or for a plurality of separated individual portions in each case to be introduced into a common wrapper.

For carrying out the process according to the invention, use may be made of a conventional endless-rod machine, which has the advantage of a very high operating speed. The only modification to the existing cigarette rod-making process is that the fine-cut tobacco has to be divided up into individual portions; a number of possibilities are given for this hereinbelow. Once the individual portions have been provided, they can be wrapped with the aid of conventional process steps. As has already been indicated, it is also possible for some of the wrapping steps to have been incorporated in the cigarette rod-making process (see below). The process according to the invention thus operates at high speeds and, since it is based essentially on existing technology, is cost-effective.

One possible way of dividing up the fine-cut tobacco is to interrupt the continuous linear arrangement of fine-cut tobacco at equal intervals, this resulting in the desired portions between the interruptions. The interruption may be effected, for example, by means of two trimmer discs. In this case, the tobacco runs over two rotating trimmer discs, of which the axes are

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oriented parallel to one another and perpendicularly to the transporting direction of the tobacco. The surfaces of the trimmer discs are formed such that, during each revolution of the trimmer discs, they enter into the tobacco stream at least once and thus displace the particles of fine-cut tobacco so as to effect an interruption, i.e. a tobacco-free zone.

In the case of a preferred configuration of the process according to the invention, for dividing-up purposes, on a conventional cigarette machine, the fine-cut tobacco for each individual portion is enclosed in a casing which is open at both ends. The casing preferably has paper. This configuration of the process has the advantage that a conventional production line with an endless-rod machine, on which it is possible to produce conventional cigarettes with a wrapper made of cigarette paper, need not be changed, in practice, in order to produce encased individual portions for fine-cut-tobacco fillings according to the invention. The only difference is that, in order to reduce costs, very inexpensive paper, rather than cigarette paper, is preferably used for the casing. This is because the casings only have the task of holding the individual portions together, in order that they can be easily handled and transported. It is therefore possible for the individual portions to be produced at high speed on an installation which is actually set up for producing conventional cigarette rods, and to be divided up automatically with the aid of the casings, as a result of which this configuration of the process is particularly advantageous. In the case of a preferred embodiment, the casings of the individual portions are removed before the individual portions are enclosed in the wrappers of the fine-cut-tobacco portion packs.

In order to remove the casings, it is possible for a respective individual portion with casing to be introduced into an accommodating space, e.g. a bore

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serving as an accommodating means, and to be retained therein, preferably with the aid of a negative pressure, the individual portion being ejected out of the casing, preferably pneumatically. The respective
5 individual portions here are preferably ejected onto a transporting means, e.g. a transporting belt, in which each individual portion is accommodated in a depression. In the case of this process step, use is preferably made of a rotating turret which has a number
10 of accommodating means for the introduction of a respective individual portion with casing, the individual portions ejected out of the respective casing being discharged by the turret in a transporting plane which differs from the introduction plane. From
15 this transporting plane, the individual portions can be transported by a conveying means, e.g. the already mentioned transporting belt, to a station, where they are wrapped with the wrappers of the fine-cut-tobacco portion packs.

20

It may also be advantageous if the casings of the individual portions are not removed prior to the individual portions being wrapped. On the one hand, this makes it possible to reduce costs. On the other
25 hand, such an embodiment is particularly practical if a plurality of separated tobacco portions are enclosed in a common wrapper, because the casings then keep the individual portions separated. In these cases, the user removes the casings, which can be facilitated, for
30 example, by a device on a stuffing unit.

In the case of another configuration of the process according to the invention, the fine-cut tobacco is dimensionally stabilized prior to the dividing-up step.
35 It is thus conceivable for the fine-cut tobacco to be deep-frozen, for example, with the aid of liquid nitrogen and to be cut into the desired individual portions prior to being thawed. In the case of another method of dimensional stabilization, the individual

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portions are dimensionally stabilized following the dividing-up step, so that they can easily be further processed or more easily be transported away. Here too, it is possible, in turn, to use, for example, liquid
5 nitrogen, or use is made of, for example, meshes which enclose the respective individual portions and are preferably removed again in a later process step, in a manner similar to the casings. Another possible method of dimensional stabilization is for the fine-cut
10 tobacco or the individual portions to be adhesively bonded, e.g. with the aid of sugar solution or starch.

In the case of the process according to the invention for producing fine-cut-tobacco portion packs, the
15 respective wrappers may be configured as transversely running sections of an endless tubular bag which are located one beside the other and are separated by sealing seams. Individual fine-cut-tobacco portion packs can be produced from such an endless tubular bag
20 by cuts which pass longitudinally through the sealing seams and leave intact a respective sealing seam on both sides of the cutting line. These portion packs can then be packaged in a larger unit and supplied, in this form, to the user.

25 It is also conceivable for a relatively large section of the endless tubular bag with a number of fine-cut-tobacco portion packs to be made available to the user. In this case, perforation lines preferably run
30 longitudinally through the sealing seams, so that the user can easily detach an individual fine-cut-tobacco portion pack at the end of a tubular-bag section.

In the case of a particularly preferred embodiment of
35 the process according to the invention, the fine-cut tobacco on a conventional cigarette machine is enclosed in a continuous wrapper and, for dividing-up purposes, the wrapped rod is severed at predetermined intervals, this resulting in wrapped individual portions, each for

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making a single cigarette. The respective wrappers are then closed at both end sides. For this purpose, the fine-cut tobacco contained in the wrapper can be forced into the interior of the wrapper (e.g. with the aid of push rods) at the end sides, and the wrapper can then be pressed flat and closed (e.g. by sealing, such as adhesive bonding or welding, or by mechanical connection, such as pressing, stamping or interlocking) at both ends. In the case of this variant, most steps, including the dividing-up step and a considerable part of the wrapping step, can be carried out within the context of a conventional cigarette rod-making process; it is only the final parts of the wrapping step (closing the end sides of a respective wrapper) which have to take place separately.

The invention is explained further hereinbelow with reference to exemplary embodiments. In the drawings:

Figure 1 shows a view of a first embodiment of a fine-cut-tobacco portion pack,

Figure 2 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

Figure 3 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

Figure 4 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

Figure 5 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

Figure 6 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

Figure 7 shows a view of a further embodiment of a fine-cut-tobacco portion pack,

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- Figure 8 shows a view of a section of a tubular bag with four fine-cut-tobacco portion packs according to a further embodiment,
- 5
- Figure 9 shows a plan view of a fine-cut-tobacco portion pack detached from the section according to Figure 8,
- 10
- Figure 10 shows a perspective view of a box serving as external packaging and having fine-cut-tobacco portion packs located therein,
- 15
- Figure 11 shows a schematic view of a process step in the production of fine-cut-tobacco portion packs,
- 20
- Figure 12 shows a schematic view of a process step in another exemplary embodiment of a process for producing fine-cut-tobacco portion packs,
- 25
- Figure 13 shows a longitudinal section through the tobacco arrangement according to Figure 12, the longitudinal section running through a trimmer disc,
- Figure 14 shows a view of a further embodiment of a fine-cut-tobacco portion pack,
- 30
- Figure 15 shows a view of an embodiment of a fine-cut-tobacco portion pack with a plurality of separated tobacco portions,
- 35
- Figure 16 shows a view of a further embodiment of a fine-cut-tobacco portion pack with a plurality of separated tobacco portions,
- Figure 17 shows views of a further embodiment of a fine-cut-tobacco portion pack with a

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plurality of separated tobacco portions, to be precise in part (a) in a plan view, in part (b) as a side view showing the narrow side, in part (c) as a side view showing the longitudinal side, in part (d) as a three-dimensional view obliquely from above, and in part (e) as a three-dimensional view obliquely from beneath,

Figure 18 shows schematic views of process steps in a further exemplary embodiment of a process for producing fine-cut-tobacco portion packs, and

Figure 19 shows a view of a system having a number of fine-cut-tobacco portion packs which are arranged one beside the other on a material strip.

Figure 1 illustrates a first embodiment of a fine-cut-tobacco portion pack (referred to hereinbelow as portion pack), which is designated 10. The portion pack 10 has a wrapper 12 which encloses on all sides a fine-cut-tobacco filling which is located in the interior of the wrapper 12 and is not depicted specifically in Figure 1. In the exemplary embodiment, the fine-cut-tobacco filling corresponds to a tobacco portion for making a single cigarette. In the exemplary embodiment, the wrapper 12 is closed. The wrapper 12 has a cylindrical basic shape, so that the fine-cut-tobacco filling located in the wrapper 12 has a shape similar to that of a cigarette. The wrapper 12 is sealed at a flat, transversely running seam zone 14, 15 at both ends. The wrapper 12 thus has the form of a cylinder with pressed-flat ends. The term "sealing" covers a wide range of meanings. These include, for example, adhesive bonding or welding, the sealing techniques which are possible in each case depending on the material of the wrapper 12.

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In the exemplary embodiment, the wrapper 12 consists of aluminium-laminated paper. Other wrapper materials are likewise possible, e.g. aluminium-coated paper, aluminium foil or other types of metal foil, plastic
5 film or exclusively paper. If use is made exclusively of paper, the latter may be provided with perforations in order to rule out the situation where the portion pack 10 is smoked like a cigarette without the paper being completely removed beforehand.

10

The portion pack 10 is closed on all sides, also along a longitudinal seam, which is not depicted in Figure 1. The wrapper 12 thus forms sealed packaging which keeps the fine-cut tobacco located therein fresh.

15

If the user wishes to make a cigarette, he/she picks up the portion pack 10 and tears open the wrapper 12. In order to facilitate the opening operation, a notch 16 is arranged in the seam zone 15, it being possible to
20 tear the wrapper 12 relatively easily at the notch. The fine-cut tobacco can be poured out of the opened portion pack 10, in a precisely divided-up portion, onto a cigarette paper, so that the user can readily roll a cigarette manually. As an alternative, he/she
25 can use a device for this purpose once the fine-cut tobacco has been removed from the portion pack 10. This device may also be provided with opening means which make it easier for the user to open the portion pack 10.

30

Figure 2 shows, as a further embodiment, a portion pack 20, which is of similar construction to the portion pack 10 and contains two flat seam zones 24 and 25 at the ends of a wrapper 22. In order to facilitate the
35 opening operation, the wrapper 22 has encircling transverse perforations 26. The transverse perforations 26 allow the wrapper 22 to be easily torn open, so that the fine-cut tobacco located therein can be strewn out of both halves of the wrapper 22.

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Figure 3 illustrates, as a further embodiment, a portion pack 30, which is of similar construction to the portion packs 10 and 20 and has a wrapper 32 with two flat seam zones 34 and 35 at the ends. The opening means provided this time is formed by longitudinal perforations 38 along which the wrapper 32 can easily be opened in order to pour out the tobacco located therein.

10

The embodiment of a portion pack 40, which is shown in Figure 4, is once again of similar construction, in respect of its basic shape, to the embodiments explained above and has a cylindrical wrapper 42 with two flat seam zones 44 and 45 at the ends. The opening means used is formed by two transverse perforations 46 and 47 which run over the circumference of the wrapper 42 and are located in the vicinity of the ends.

15

In order to open the wrapper 42, the two endpieces are torn off at the transverse perforations 46 and 47. The user then obtains a cylindrical sleeve with fine-cut tobacco which is open at both ends. This sleeve can be used in order to stuff the tobacco into a filter-cigarette tube.

20

If the portion pack 40 is to be used for conventional rolling of a cigarette, however, it is more practical if the wrapper 42 can easily be opened along a longitudinal seam (not depicted in Figure 4).

25

Figure 5 shows, as a further embodiment, a portion pack 50 with a wrapper 52 of cylindrical basic shape and two flat seam zones 54 and 55 at the ends, in a manner similar to above. The wrapper 52 can easily be opened by a tear-open strip 58. The tear-open strip 58 is located within the wrapper 52 and is guided outwards at the end of the seam zone 54, so that its end 59 is accessible in order that the user can grip the tear-

30

35

- 15 -

open strip 58.

