

661752 P/08/001
Section 29

AUSTRALIA
Patents Act 1990

PATENT REQUEST : STANDARD PATENT

We, being the person identified below as the Applicant, request the grant of a patent to the person identified below as the Nominated Person, for an invention described in the accompanying standard complete specification.

Applicant: ETHICON, INC.
Address: Route 22, Somerville, N.J. 08876-0151, USA

Nominated Person: As above
Address: As above

Invention Title: Surgical Needle

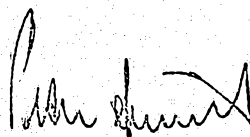
Name of actual Inventor: Dieter Brunken

BASIC CONVENTION APPLICATION DETAILS

Applicant's Name: Ethicon GmbH & Co. KG
Application Number: P 42 08 242.0
Country: Federal Republic of Germany
Code: DE
Date of Application: 14th March, 1992

Address for service in Australia: **CARTER SMITH & BEADLE**, 2 Railway Parade,
Camberwell, Victoria, 3124, Australia. (Attorney Code CD)

Dated : 9 March 1993



CARTER SMITH & BEADLE
Patent Attorneys for the Applicant

TO: The Commissioner of Patents
Fee: \$165.00
Our Ref: #12635 NF:PS:LG

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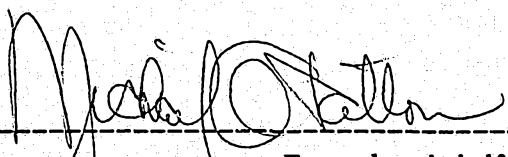
NOTICE OF ENTITLEMENT

WE, ETHICON, INC., of Route 22, Somerville, N.J. 08876-0151, United States of America, being the applicant in respect of Application No. 34081/93, state the following:-

- (a) Dieter BRUNKEN is the inventor and the details of the nominated persons' entitlement to the grant of a patent are as follows:-
- (i) The inventor made the invention in the course of employment by Ethicon GmbH & Co. and Ethicon GmbH & Co. would, on the grant of a patent for the invention, be entitled to be assignee of the patent. The applicant and nominated person is the assignee of Ethicon GmbH & Co.
- (b) The basic application identified in the Patent Request was the first application made in a convention country in respect of the invention the subject of this application. Priority is claimed under Part 2 of Chapter 8 of the Patents Act from the basic application and applicant and nominated person is the assignee of rights from the applicant in respect of the basic application, these rights including the right to file patent application in Australia claiming the priority of the basic application.

Address for service in Australia: **CARTER SMITH & BEADLE**, 2 Railway Parade,
Camberwell Victoria 3124, Australia, Attorney Code CD

Dated this APRIL 27, 1995



MICHAEL Q. TATLOW,
ASSISTANT SECRETARY

For and on behalf of
ETHICON, INC.



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(12) PATENT ABRIDGMENT (11) Document No. **AU-B-34081/93**
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. **661752**

- (54) Title
SURGICAL NEEDLE
- International Patent Classification(s)
(51)⁵ **A61B 017/06**
- (21) Application No. : **34081/93** (22) Application Date : **09.03.93**
- (30) Priority Data
- | | | |
|----------------|-----------------|-------------------|
| (31) Number | (32) Date | (33) Country |
| 4208242 | 14.03.92 | DE GERMANY |
- (43) Publication Date : **16.09.93**
- (44) Publication Date of Accepted Application : **03.08.95**
- (71) Applicant(s)
ETHICON, INC.
- (72) Inventor(s)
DIETER BRUNKEN
- (74) Attorney or Agent
CARTER SMITH & BEADLE , Qantas House, 2 Railway Parade, CAMBERWELL VIC 3124
- (56) Prior Art Documents
US 4959068
US 4905695
US 3840015
- (57) Claim

1. Surgical needle with a suture material or thread fixed to the end opposite to the perforation tip, characterized in that the puncturing tip and the area of the needle following onto the latter is made up to approximately 50% of its length from bare or surface-untreated metal, whereas the surface of the remaining part of the needle and up to the thread shoulder is chemically or electrolytically or by means of a coating dulled or coloured in a continuous manner or with minor interruptions.

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COMPLETE SPECIFICATION

FOR A STANDARD PATENT

ORIGINAL

Name of Applicant: **ETHICON, INC.**

Actual Inventor: **DIETER BRUNKEN**

Address for service
in Australia: **CARTER SMITH & BEADLE
2 Railway Parade
Camberwell Victoria 3124
Australia**

Invention Title: **SURGICAL NEEDLE**

The following statement is a full description of this invention, including the best method of performing it known to us

The invention relates to a surgical needle with a suture material or thread fixed to the end opposite to the puncturing tip.

