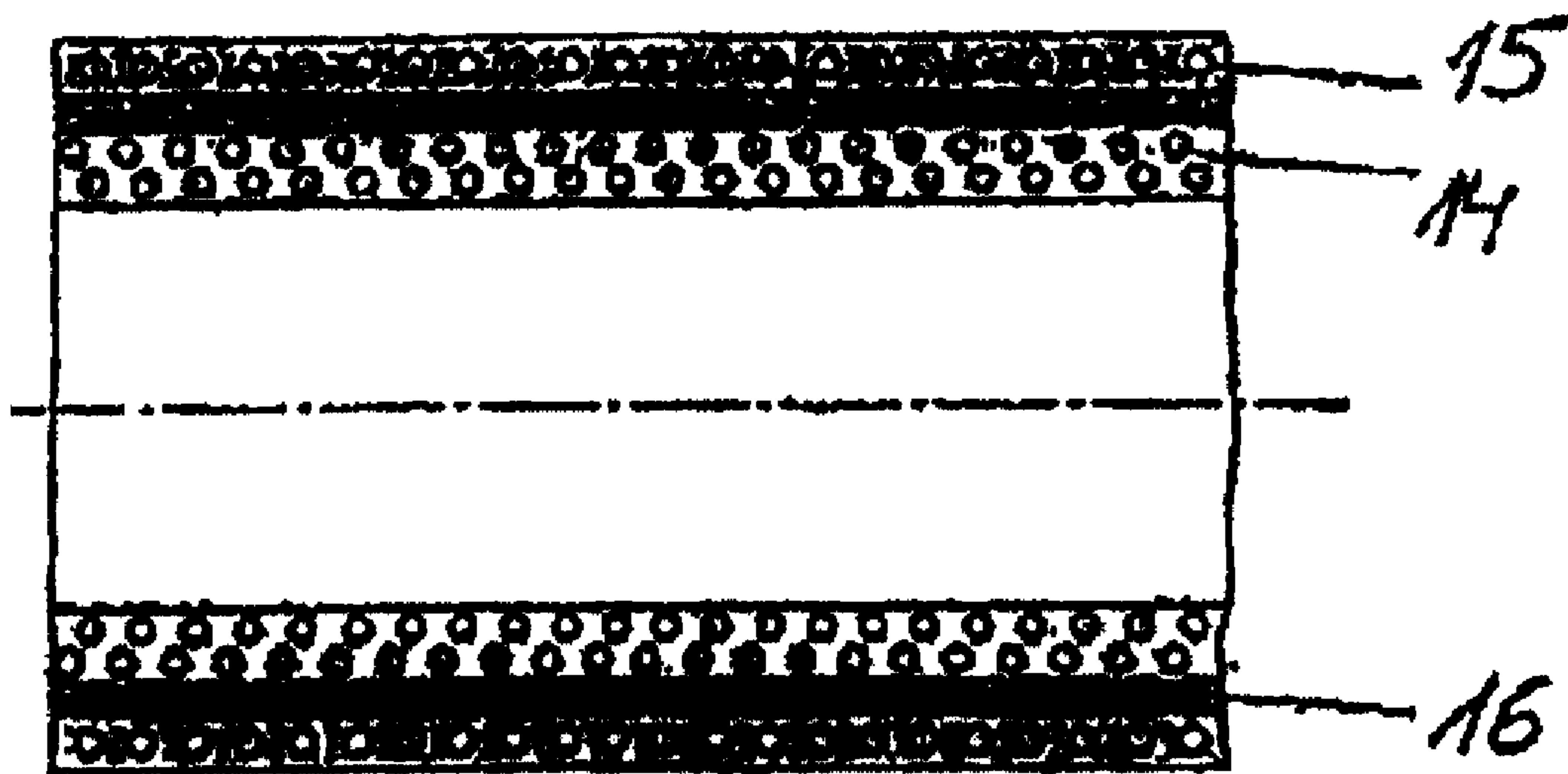




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(54) Titre : GAINE POUR MACHINE A IMPRIMER
 (54) Title: SLEEVE FOR A PRINTING MACHINE



(57) Abrégé/Abstract:

The invention relates to a sleeve, particularly a rubber blanket sheath, for a printing machine. The sleeve (10) has a two-layer structure comprising an internal layer designed as support layer (11), and an external layer designed as cover layer (12) and used for the print transfer, with the external or cover layer (12) being connected directly to the internal or support layer (11). A three layer composite sheath also is disclosed.