The embodiment of a portion pack 60, which is illustrated in Figure 6, once again has a wrapper 62 of cylindrical basic shape with two flat seam zones 64 and 65 at the ends. The wrapper 62 is closed longitudinally along a longitudinal-seam zone 66, along which the material of the wrapper 62 overlaps to form two layers which are connected to one another with the aid of three spots of adhesive 67. Figure 6 shows a state at the beginning of the opening step of the wrapper 62, when the outer layer of the longitudinal-seam zone 66, this layer being designated 68, is swung up and the spots of adhesive 67 are detached. Pulling on the swung-up outer layer 68 then allows the wrapper 62 to be fully opened.

Figure 7 shows, as a further embodiment, an elongate portion pack 70 in which a wrapper 72 has been twisted at the ends 74 and 75. In the exemplary embodiment, the wrapper 72 is additionally held together by strings 76 and 77 at the respective ends 74 and 75. As is likewise the case with most of the previous embodiments, a longitudinal seam is not depicted. If the longitudinal seam of the wrapper 72 is not sealed, the wrapper 72 is easier to open. Conversely, the wrapper 72 maintains the aroma of the fine-cut-tobacco filling to better effect if the longitudinal seam is sealed.

Figure 8 illustrates a relatively long section of an endless tubular bag 80 which is closed on both longitudinal sides and is divided up into sections by transversely running sealing seams 82 located parallel to one another. Each of these sections forms a portion pack 84 which is provided with a wrapper 83 and is filled with fine-cut tobacco. Perforations run along the centre of the sealing seams 82 in each case. On account of these perforations, the individual portion packs 84 can easily be detached from the rest of the

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tubular bag 80.

Figure 9 shows an enlarged view of such a portion pack 84. It is possible to see two relatively wide, flat seam zones 86 and 87 at both ends, these originating from the longitudinal sides of the tubular bag 80, and the parts 88 and 89 of the corresponding sealing seams 82, these parts remaining on the portion pack 84 in question.

10

In the exemplary embodiment, the tubular bag is produced from plastic film, and the sealing seams 82 and the seam zones 86 and 87 are produced by welding. Other materials are likewise conceivable, and it is also possible to use other sealing techniques.

15

Figure 10 shows external packaging 90 which is configured as a box, has a swing-action lid 92 and contains a number of portions 94. Such a box is suitable, in particular, for portion packs in the manner of the embodiments explained with reference to Figures 1 to 7, but also for a tubular bag 80 with a number of interconnected or else separate portion packs 84 or for dimensionally stabilized portions.

20

In the case of an alternative configuration likewise explained with reference to Figure 10, 94 designates individual tobacco portions, rather than individual wrapped portion packs, each for making a cigarette, these cigarettes, rather than having dedicated wrappers, being separated from one another by the compartment divider which is illustrated in Figure 10. In this case, the box 90 performs the function of the wrapper, and the swing-action lid 92 is an opening means for the wrapper.

25

An exemplary embodiment of a process for producing fine-cut-tobacco portion packs is explained hereinbelow. Figure 11 provides a schematic

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illustration of a process step thereof.

In the case of the process for producing the portion packs, in the first instance, a continuous linear arrangement of fine-cut tobacco is produced in a known manner on an endless-rod machine, enclosed in a casing and divided up into individual portions. If these process steps were carried out in a completely conventional manner, then they would provide individual (filter-free) cigarettes each enclosed in cigarette paper. In the present process, however, a more straightforward paper material is used instead of the cigarette paper; this is the only difference in relation to the conventional process. Rather than comprising finished cigarettes, the product thus comprises individual portions 100 of fine-cut tobacco, each enclosed in a casing 102 made of straightforward paper. It is also possible to use other materials for the casing, e.g. foil, film or nonwoven material; the casing material is preferably cost-effective and/or recyclable.

Figure 11 illustrates how the casings 102, which are useful for the dividing-up operation but are no longer needed thereafter, can be removed again.

This takes place with the aid of a rotating turret 110 which has a number of bores 111 running parallel to one another. A transporting belt 112 with depressions 113 moves beneath the turret 110.

At an introduction location 114, an individual portion 100 with casing 102 is introduced into one of the bores 111. Within the bore 111, the casing 102 is retained with the aid of a negative pressure, which is applied via openings on the inner wall of the bore 111. The turret 110, meanwhile, rotates to an ejecting location 115, where the individual portion 100 of fine-cut tobacco is blown out of the bore 111 with the aid of

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compressed air and passes into a depression 113 of the transporting belt 112.

5 The turret 110 transports the remaining casing 102 to a discharging location 116, where the casing 102 is discharged with the aid of compressed air once the negative pressure has been switched off. The casing 102 can then be disposed of or passed on for further processing.

10

In the meantime, the transporting belt 112 has reached a feed location 117, where the individual portion 100 is moved away from the transporting belt 112 and fed to a conventional packaging apparatus. In the exemplary
15 embodiment, the individual portion 100 has been divided up as a tobacco portion for making a single cigarette. In the packaging apparatus, the individual portion 100 is enclosed in an all-round wrapper.

20 Process steps of another exemplary embodiment of a process for producing fine-cut-tobacco portion packs are illustrated with reference to Figures 12 and 13.

In this case of this exemplary embodiment, a linear
25 arrangement of fine-cut tobacco is produced on an endless-rod machine and fed as a continuous tobacco stream 120 (without wrapper) to a dividing-up means, which subdivides the fine-cut tobacco into elongate individual portions.

30

The dividing-up means has two trimmer discs 122, 123 which rotate in opposite directions, and at a small distance apart from one another, about mutually parallel axes, see Figure 12. The axes of rotation are
35 oriented perpendicularly to the transporting direction of the tobacco 120. The trimmer discs 122, 123 are arranged such that the tobacco 120, which is fed at 124, passes essentially onto the top sides of the trimmer discs 122, 123. The trimmer discs 122, 123 are

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provided along their periphery in each case with protrusions 126, 127 which project upwards, the protrusions 126 of one trimmer disc 122 being aligned with the protrusions 127 of the other trimmer disc 123.

5 In the exemplary embodiment, six protrusions 126 and 127 are distributed uniformly in each case over the circumference of the respective trimmer discs 122, 123.

If particles of the fine-cut-tobacco stream 120 pass
10 into the region of two protrusions 126 and 127, they are displaced from the tobacco 120, see Figures 12 and 13, so that an interruption 128 is formed in the tobacco stream 120. The tobacco 120 is thus subdivided into individual portions 130. Trimmer discs of the type
15 described are also used in conventional cigarette installations, although in this case they are installed the other way round (top side downwards), so that particles of tobacco collect in the now depression-forming "protrusions", which results in the tobacco
20 being compacted in certain zones (top reinforcement for the cigarettes produced from the tobacco).

As is illustrated schematically in Figure 12, as the process proceeds, the individual portions 130 are
25 accommodated downstream of the trimmer discs 122, 123 by a material strip 132 which also serves as a transporting means and of which, at 134, part is positioned longitudinally over the individual portions 130, so that the individual portions 130 are enclosed
30 between two layers which, in this embodiment, are formed by the one material strip 132. These two layers are connected to one another along a longitudinal seam and thus form, in the first instance, a continuous wrapper for the individual portions 130. At a station
35 136, at the locations of the interruptions 128 between the individual portions 130, this wrapper is pressed flat and closed or sealed and severed, as a result of which finished fine-cut-tobacco portion packs 138 are produced. The wrapper 140 of a portion pack 138 is thus

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formed from the previously continuous wrapper. At the pressed-flat locations 142, respective seam zones are produced at the ends of the portion packs 138.

5 The process described prior to the explanation of Figure 11 can also be carried out without the casings being removed again. This straightforwardly achieves, by means of a conventional cigarette rod-making process, individual tobacco portions which are each
10 enclosed in a casing which is open at both end sides. In further process steps, this casing is provided with an (additional) all-round wrapper.

Figure 14 shows, as an exemplary embodiment of the
15 product of such a process, a portion pack 150. The portion pack 150 has a wrapper 152 (with a foil or film 154) which encloses a tobacco portion 156 which is provided with a casing 158 and in this case is of compact formation (in the exemplary embodiment of
20 approximately 15 mm in length and approximately 15 mm in diameter). The foil or film 154, which is transparent in the exemplary embodiment, is folded over along a folding line 155, and the two resulting foil or film layers are sealed to one another along a
25 peripheral zone 159 which extends over three sides. Once the wrapper 152 has been opened, the user can remove the casing 158. It is also possible here, however, for the casing 158 to be used for holding the tobacco portion 156 together as it is introduced into a
30 suitable device for making home-made cigarettes, the casing being removed, if appropriate, by this device.

Figure 15 illustrates a similar embodiment, albeit this time for a plurality of separated tobacco portions. The
35 portion pack, which is designated 160 here, has a wrapper 162 with a first foil or film 164 and a second foil or film 165, these being sealed to one another along an all-round peripheral zone. The wrapper 162 encloses a number of tobacco portions 166 each having a

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dedicated casing 168. The tobacco portions 166 are separated and pre-divided by the casings 168 and can thus be easily handled once the wrapper 162 has been opened.

5

A portion pack for a plurality of separated tobacco portions is also shown in Figure 16. Here, the portion pack, which is designated 170, contains a wrapper 172 in the form of a cardboard sleeve 174 with a base and a
10 reclosable lid 175. Each of the individual tobacco portions 176 is located in a casing 178 and is thus separated from the rest of the tobacco portions 176. Instead of a cardboard sleeve, it is also possible to use a metal sleeve or a plastic sleeve.

15

Figure 17 uses parts (a) to (e) to illustrate different views of a portion pack 180 configured as a blister pack. In this case, a wrapper 182 has a blister part 184 (in the exemplary embodiment made of polyester)
20 which is closed by a flat film or foil 185 (e.g. made of plastic or aluminium). The film or foil 185 is connected to the blister part 184, e.g. by adhesive bonding or sealing, along its peripheral region. Instead of the film or foil 185, a layer of paper is
25 also conceivable. A respective tobacco portion for making a home-made cigarette is located in the cavities 186 formed in the blister part 184. These tobacco portions, as before, may each be enclosed in a casing. It is also conceivable, however, for the cavities 186
30 of the blister part 184 to be filled directly with fine-cut tobacco prior to the film or foil 185 being applied.

The portion pack 180 can be handled in a manner
35 analogous to a conventional tablet pack, pressure applied to the blister part 184 destroying the film or foil 185 over a cavity 186, so that the fine-cut tobacco contained in the cavity 186 can be discharged, for example, into an opening in a device for making

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home-made cigarettes.

In the case of a variant of this embodiment, the film or foil 185 can easily be pulled off the blister part 184 (e.g. by means of a lug or starting from a peripheral location which is only lightly adhesively bonded to the blister part 184, if at all), to render the cavities 186 with the tobacco portions accessible.

10 It is further conceivable for the portion pack 180 to be subdivided by perforation lines such that tearing along the perforation lines allows individual cavities 186 or groups of cavities 186 to be detached from the rest of the portion pack 180. If appropriate, each of
15 the cavities or each of the detachable groups of cavities may be provided with an auxiliary opening means mentioned in the previous paragraph.

Figure 18 is used to explain a further embodiment of a
20 process for producing fine-cut-tobacco portion packs. In the first instance here, as described above, a continuous linear arrangement of fine-cut tobacco is produced in a cigarette rod-making process, this tobacco being enclosed in a continuous wrapper on an
25 endless-rod machine (in particular a cigarette machine). However - unlike previous cases - this wrapper already consists of the material of the wrapper of finished portion packs. For dividing-up purposes, the wrapped rod is severed at predetermined intervals,
30 this resulting in wrapped individual portions each intended for making a cigarette, although the wrappers of these portions, in the first instance, are not yet closed.

35 Figure 18 illustrates schematically how these wrapped individual portions are processed further in order to close the wrappers. The steps carried out here can be carried out in a station in a modified cigarette machine or a modified filter-attachment machine. In the

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first instance, an elongate tobacco portion 190 is thus enclosed in each case in a wrapper 192 which is open at both end sides 193, and the fine-cut tobacco reaches as far as the end sides 193.