Such surgical needles or suture needles are generally known and are normally made from a corrosion-resistant metal, preferably chrome-nickel steel. Bare or surface-untreated needles are used for minor surgical operations. However, in the case of major surgery, of late so-called coloured or dulled needles have been used, such as are e.g. described in US Patent 4,959,068. This colouring or dulling takes place either chemically by pickling or etching or electrolytically by a corresponding anodic or cathodic treatment, optionally with polarity reversal or by alternating current. A special form of pickling is so-called dull pickling. In certain cases stoving lacquers are also used for colouring or dulling. As a result of the so-called colouring or dulling of the surgical needle, the latter does not reflect under powerful OP-light and irritate the surgeon, which is particularly advantageous in major operations.

Despite the popularity of such coloured or dulled needles, it has proved disadvantageous that particularly with yellow to dark red and brown coloured or dulled needles the surgeon is unable to precisely detect in the similarly coloured tissue or operating field the point of perforation of the needle, i.e. the needle tip and the area following onto the same, which makes it more difficult to precisely insert a suture not only in microsurgery, but in general surgical operations.

The problem of the invention is to eliminate this disadvantage and make available a surgical needle, which has both the advantage of coloured or dulled needles, i.e. freedom from glare, whilst simultaneously permitting a precise point-sized insertion of the needle into the corresponding tissue.

Thus, for solving the set problem, a surgical needle of the aforementioned construction is proposed, which is constructed in such a way that the

puncturing tip and the area of the needle following onto the latter is made up to approximately 50% of its length from bare or surface-untreated metal, whereas the surface of the remaining part of the needle and up to the thread shoulder is chemically or electrolytically or by means of a coating dulled or coloured in a continuous manner or with minor interruptions.

It has surprisingly been found that with a needle according to the invention in this form and contrary to the previously held opinion that the entire needle must be dulled or coloured, it is still possible to operate in a glare-free manner and that with the relatively short tip of the bare or surface-untreated metal it is possible to insert a suture much more accurately.

Preferably the bare or surface-untreated area represents less than 25% of the needle length, said value also being dependent on the needle size or length and in absolute terms can in particular be 4 to 10 mm.

In place of a continuous dulling or colouring of the remaining part of the needle, the latter can be dulled or coloured with minor interruptions and in particular this coloured or dulled area can be dulled or coloured in ring form or in speckled form. The bare gaps in the only zonally dulled or coloured area are preferably no larger than 1 to 2 mm.

The invention is described in greater detail hereinafter relative to the drawings, wherein show:

Fig. 1 a larger-scale representation of the surgical needle according to the invention with a continuously dulled or coloured area.

Fig. 2 a representation identical to fig. 1 with an only zonally dulled or coloured area in ring form.

Fig. 3 a representation identical to fig. 2 with a dulled or coloured area in speckled form.

The needle 2 is a standard semicircular round body needle. However, the needle can have any other random configuration and can e.g. be a blunt round body needle, a cutting needle or a spatula needle. At one end of the needle is located the perforation or puncturing tip 6, which can also be constructed as a microtip, whereas at the opposite end of the needle it is possible to see the thread shoulder 12 with the thread 4. The tip 6 and the area 8 following onto it and which represents approximately less than 50% of the needle length, is bare or surface-untreated, whereas the remaining part 10 is continuously dulled or coloured either chemically or electrolytically on the one hand, or by means of a coating on the other.

In the case of fig. 2 the dulled or coloured area 10' is dulled or coloured in ring form. The randomly wide, dulled or coloured rings are spaced by approximately 1 to 2 mm. This spacing is sufficient to avoid any glare, but is also sufficient to make it possible to adequately detect the further contour of the needle in the operating field.

In the needle shown in fig. 3 the dulled or coloured area 10" is speckled and the spacings of the coloured or dulled speckles must be no greater than 1 to 2 mm.

In all the needles shown the colour of the dulled or coloured areas preferably coincides with the colour of the thread 4, which leads to the further advantage that the coding colour of the thread can be detected by intuition in the case of needles in a pack.

The claims form part of the disclosure of this specification.

The claims defining the invention are as follows:

1. Surgical needle with a suture material or thread fixed to the end opposite to the perforation tip, characterized in that the puncturing tip and the area of the needle following onto the latter is made up to approximately 50% of its length from bare or surface-untreated metal, whereas the surface of the remaining part of the needle and up to the thread shoulder is chemically or electrolytically or by means of a coating dulled or coloured in a continuous manner or with minor interruptions.