ABSTRACT OF THE DISCLOSURE

The invention relates to a sleeve, particularly a rubber blanket sheath, for a printing machine. The sleeve (10) has a two-layer structure comprising an internal layer designed as support layer (11), and an external layer designed as cover layer (12) and used for the print transfer, with the external or cover layer (12) being connected directly to the internal or support layer (11). A three layer composite sheath also is disclosed.

SLEEVE FOR A PRINTING MACHINE

FIELD OF THE INVENTION

The present invention relates to a sheet transfer sleeve, and more particularly, to a rubber blanket sheath for a printing machine.

5

BACKGROUND OF THE INVENTION

Blanket sleeves in printing machines promote a quiet and smooth pay out from successive printing machine cylinders as a result of the absence of a disruption by gripping channels which are usually present on the circumference of printing and transfer cylinders.

10 DE 199 50 643 A1 discloses a sleeve with a four-layer overall structure for a web-fed offset rotary printing press. The sleeve according to DE 199 50 643 A1 has an internal layer designed as a support layer, namely a metal sheath, as well as an external layer designed as cover and used for the print transfer, where two additional layers being provided between the support layer and the cover layer. The internal
15 support layer is adjacent to a compressible layer, while the external cover layer is adjacent to a layer made of an inelastic material. The compressible layer adjacent to the support layer and the layer made of inelastic material adjacent to the cover layer are connected to each other. Such a four-layer sleeve design requires considerable manufacturing effort and is therefore expensive.

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OBJECTS AND SUMMARY OF THE INVENTION

It is an object of the present invention to provide an improved, more economical, rubber blanket sleeve for a printing machine.

According to one aspect of the invention, there is provided a sleeve for positioning onto a hollow cylinder removably positionable onto a cylinder of a printing machine,
25 the sleeve comprising a two layer structure consisting solely of an internal support layer and an external cover layer, said cover layer having an outer surface for the transfer of prints during a printing operation, and said external cover layer being directly connected to the internal support layer, said sleeve having an overall flexible design such as to be pullable onto the hollow cylinder.

According to a second aspect of the invention, there is provided a sleeve for positioning onto a hollow cylinder removably positionable onto a cylinder of a printing machine, the sleeve comprising a sheath having a three layer construction consisting solely of an internal layer designed as a support layer, an external layer
5 designed as cover layer and used for print transfer, and a register layer arranged between the support layer and the cover layer, and said external cover layer and the internal support layer being directly connected to the register layer on different sides of the register layer, said sleeve having an overall flexible design such as to be pullable onto the hollow cylinder.

10 According to a third aspect of the invention, there is provided in a printing machine having a rotatable cylinder, comprising a hollow blanket holding cylinder mountable on a printing machine cylinder, a blanket sleeve mounted on the blanket holding cylinder, said blanket sleeve consisting solely of an internal support layer and an external cover layer, said cover layer having an outer surface for the transfer of prints
15 during a printing operation, and said external cover layer being directly connected to the internal support layer, said blanket sleeve having an overall flexible design such as to be pullable onto the blanket holding cylinder.

Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings, in which:

20 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a longitudinal, partially diagrammatic section, of a printing machine sleeve in accordance with the invention; and

Fig. 2 is a longitudinal section of an alternative embodiment of sleeve for a printing machine in accordance with the invention.

25 While the invention is susceptible of various modifications and alternative constructions, certain illustrated embodiments thereof have been shown in the drawings and will be described below in detail. It should be understood, however, that there is no intention to limit the invention to the specific forms disclosed, but on the contrary, the intention is to cover all modifications, alternative constructions and
30 equivalents falling within the spirit and scope of the invention.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring more particularly to Fig. 1 of the drawings, there is shown an illustrative blanket sleeve 10 in accordance with the invention for use in an offset printing machine.

- 5 In accordance with the invention, the sleeve has a composite construction with a reduced number of discreet layers which simplifies its design and reduces manufacturing costs. The sleeve 10, as depicted in Fig. 1, comprises only two layers, namely the support layer 11 and the cover layer 12. The arrangement on the one hand simplifies the structure of the sleeve, and on the other hand allows manufacturing
- 10 costs to be reduced.