5

In Figure 18(a), two push rods 194 are moved up to the end sides 193 and, according to Figure 18(b), they are driven into the wrappers 192, so that the fine-cut tobacco is compacted there, and cavities 195 remain following the return of the push rods 194 according to Figure 18(c). Instead of the push rods 194, it is also possible to use slides, cams or mandrels. These means are preferably mounted on one or more drums and are driven thereby.

15

In the next step, the wrapper 192 is pressed flat and closed at its two end regions with the aid of pressing means 196, as is illustrated in Figure 18(d) and Figure 18(e). This can take place, for example, with the aid of drums, pressing belts or pressure-exerting plates. Purely mechanical techniques such as pressing, stamping and/or interconnecting, which in the exemplary embodiment are preferably carried out in a single operation by the movement of the pressing means 196, are suitable for closing purposes. As an alternative, or in addition, it is possible to use techniques such as welding, adhesive bonding and/or sealing, for which purpose an additive (e.g. adhesive) may have to be provided.

25
30

Figure 18(f) shows the finished portion pack, in this case designated 200, which is configured like the embodiment according to Figure 2. If required, in a manner similar to the notch 16 in Figure 1, a notch can be stamped or punched into one of the seam zones 198, 199 during the movement of the pressing means 196.

35

Figure 19 illustrates a system in which a number of portion packs 200 are arranged one beside the other on

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a material strip 202. This can facilitate handling by the user. The exemplary embodiment provides a material strip 202 made of paper, to which the portion packs 200 are adhesively bonded. Other materials (e.g. plastic) or a different number of material strips are likewise conceivable.

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Claims

1. Fine-cut-tobacco portion pack (10; 20; 30; 40; 50; 60; 70; 84; 94; 138; 150; 160; 170; 180; 200) for use
5 in making home-made cigarettes, having a wrapper (12; 22; 32; 42; 52; 62; 72; 83; 90; 140; 152; 162; 172; 182; 192) which encloses on all sides a fine-cut-tobacco filling (100; 130) with at least one separated tobacco portion (94; 100; 130; 156; 166; 176; 190) for
10 making a cigarette.

2. Fine-cut-tobacco portion pack according to Claim 1, characterized in that the wrapper (12; 22; 32; 42; 52; 62; 72; 83; 140; 152; 192) encloses on all sides a
15 fine-cut-tobacco filling (100; 130) with a tobacco portion (100; 130; 156; 190) for making a single cigarette.

3. Fine-cut-tobacco portion pack according to Claim 20 1, characterized in that the wrapper (90; 162; 172; 182) encloses on all sides a fine-cut-tobacco filling with a plurality of separated tobacco portions (94; 166; 176) for making a plurality of cigarettes.

25 4. Fine-cut-tobacco portion pack according to one of Claims 1 to 3, characterized in that the wrapper (12; 22; 32; 42; 52; 62; 72; 90; 172) is provided with an opening device (16; 26; 38; 46, 47; 58; 66, 67, 68; 76, 77; 92; 175) for opening the wrapper (12; 22; 32; 42;
30 52; 62; 72; 90; 172).

5. Fine-cut-tobacco portion pack according to Claim 4, characterized in that the wrapper (12; 22; 32; 42; 52; 62; 72; 90; 172) has an elongate basic shape, and
35 in that the opening device (16; 26; 38; 46, 47; 58; 66, 67, 68; 76, 77; 92; 175) has at least one of the means selected from the following list: tear-open strip (58), tear-open thread, longitudinal perforations (38) in the wrapper (32), longitudinal slit in the wrapper,

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longitudinal seam (66, 67) in the wrapper (62) bonded by spots of adhesive, transverse perforations (26) in the wrapper (22), encircling transverse perforations (46, 47) at both ends of the wrapper (42), notch (16),
5 torsional region (76, 77) on the wrapper (72), thread, string, lid (92; 175).

6. Fine-cut-tobacco portion pack according to one of Claims 1 to 5, characterized in that the wrapper (12;
10 22; 32; 42; 52; 62; 72; 83; 90; 140; 152; 162; 172; 182; 192) has one of the materials selected from the following list: paper, cardboard, aluminium foil, metal foil, plastic film, aluminium-laminated papers, aluminium-coated papers, plastic-laminated papers,
15 laminates, nonwovens, perforated material, non-smokable material.

7. Fine-cut-tobacco portion pack according to one of Claims 4 to 6 in conjunction with Claim 2,
20 characterized in that the fine-cut-tobacco filling (100; 130) is adapted in shape to a finished cigarette.

8. Fine-cut-tobacco portion pack according to Claim 7, characterized in that the wrapper (12; 22; 32; 42;
25 52; 62; 140; 192) has a cylindrical basic shape and is sealed at a flat, transversely running seam zone (14, 15; 24, 25; 34, 35; 44, 45; 54, 55; 64, 65; 198, 199) at both ends.

30 9. Fine-cut-tobacco portion pack according to Claim 7, characterized in that the wrapper (72) has a cylindrical basic shape and is twisted and/or tied up at both ends (74, 75).

35 10. Fine-cut-tobacco portion pack according to Claim 7, characterized in that the wrapper (83) is sealed at a flat, transversely running seam zone (86, 87) at both ends and has seals (88, 89) on both longitudinal sides.

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11. Fine-cut-tobacco portion pack according to one of Claims 1 to 6, characterized in that the at least one tobacco portion (156; 166; 176) is of compact, preferably tablet-like, formation.

5

12. Fine-cut-tobacco portion pack according to one of Claims 1 to 6, characterized in that the at least one tobacco portion (156; 166; 176) has a cylindrical shape and is enclosed within the wrapper (152; 162; 172) in a
10 tubular casing (158; 168; 178), preferably made of paper.

13. Fine-cut-tobacco portion pack according to Claim 12, characterized in that the diameter of the
15 cylindrical shape is at least equal to the length of the latter.

14. Fine-cut-tobacco portion pack according to one of Claims 1 to 7 or 11 to 13, characterized in that the
20 wrapper (182) is configured as a blister pack.

15. System having a number of fine-cut-tobacco portion packs according to one of Claims 1 to 14, characterized in that the fine-cut-tobacco portion packs (200) are
25 arranged one beside the other and are connected to one another by a fastening device (202).

16. System according to Claim 15, characterized in that the fastening device has at least one material
30 strip (202), preferably made of paper, on which the fine-cut-tobacco portion packs (200) are fixed.

17. Process for producing fine-cut-tobacco portion packs which are intended for use in making home-made
35 cigarettes, a fine-cut-tobacco portion pack (10; 20; 30; 40; 50; 60; 70; 84; 94; 138; 150; 160; 170; 200) having a wrapper (12; 22; 32; 42; 52; 62; 72; 83; 140; 152; 162; 172; 192) which encloses on all sides a fine-cut-tobacco filling (100; 130), having the following

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steps:

- producing a continuous linear arrangement of fine-cut tobacco (120) on an endless-rod machine,
- dividing up the fine-cut tobacco (120) into
5 individual portions (100; 130; 156; 166; 176; 190),
- wrapping the individual portions (100; 130; 156;
166; 176; 190) with the wrappers (12; 22; 32; 42; 52;
62; 72; 83; 140; 152; 162; 172; 192) of the fine-cut-
tobacco portion packs (10; 20; 30; 40; 50; 60; 70; 84;
10 94; 138; 150; 160; 170; 200).

18. Process according to Claim 17, characterized in that the fine-cut tobacco is divided up into elongate individual portions (100; 130; 190).

15

19. Process according to Claim 17 or 18, characterized in that, for dividing-up purposes, the fine-cut tobacco (120) is interrupted at equal intervals, preferably by means of two trimmer discs (122, 123).

20

20. Process according to Claim 17 or 18, characterized in that, for dividing-up purposes, on a conventional cigarette machine, the fine-cut tobacco for each individual portion (100; 156; 166; 176) is enclosed in
25 a casing (102; 158; 168; 178) which is open at both ends and preferably has paper.

21. Process according to Claim 20, characterized in that the casings (102) of the individual portions (100)
30 are removed prior to the individual portions (100) being wrapped.

22. Process according to Claim 21, characterized in that, in order to remove the casings (102), a
35 respective individual portion (100) with casing (102) is introduced into an accommodating space, preferably a bore (111), and is retained therein, preferably by means of a negative pressure, the individual portion (100) being ejected out of the casing (102), preferably

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pneumatically.

23. Process according to Claim 22, characterized in that the respective individual portions (100) are
5 ejected onto a transporting device (112), preferably a transporting belt (112), in which each individual portion (100) is accommodated in a depression (113).

24. Process according to Claim 22 or 23, characterized
10 in that a rotating turret (110) has a number of accommodating devices, preferably bores (111), for the introduction of a respective individual portion (100) with casing (102), and in that the individual portions (100) ejected out of the respective casing (102) are
15 discharged by the turret (110) in a transporting plane which differs from the introduction plane.

25. Process according to Claim 20, characterized in that the casings (158; 168; 178) of the individual
20 portions (156; 166; 176) are not removed prior to the individual portions (156; 166; 176) being wrapped.

26. Process according to Claim 17, characterized in that the fine-cut tobacco is dimensionally stabilized
25 prior to the dividing-up step or the individual portions are dimensionally stabilized following the dividing-up step.

27. Process according to one of Claims 17 to 26,
30 characterized in that each individual portion (100; 130; 156; 190) is introduced into a separate wrapper (12; 22; 32; 42; 52; 62; 72; 83; 140; 152; 192), an individual portion (100; 130; 156; 190) having a tobacco portion for making a single cigarette.

