

SPECIFICATION

A plaster

5 The present invention relates to a plaster of the moderate- or low-temperature sensitive type.

A conventional plaster comprises a backing material such as woven fabric provided on one side with an adhesive layer containing antiphlogistic and lenitive agents and other agents. Such a type of plaster has a disadvantage that the skin of the affected part coated therewith has a tendency to suffer rashes. This is because the pores of the skin are stopped up and the plaster per se has an unsatisfactory air-permeability. In order to eliminate this disadvantage, it has been proposed to provide a plurality of pharmaceutical-containing adhesive layers on one side of a backing material such as a woven fabric having an air-permeability at suitable spaces. However, such a plaster using as the backing a woven fabric is difficult to cut by hand. That is to say, when such plaster is cut to a suitable size according to the affected part, it is necessary to use scissors or other like means. Thus, the prior art plaster is troublesome to handle.

According to the invention, there is provided a plaster comprising a backing material such as a woven fabric which is provided on one side with a plurality of pharmaceutical-containing adhesive layers in striped form, and is successively provided on at least one edge with notches. A plaster according to the present invention causes no skin-rashes, can be cut by hand and can be easily removed from the affected part.

Embodiments of the invention will now be described by way of example and with reference to the accompanying drawing in which:-

Figure 1 is a perspective view of a roll of plaster according to the invention;

40 *Figure 2* is a sectional view along line II-II in *Figure 1*;

Figure 3 is a plan view of part of a second embodiment;

Figure 4 is a sectional view along line IV-IV in *Figure 3*;

Figure 5 is a plan view of part of a third embodiment;

Figure 6 is a sectional view along line VI-VI in *Figure 5*; and

50 *Figures 7 to 10* are plan views of parts of fourth, fifth, sixth and seventh embodiments, respectively.

For the backing material 1, use may be made of various woven fabrics made of acetate or other fibers. On one side of the backing material 1 are applied a plurality of pharmaceutical-containing adhesive layers in vertically-, lateral- obliquely- or cross-striped form. Each of said layers contains required amounts of antiphlogistic and lenitive agents for example methyl salicylate, camphor and thymol, and counter irritating agents, for example mustard. In the spaces between the adjacent layers 2, there may or may not be provided a very thin layer having a composition similar to or different from that of the aforesaid adhesive layer 2. The amounts of the pharmaceutical-containing adhesives forming

the very thin layers and the layers 2 arranged in the striped form may optionally be varied. In most cases, about 160-230 g/m² of the latter layers may preferably be applied with, say, about 8-22 g/m² of the former. The backing material may be precoated with a fluid-tight layer, e.g. of urethane, if necessary.

Notches, e.g. in saw-toothed form, are successively provided on at least one edge of the backing material having a pharmaceutical-containing adhesive layer 2 held in place thereon. These notches may be of a suitable size. In most cases, there may be about 5 to 10 notches per cm. A series of these notches do not have to be successively provided along the full length of the edge. They may be distributed at suitable intervals. When the edge has a pharmaceutical-containing adhesive layer, it may be notched in a state where said layer remains. Alternatively, the edge notches may have no pharmaceutical-containing adhesive layer or a very thin layer of the pharmaceutical-containing adhesive components (i.e., a marginal space 3 may be notched). Thus, the notches may be provided on both edges with or without the pharmaceutical-containing adhesive components. Alternatively, the notches may be provided on one edge having a pharmaceutical-containing adhesive layer and on the other edge having no pharmaceutical-containing adhesive layer or a very thin layer thereof. In addition, these notches may be provided simultaneously with cutting of a plaster product to a given width, after the pharmaceutical-containing adhesive layers have been coated on a given backing material. Even when a plaster sheet having the notches formed in its marginal space 3 coated with a very thin layer of the pharmaceutical-containing adhesive components is shaped into a roll, it is easy to reel a plaster out of the roll by picking up the notched marginal area. This is because the notched marginal area is not firmly bonded on itself. In addition, the unrolled plaster can be torn off by the tip of a finger without staining the finger or damaging the pharmaceutical-containing adhesive layers. Figures 1, 3, 5 and 7 show several embodiments of the plaster of the present invention wherein a plurality of the pharmaceutical-containing adhesive layers are arranged in the vertically-striped form; *Figure 8* another embodiment wherein they are done in the lateral-striped form; *Figure 9* a further embodiment wherein they are done in the obliquely-striped form; and *Figure 10* a still further embodiment wherein they are done arranged in the cross-striped form. Figures 1 and 5 also show typical examples of the plaster wherein between the adjacent layers 2 is provided a very thin layer having the same components as those of the former. In *Figure 1*, the notches are provided on both edges corresponding to the marginal spaces 3; in *Figure 3*, they are provided on one edge corresponding to a marginal space 3 and on the other edge having a pharmaceutical-containing adhesive layer; and in *Figure 5*, they are provided on both edges having the pharmaceutical-containing adhesive layers.

As will be understood from the foregoing, the plaster of the present invention can easily be cut to a desired length by the fingers, and be applied on the

affected part. This is because the trough of one notch acts as a cutting end. When the plaster is removed from the affected part, it peels easily from the crest of one notch. In addition, since the pharmaceutical-containing layers are provided on the backing at spaces, the area of the plaster coming in direct contact with the skin of the affected part is so limited that skin rashes are prevented, which are caused by excessive action of the adhesive agent, sensitization of the components, bad skin respiration or the like. In the case of the plaster having the very thin layers disposed between the respective pharmaceutical-containing adhesive layers, the very thin layers come in no direct contact with the affected part. However, the pharmaceutical components volatilizing from the very thin layers and the adhesive layers 2 adjacent thereto fill the gaps defined between the skin and the very thin layers, and have an influence on part of the skin located in the gaps. Thus, the same effect as attained in the case of a plaster having a pharmaceutical-containing adhesive layer extending over the full surface is obtained for a prolonged period of time. Further, since the pharmaceutical-containing adhesive layers are provided in striped form so that the overall area of contact is limited, it is very easy to unroll a plaster roll, and peel off a plaster from the affected part.

CLAIMS

1. A plaster wherein a plurality of pharmaceutical-containing adhesive layers are provided in a striped array at spaced apart locations on one side of a backing material, and at least part of at least one edge of the backing material is successively notched.
2. A plaster as claimed in claim 1, in which a plurality of very thin layers of pharmaceutical-containing adhesives are provided alternately in the spaces in the striped form between said first mentioned layers.
3. A plaster as claimed in claim 1, in which no very thin layer of pharmaceutical-containing adhesives is provided alternately on the spaces in the striped form between said layers.
4. A plaster as claimed in any one of claims 1 to 3, in which said notches are provided on a marginal space of the backing material having little or no pharmaceutical-containing adhesive material.
5. A plaster as claimed in any one of claims 1 to 3, in which said notches are provided on a marginal space of the backing material having a pharmaceutical-containing adhesive layer.
6. A plaster as claimed in any one of the preceding claims, in which the backing material is precoated with a fluid-tight layer.
7. A plaster substantially as hereinbefore described with reference to, and as illustrated in, Figures 1 and 2, or Figures 3 and 4, or Figures 5 and 6, or any one of Figures 7 to 10 of the accompanying drawings.

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