The support layer 11 preferably is designed to be incompressible. The incompressible support layer 11 can be constructed, for example, using metal. Alternatively, the support layer could be designed to be compressible, preferably being made of a fiber reinforced composite material. Regardless of whether the support layer 11 is
5 designed to be compressible or incompressible, the support layer 11, as well as the cover layer 12, can be fused to an appropriate sleeve or hollow cylinder so as to enable the sleeve 10 to be shifted onto the cylinder of a printing machine.

The internal layer, which is designed as the support layer 11, preferably has a thickness of 0.1 mm to a maximum of 100 mm, so that the support layer 11 can be used
10 to change the print repeat range. The cover layer 12, as indicated, is applied directly onto the support layer 11 and is used for the print transfer. The cover layer 12, which may be designed to be either compressible or incompressible, also preferably has a thickness of 0.1-10mm. Preferably the cover layer 12 is sealed with a lacquer or other suitable sealing medium.

15 An alternative embodiment of blanket sleeve in accordance with the invention, as depicted in Fig. 2, has a three part or three layer structure. The sleeve in this instance has an internal layer designed as a support layer 14, an external layer designed as a cover layer 15, and a register layer 16 arranged between the support layer 14 and the
20 cover layer 15. The internal layer 14 is connected directly to the inner side of the register layer 16. The cover layer 15 is connected directly to the external side of the register layer 16. In this embodiment, the number of layers of the sleeve again is reduced compared to the state of the art. The sleeve 13 thus also makes it possible to minimize the manufacturing costs.

In the sleeve 13 depicted Fig. 2, the support layer 14 as well as the cover layer 15 are
25 preferably designed to be compressible. The register layer 16 preferably is made of an incompressible hard rubber or fiber-reinforced composite material or a metal material. Alternatively, the support material 14 can be made of an incompressible material and the cover layer could be made of a compressible material, or the support layer 14 could be compressible and the cover layer 15 incompressible, where in each
30 case it is preferred for the register layer 16 to be incompressible.

It will be appreciated by one skilled in the art that the sleeves 10, 13 according to the present invention have particular utility in offset printing machines. Such sleeves generally have no gripping channels, or are designed with only small gripping channels on the cylinders or plate cylinders. Oscillatory or other vibratory movement of the printing cylinder is thus minimized so that the sleeves can be effectively used in the transfer of sheet material in the printing press without adversely effecting printing quality. It will be understood that the sleeves 10, 13 according to the invention each can have an overall flexible design so they can be pulled, like a sock, onto an appropriate support sheath or hollow cylinder 18 and then placed together with the support sheath on a cylinder 19 of a printing machine, as depicted in Fig. 1. Alternatively, the support layer could be fused to the support sheath or mounted directly on the printing machine cylinder.

CLAIMS:

1. A sleeve for positioning onto a hollow cylinder removeably positionable onto a cylinder of a printing machine, the sleeve comprising a two layer structure consisting solely of an internal support layer and an external cover layer, said cover layer having an outer surface for the transfer of prints during a printing operation, and said external cover layer being directly connected to the internal support layer, said sleeve having an overall flexible design such as to be pullable onto the hollow cylinder.
2. The sleeve according to claim 1 in which the support layer is made of an incompressible material.
3. The sleeve of claim 2 in which said support layer is made of metal.
4. The sleeve of claim 1 in which the support layer is made of a compressible material.
5. The support layer of claim 4 in which the support layer is made of fiber reinforced composite material.
6. The sleeve of any one of claims 1 to 5, in which said support layer is fused to the hollow cylinder.
7. The sleeve of any one of claims 1 to 6, in which the support layer support layer has a thickness of 0.1-100 mm.
8. The sleeve of any one of claims 1 to 7, in which the cover layer has a thickness of 0.1-10 mm.
9. The sleeve of any one of claims 1 to 8, in which the cover layer is sealed with lacquer.
10. A sleeve for positioning onto a hollow cylinder removeably positionable onto a cylinder of a printing machine, the sleeve comprising a sheath having a three layer construction consisting solely of an internal layer designed as a support layer, an external layer designed as cover layer and used for print transfer, and a register layer arranged between the support layer and the cover layer, and said external cover layer and the

internal support layer being directly connected to the register layer on different sides of the register layer, said sleeve having an overall flexible design such as to be pullable onto the hollow cylinder.