35

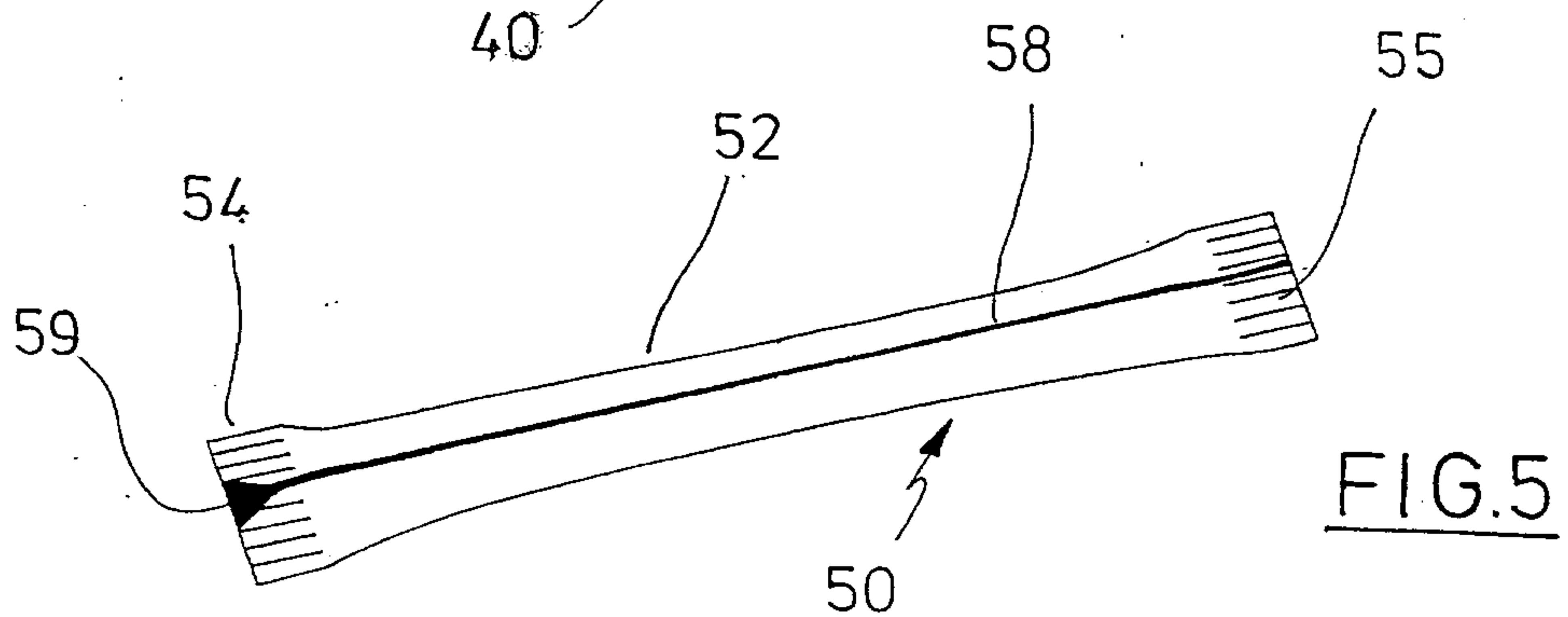
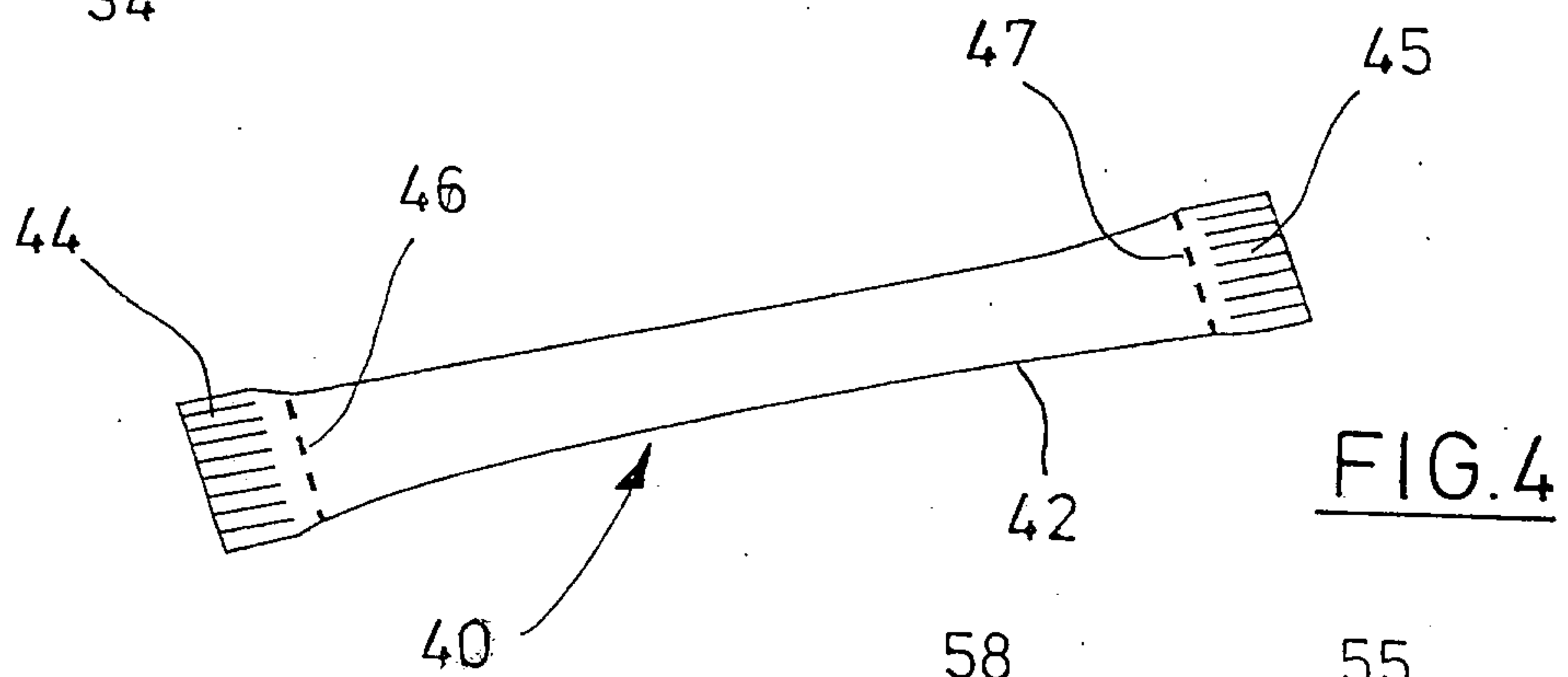
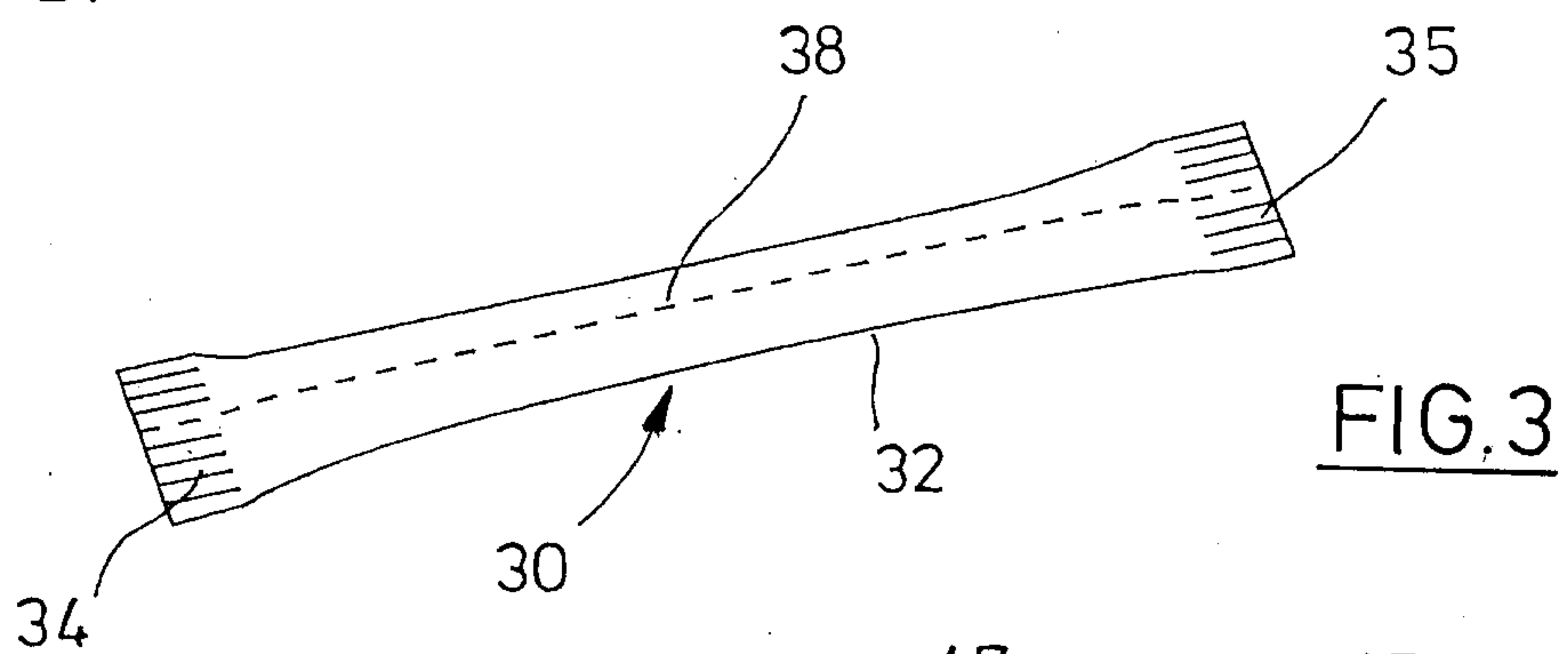
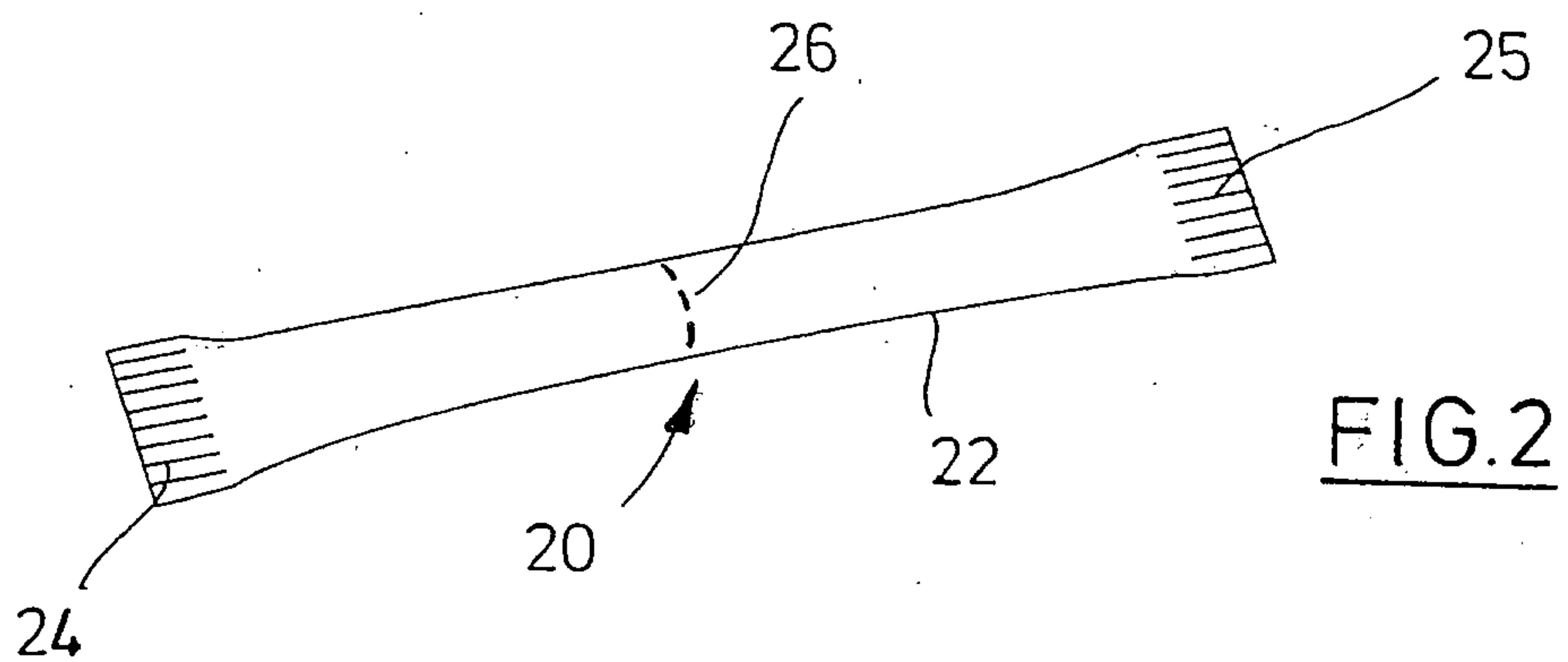
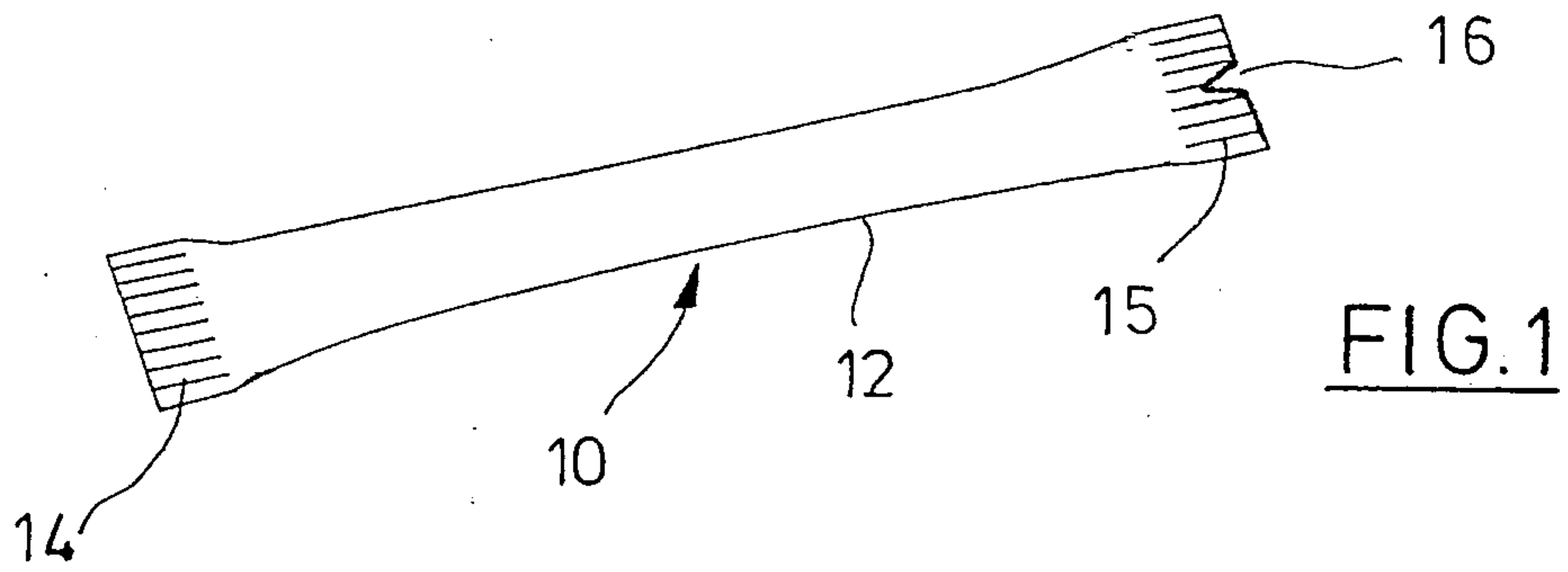
28. Process according to one of Claims 17 to 26, characterized in that in each case a plurality of separated individual portions (94; 166; 176) are introduced into a common wrapper (90; 162; 172; 182).

- 30 -

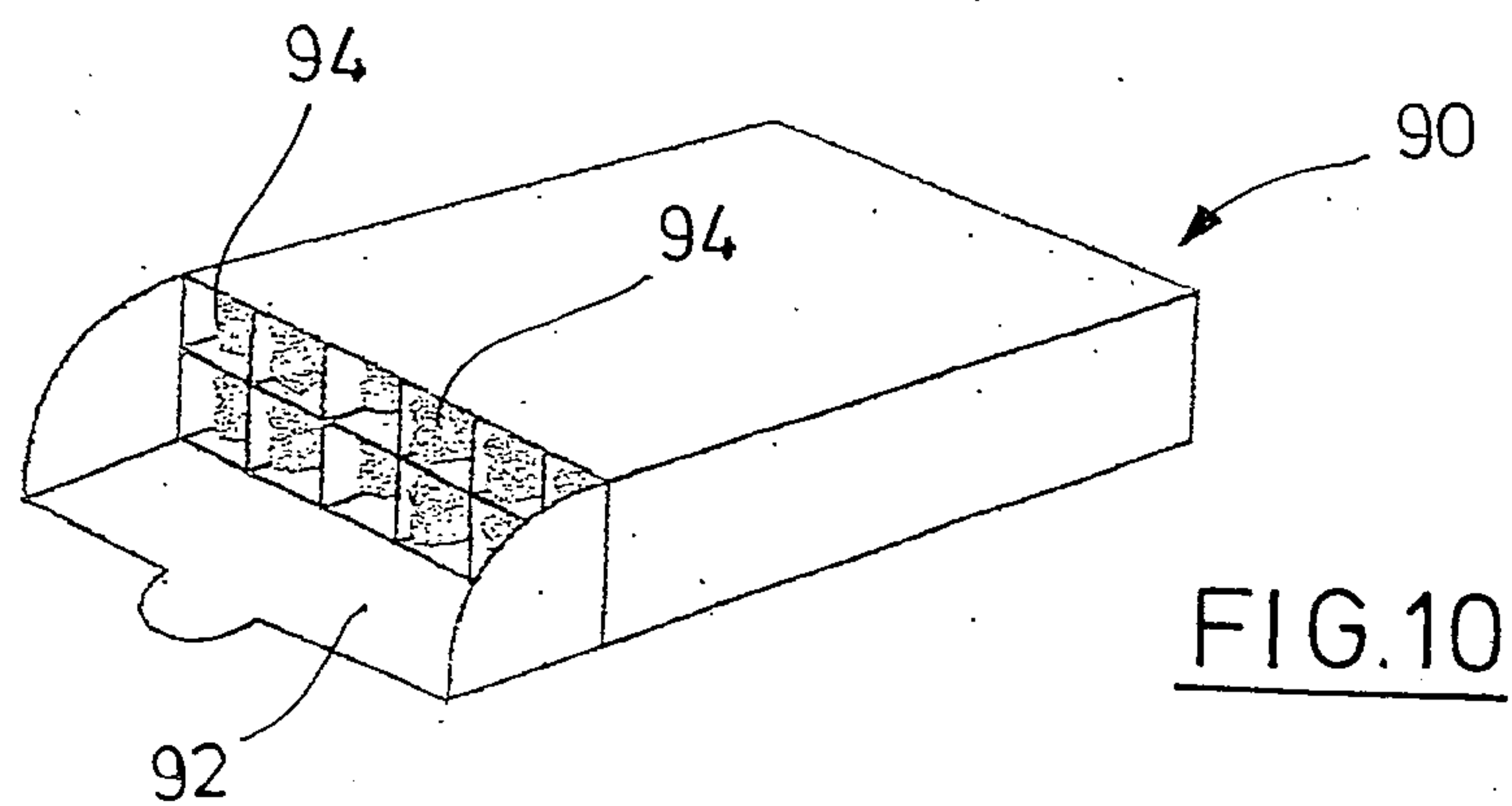
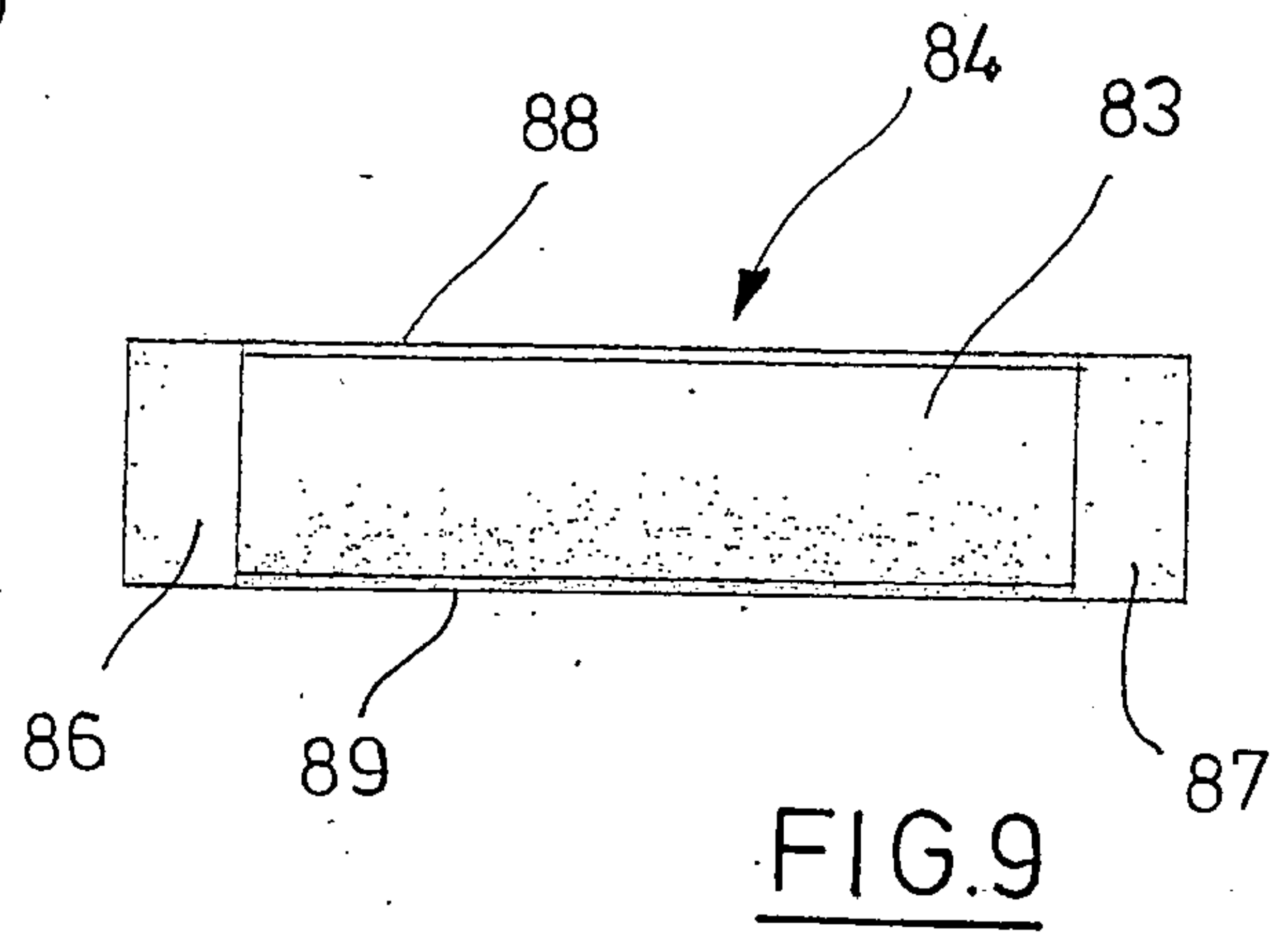
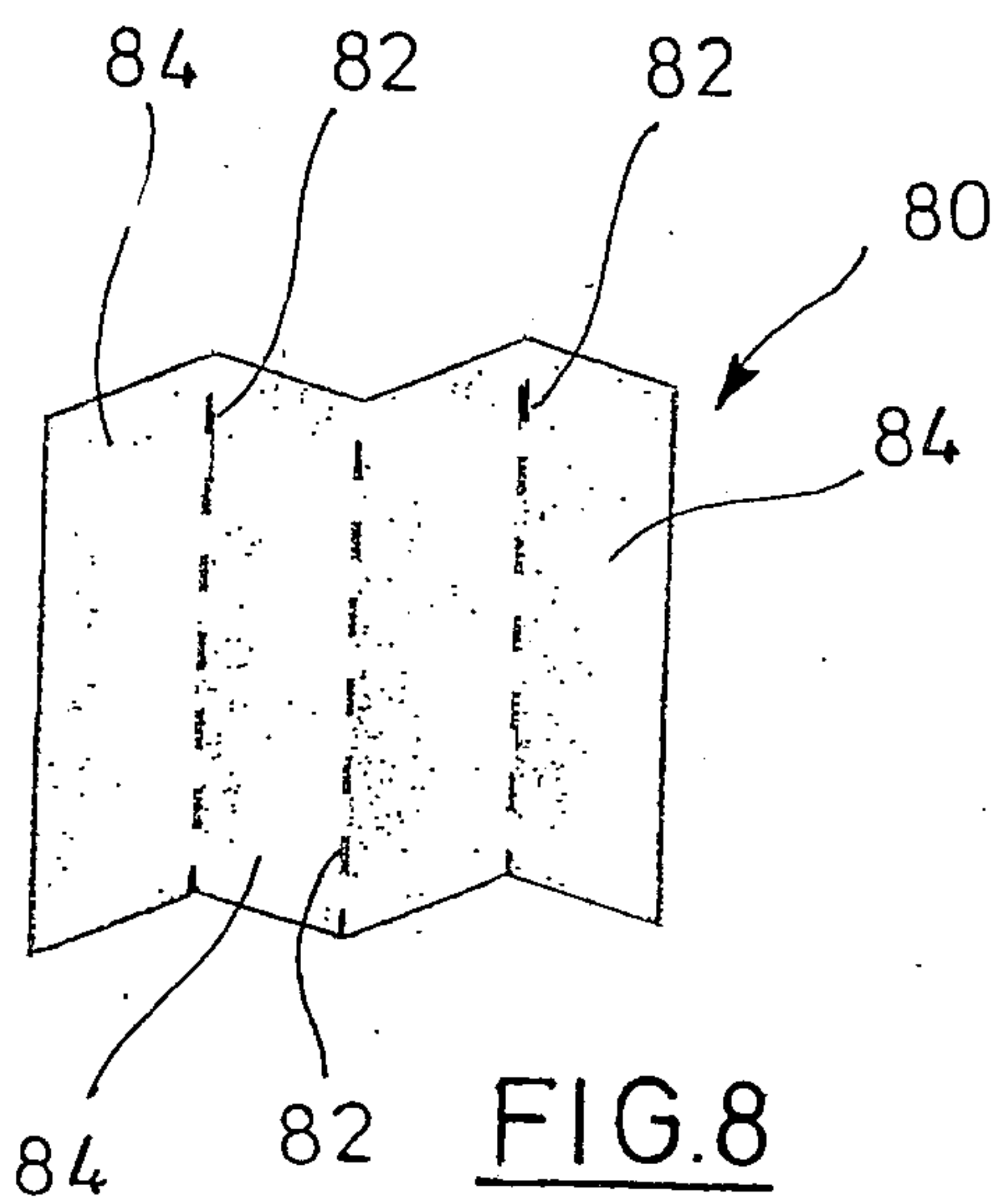
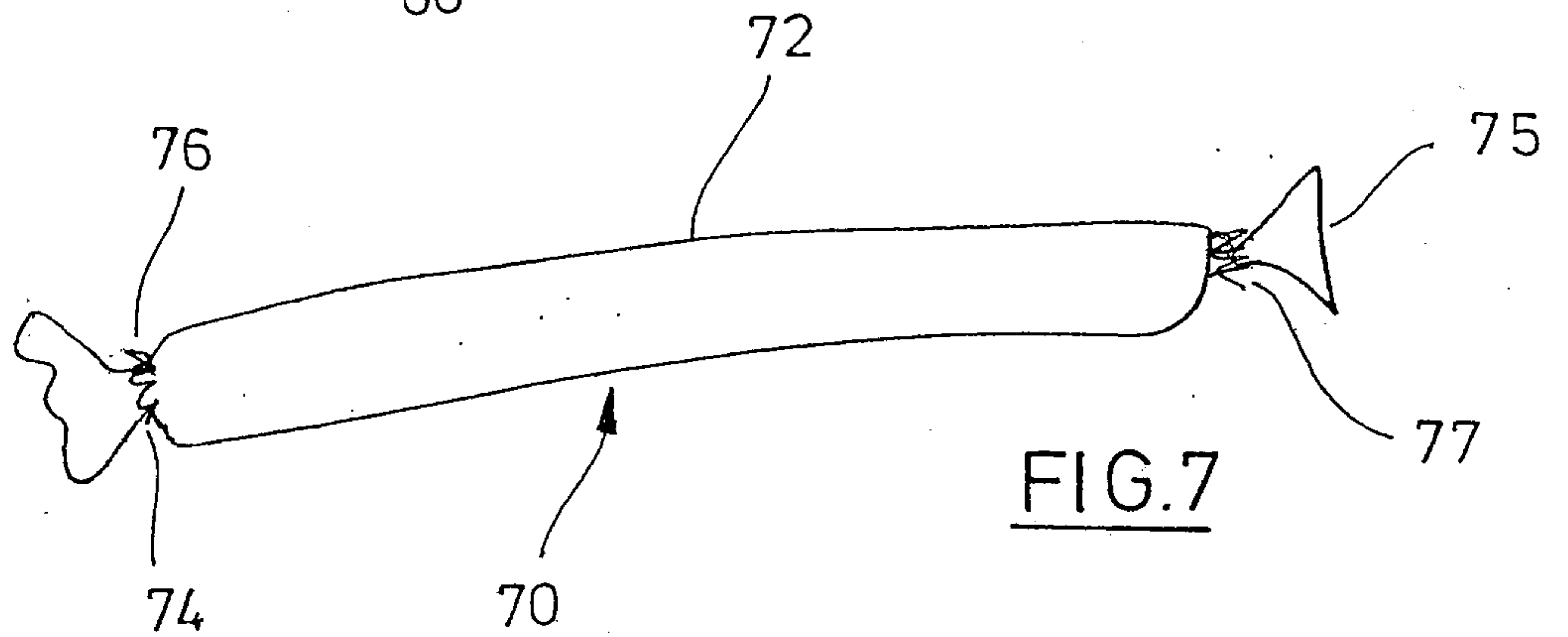
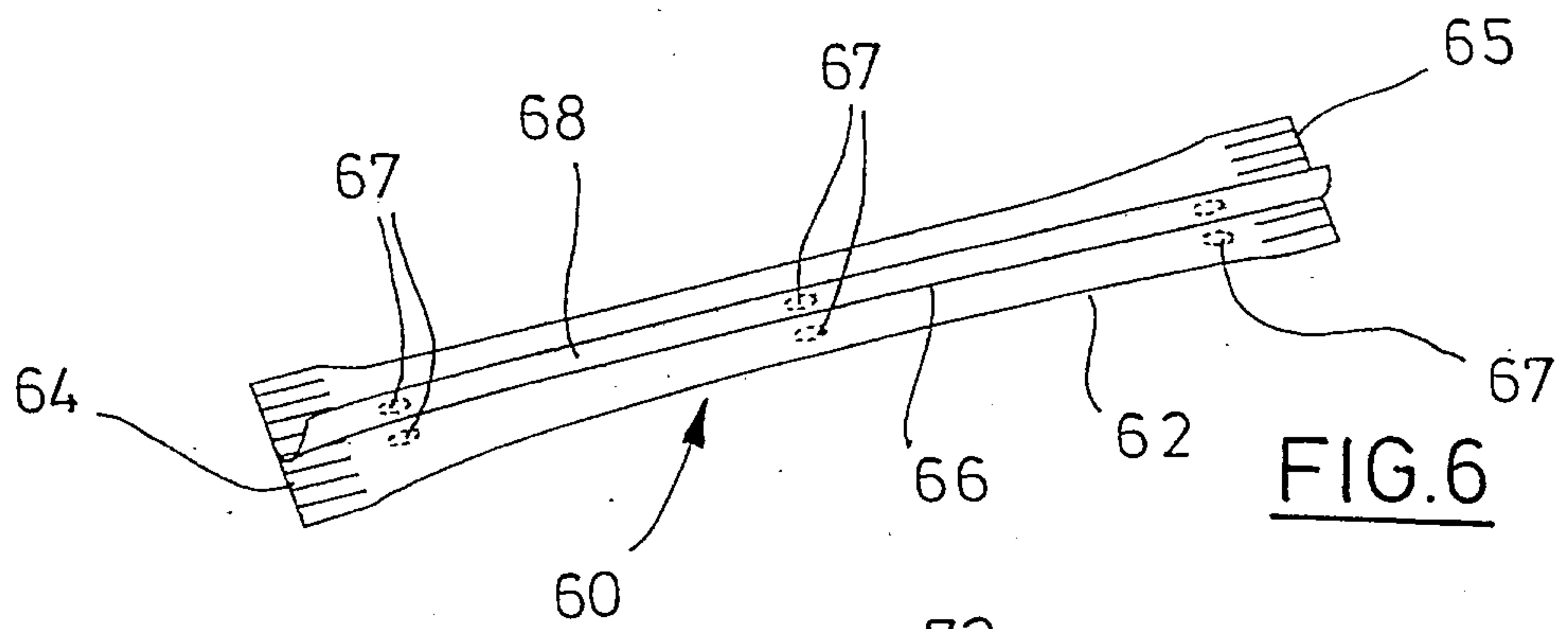
29. Process according to Claim 27 or 28, characterized
in that the respective wrappers are configured as
transversely running sections (84) of an endless
5 tubular bag (80) which are located one beside the other
and are separated by sealing seams (82).