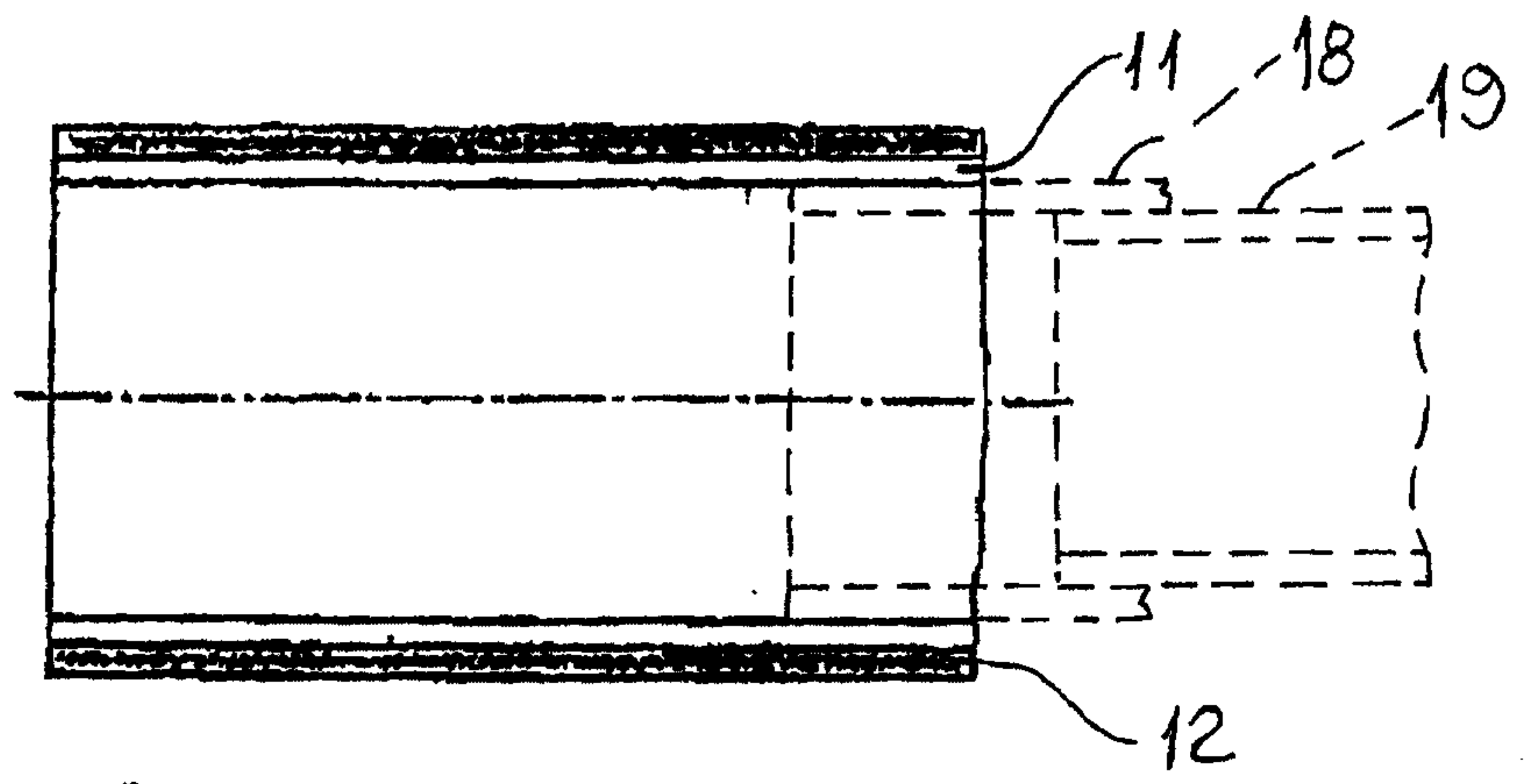
11. The sleeve of claim 10 in which the support layer and the cover layer are compressible and said register layer is incompressible.

12. The sleeve of claim 10 in which said cover layer is compressible and said support layer and register layer are incompressible.

13. The sleeve of claim 10 in which said support layer is compressible and said cover layer and registered layer are incompressible.