30. Process according to Claim 17 or 18, characterized
in that the fine-cut tobacco, on a cigarette machine,
10 is enclosed in a continuous wrapper and, for dividing-
up purposes, the wrapped rod is severed at
predetermined intervals, this resulting in wrapped
individual portions (190), each for making a single
cigarette, and in that the respective wrappers (192)
15 are then closed at both end sides (193).

31. Process according to Claim 30, characterized in
that, in order to close the end sides (193) of a
respective wrapper (192), the fine-cut tobacco
20 contained in the wrapper (192) is forced into the
interior of the wrapper (192) at the end sides (193),
and in that the wrapper (192) is then pressed flat and
closed at both ends.



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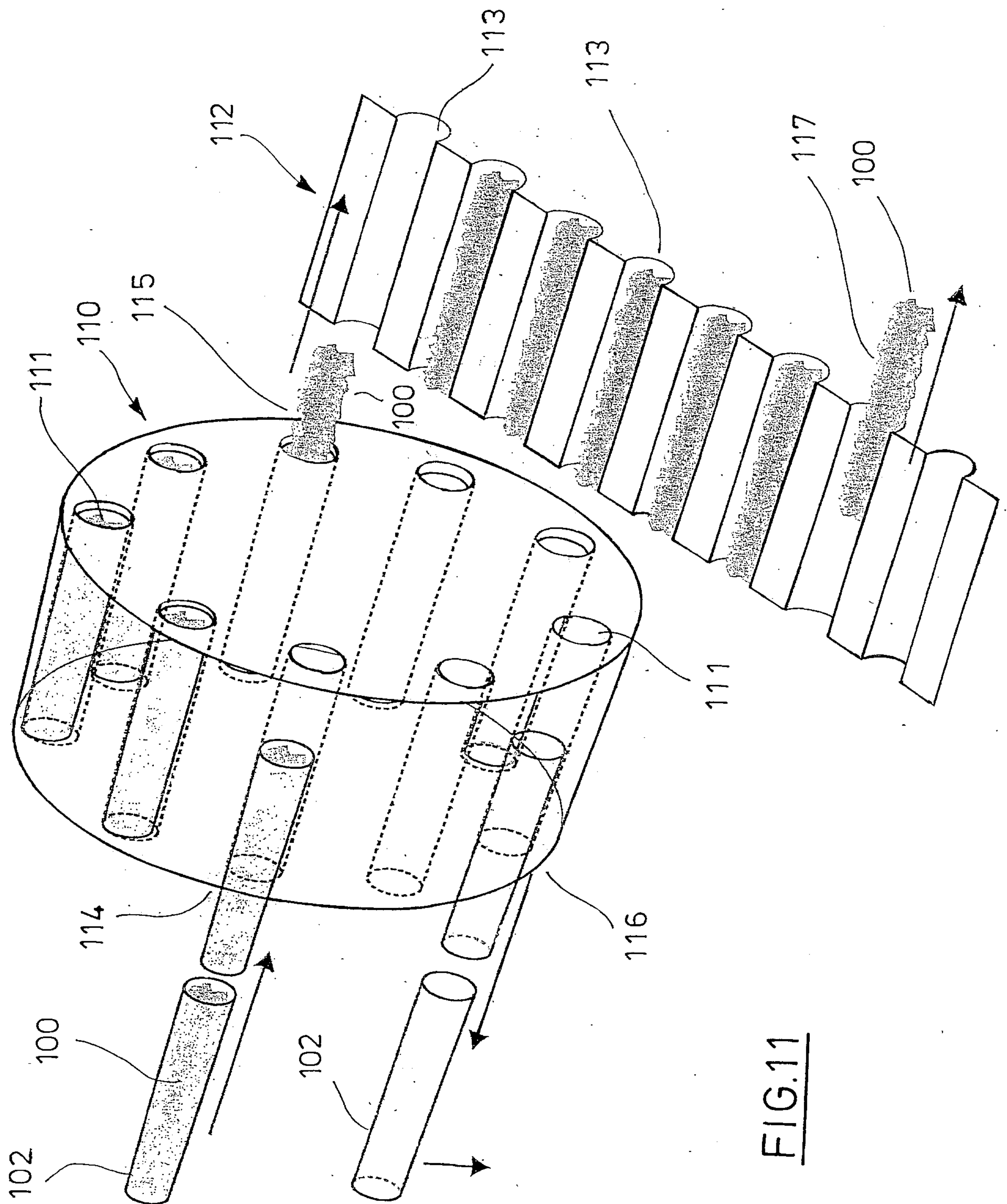