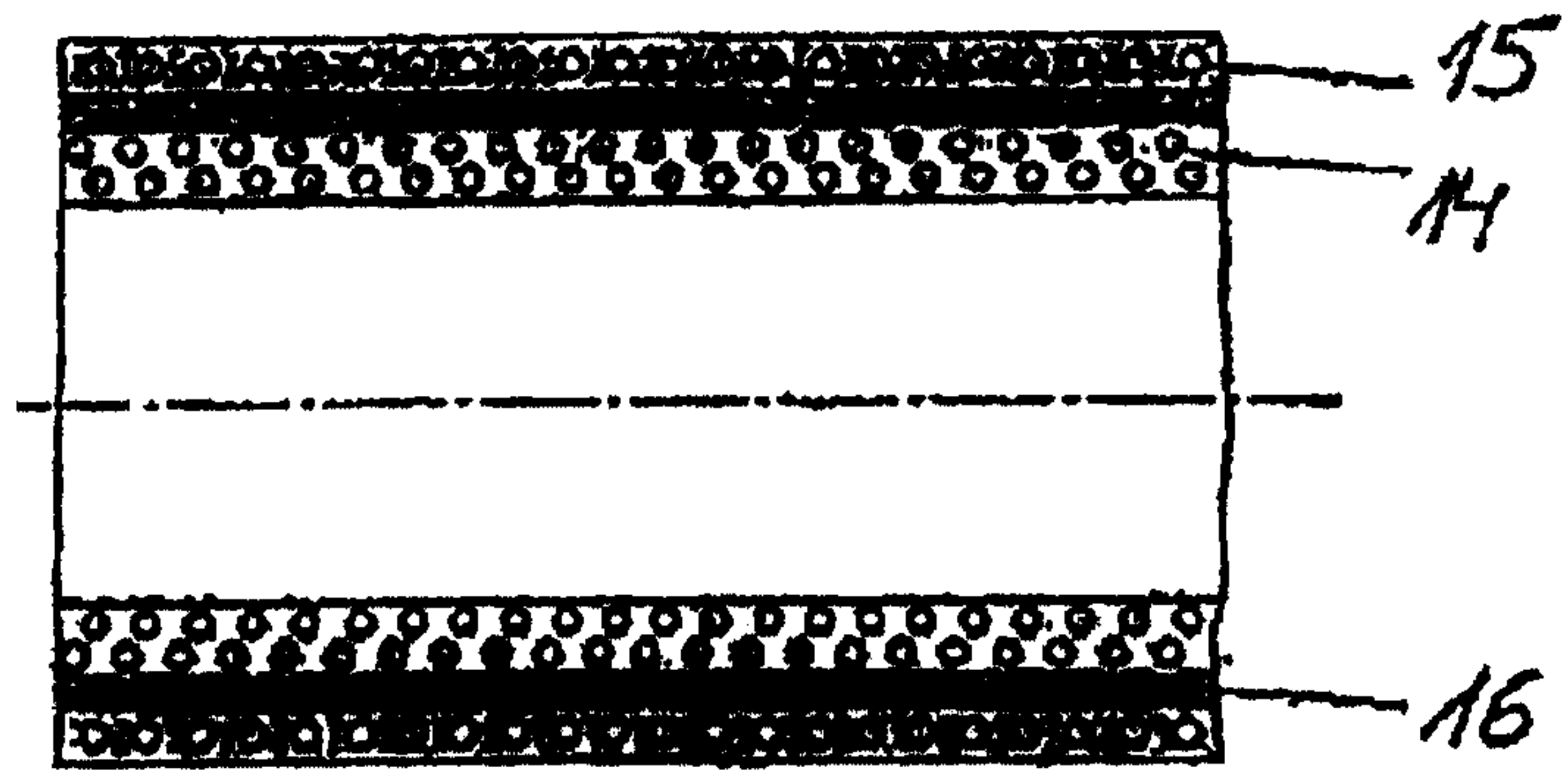
14. In a printing machine having a rotatable cylinder, comprising a hollow blanket holding cylinder mountable on a printing machine cylinder, a blanket sleeve mounted on the blanket holding cylinder, said blanket sleeve consisting solely of an internal support layer and an external cover layer, said cover layer having an outer surface for the transfer of prints during a printing operation, and said external cover layer being directly connected to the internal support layer, said blanket sleeve having an overall flexible design such as to be pullable onto the blanket holding cylinder.