FIG. 11

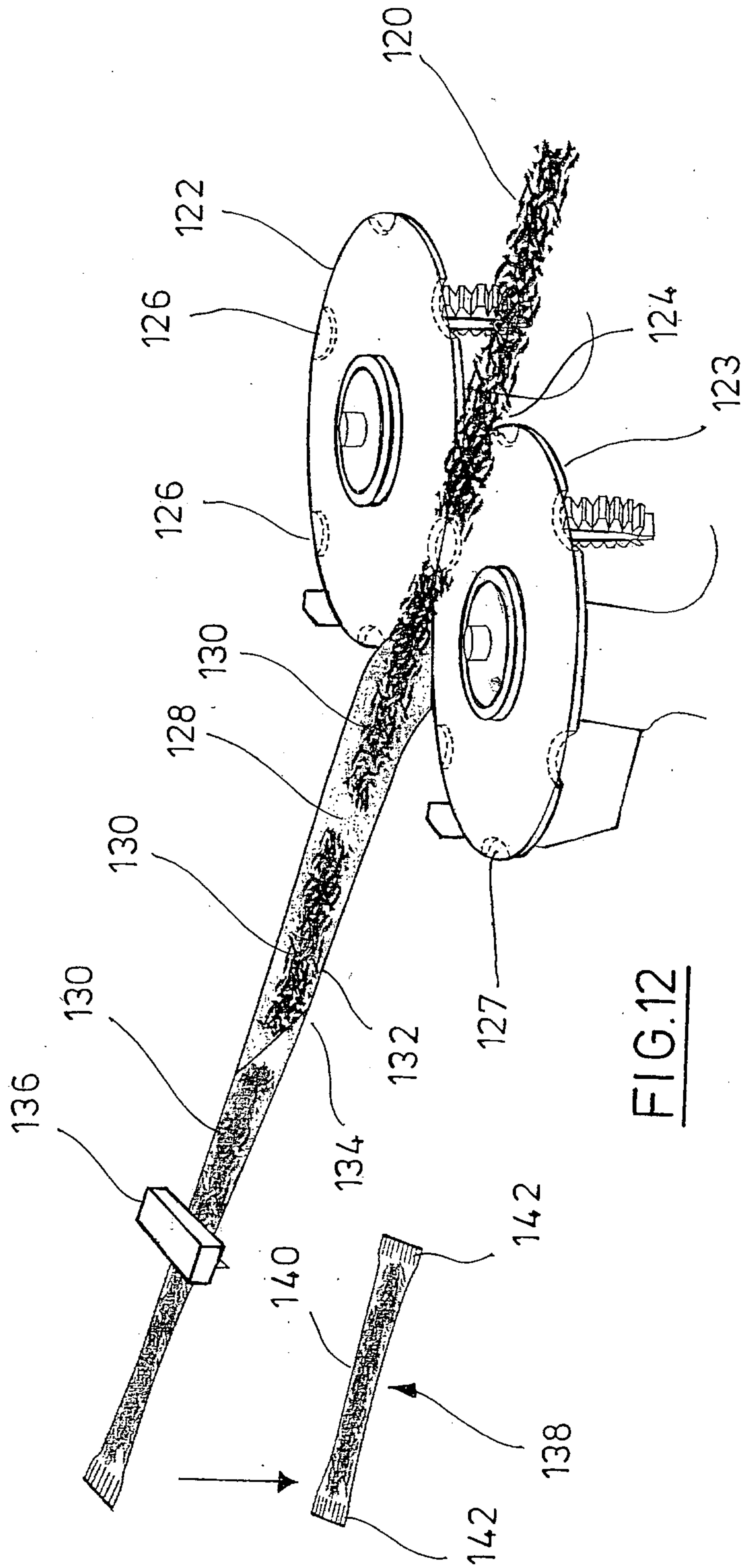


FIG. 12

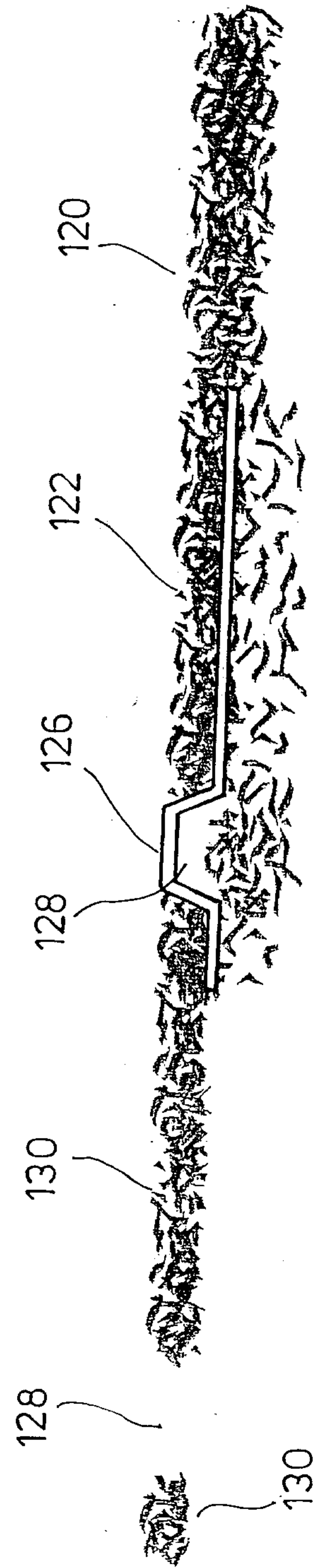
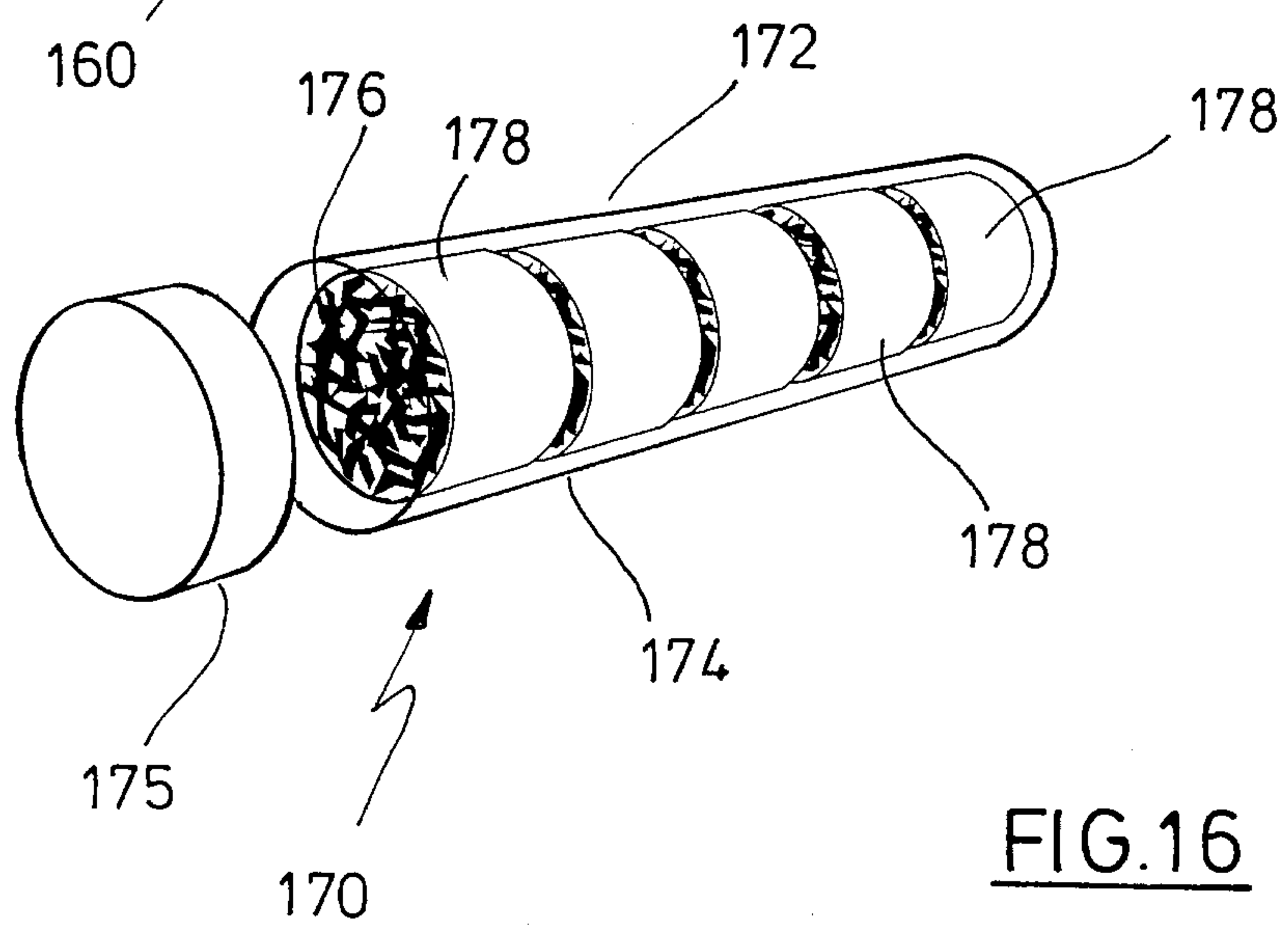
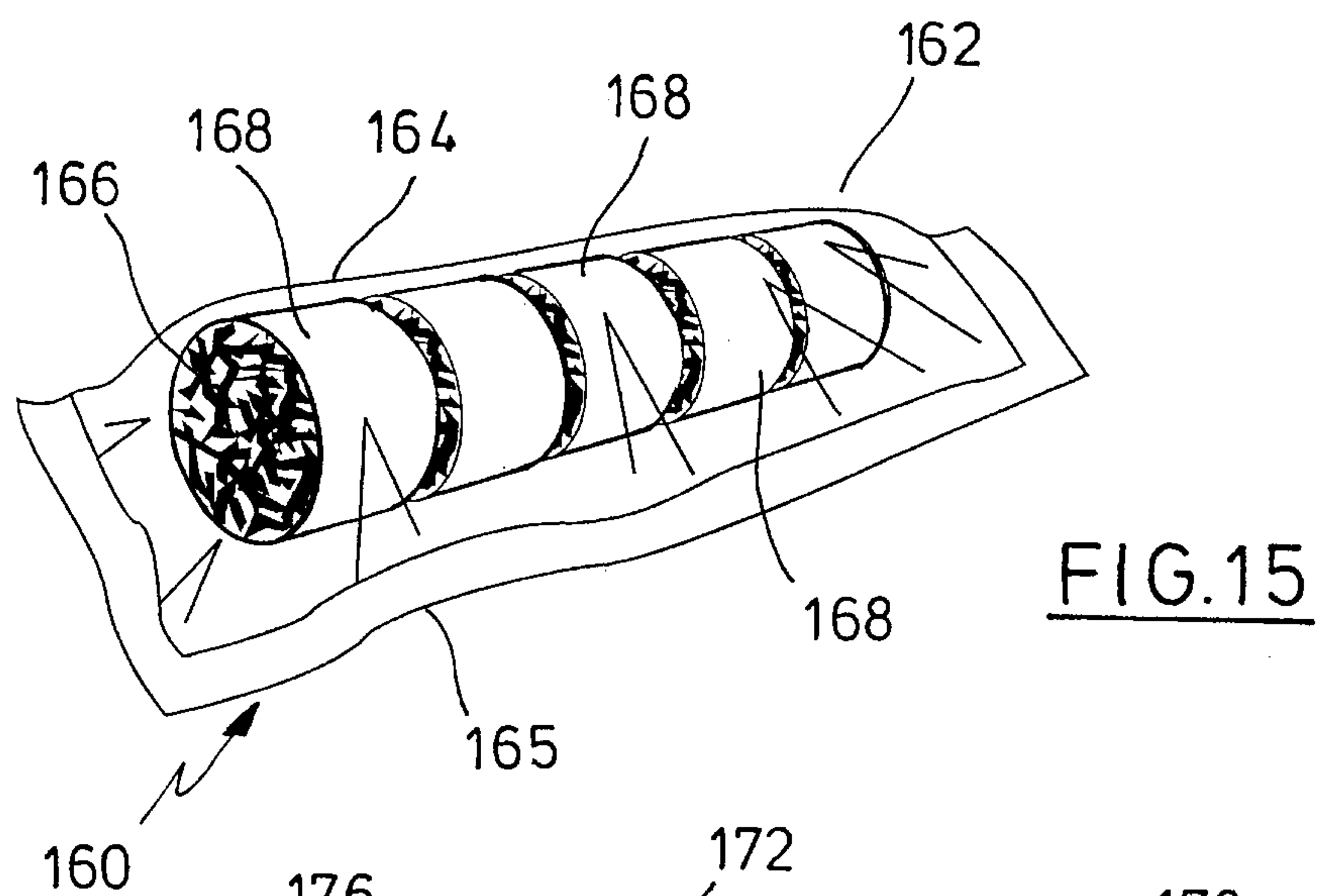
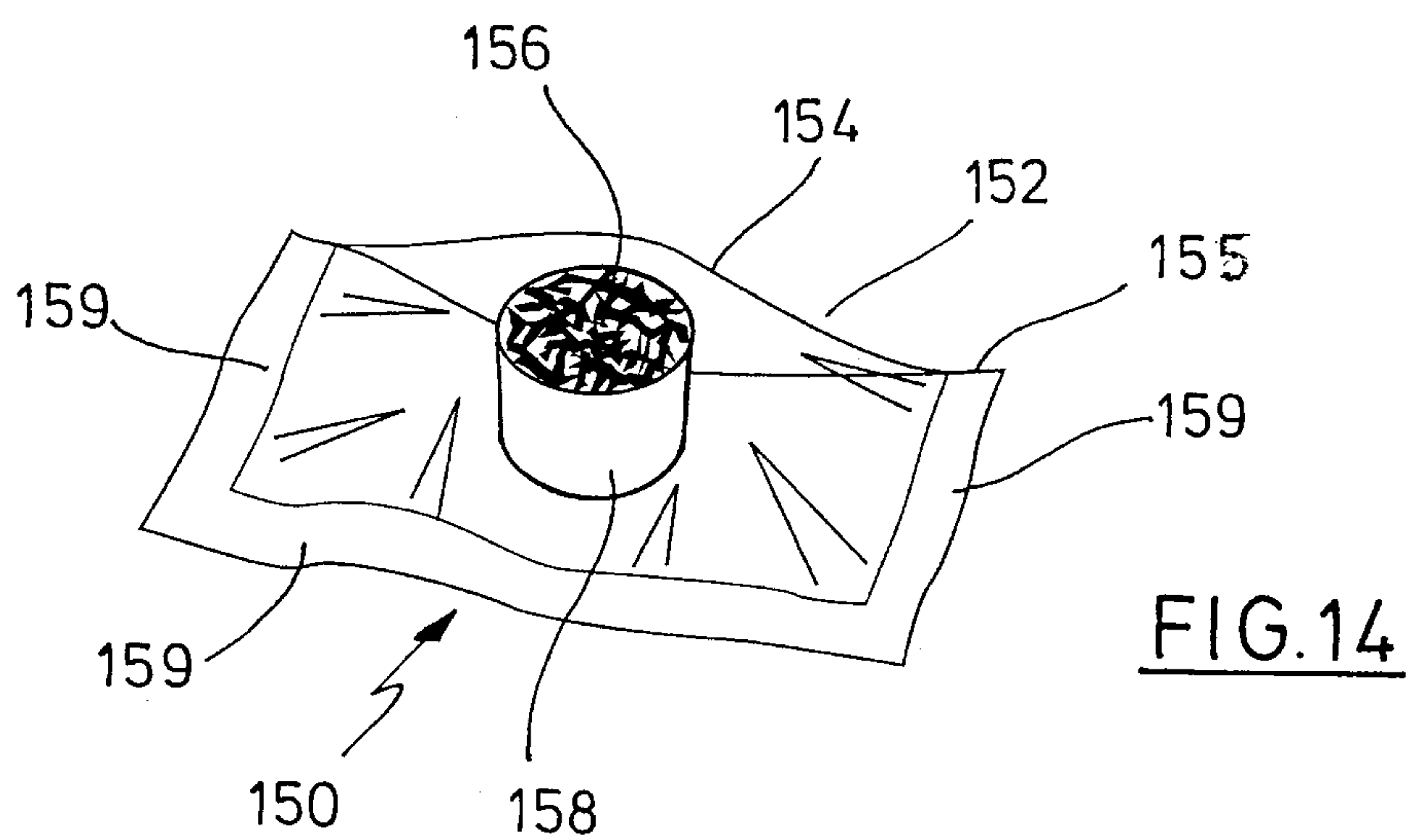
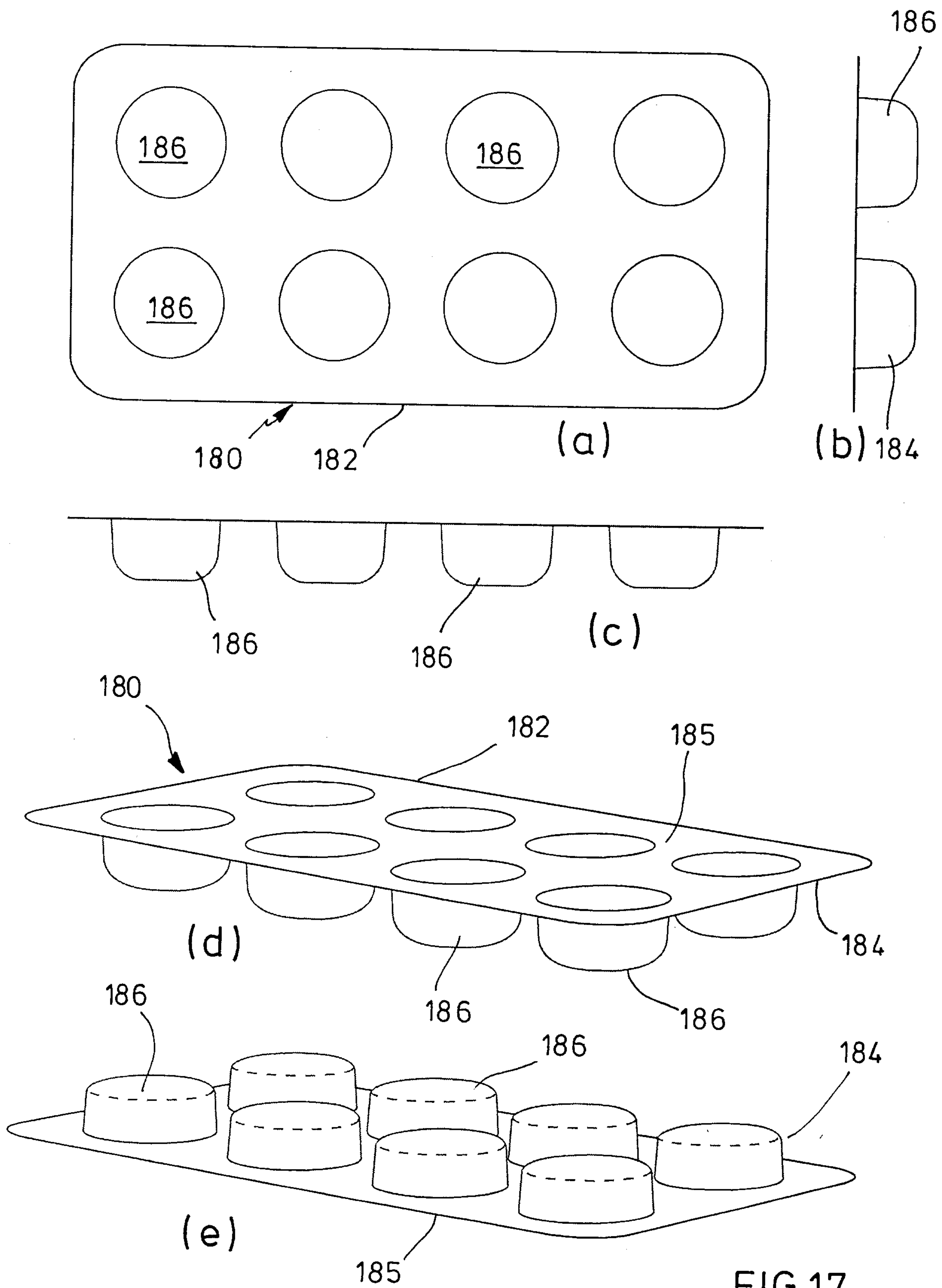
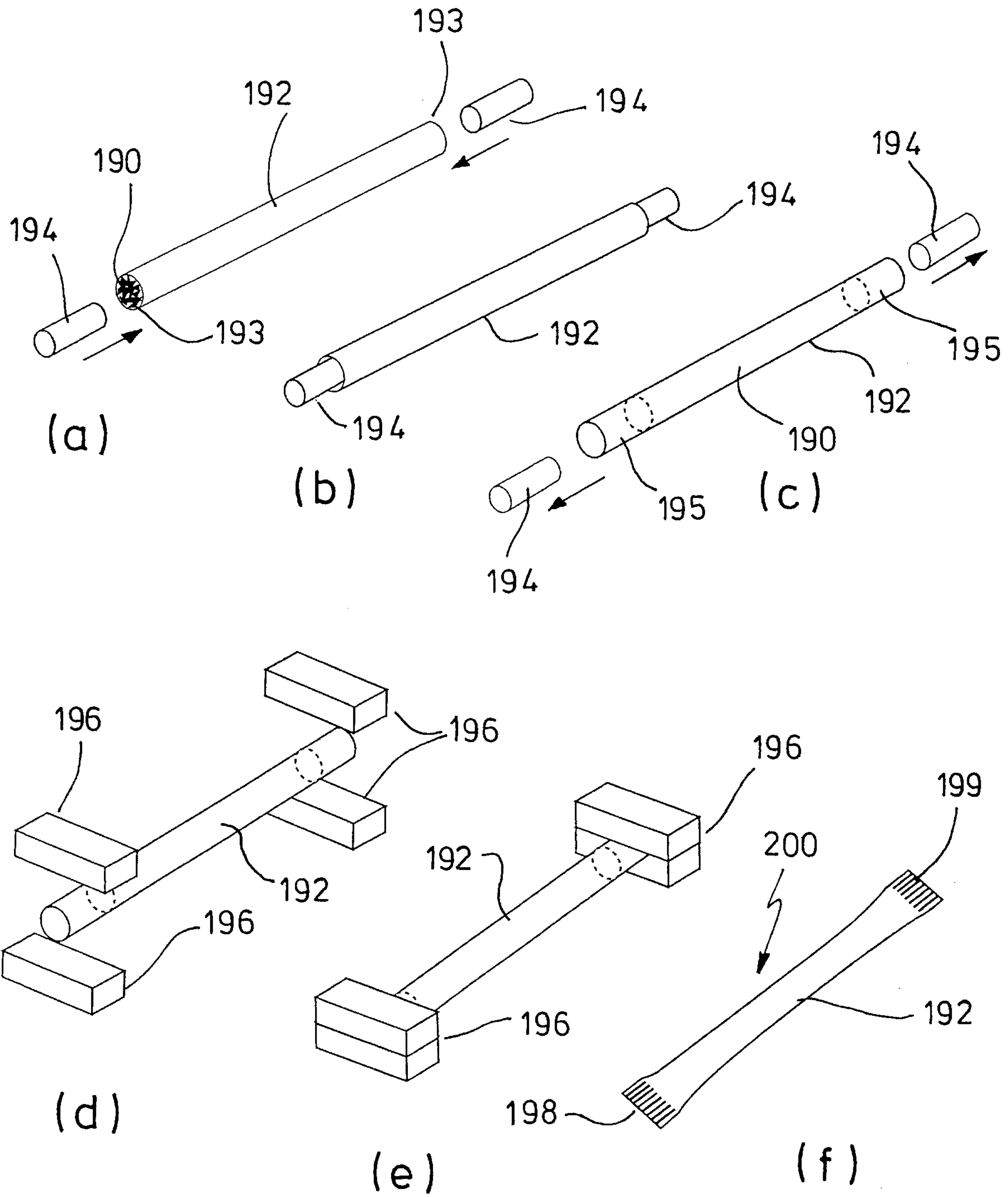


FIG. 13



FIG.17

FIG.18