15. In the printing machine of claim 14 in which said support layers made of incompressible material, and said cover layer is made of compressible material.



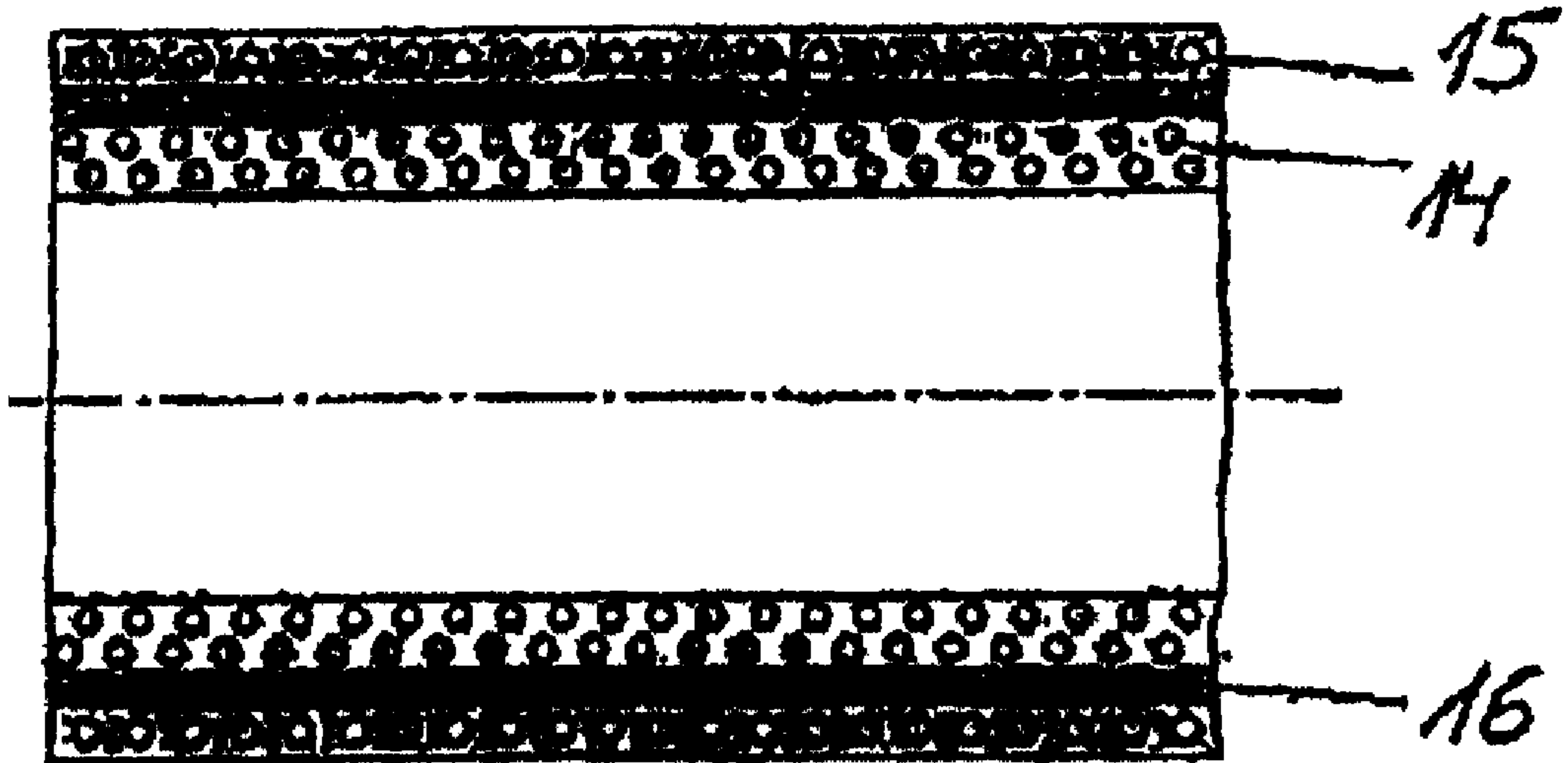
10 ↗

Fig. 1



13 ↗

Fig. 2



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