2. Needle according to claim 1, characterized in that the bare or surface-untreated area of the needle is less than 25% of the needle length.

3. Needle according to claim 1, characterized in that the bare or surface-untreated area, measured from the needle tip is 4 to 10 mm.

4. Needle according to claim 1, characterized in that the part of the needle dulled or coloured with minor interruptions is dulled or coloured in ring form or in speckled form and both in the tip area and also between the dulled or coloured areas is bare or surface-untreated.

5. Surgical needle substantially as hereinbefore described with reference to Figure 1 of the accompanying drawings.

6. Surgical needle substantially as hereinbefore described with reference to Figure 2 of the accompanying drawings.

7. Surgical needle substantially as hereinbefore described with reference to Figure 3 of the accompanying drawings.

~~8. Surgical needle incorporating any one or more of the novel features herein disclosed.~~

DATED this 9 March 1993

CARTER SMITH & BEADLE

Fellows Institute of Patent Attorneys of Australia

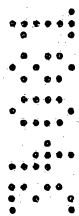
Patent Attorneys for the Applicant:

ETHICON, INC.



ABSTRACT

The invention relates to a surgical needle (2) with a suture material or thread (4) fixed to the end opposite to the perforation tip (6), characterized in that the puncturing tip (6) and the area of the needle (8) following onto the latter is made up to approximately 50% of its length from bare or surface-untreated metal, whereas the surface of the remaining part (10) of the needle and up to the thread shoulder (12) is chemically or electrolytically or by means of a coating dulled or coloured in a continuous manner or with minor interruptions.



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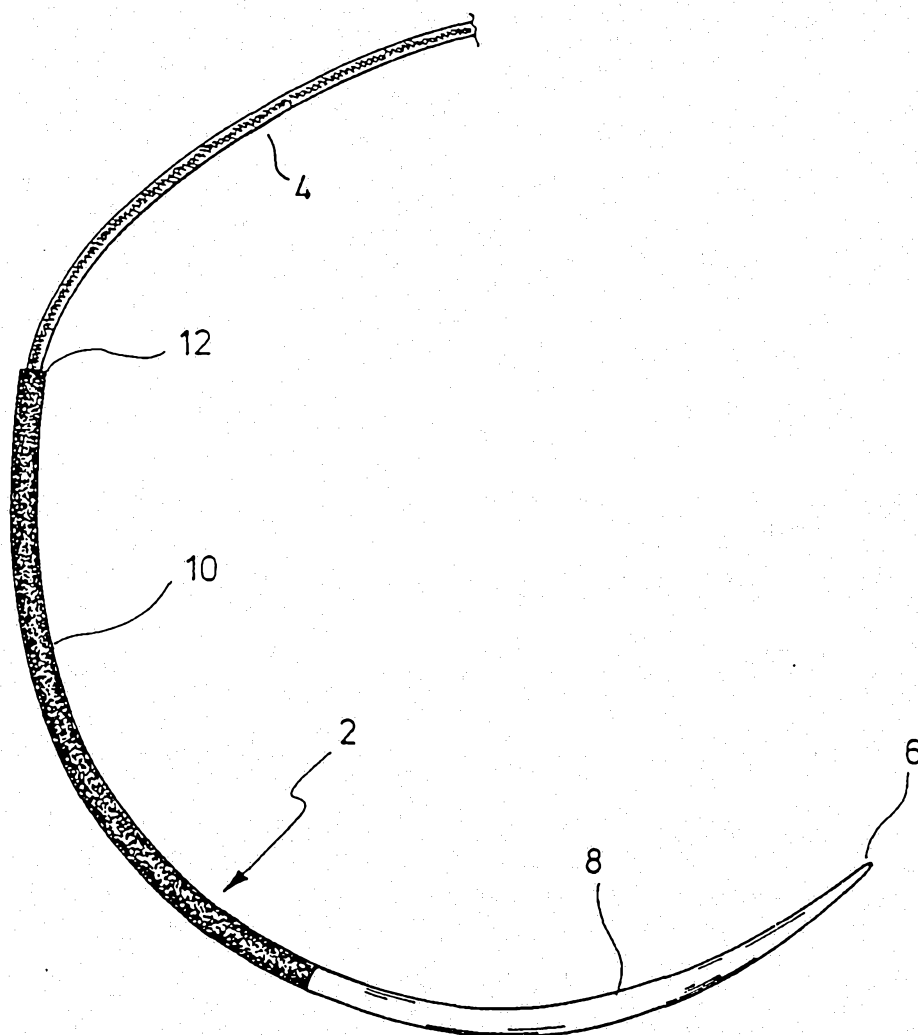


FIG.1

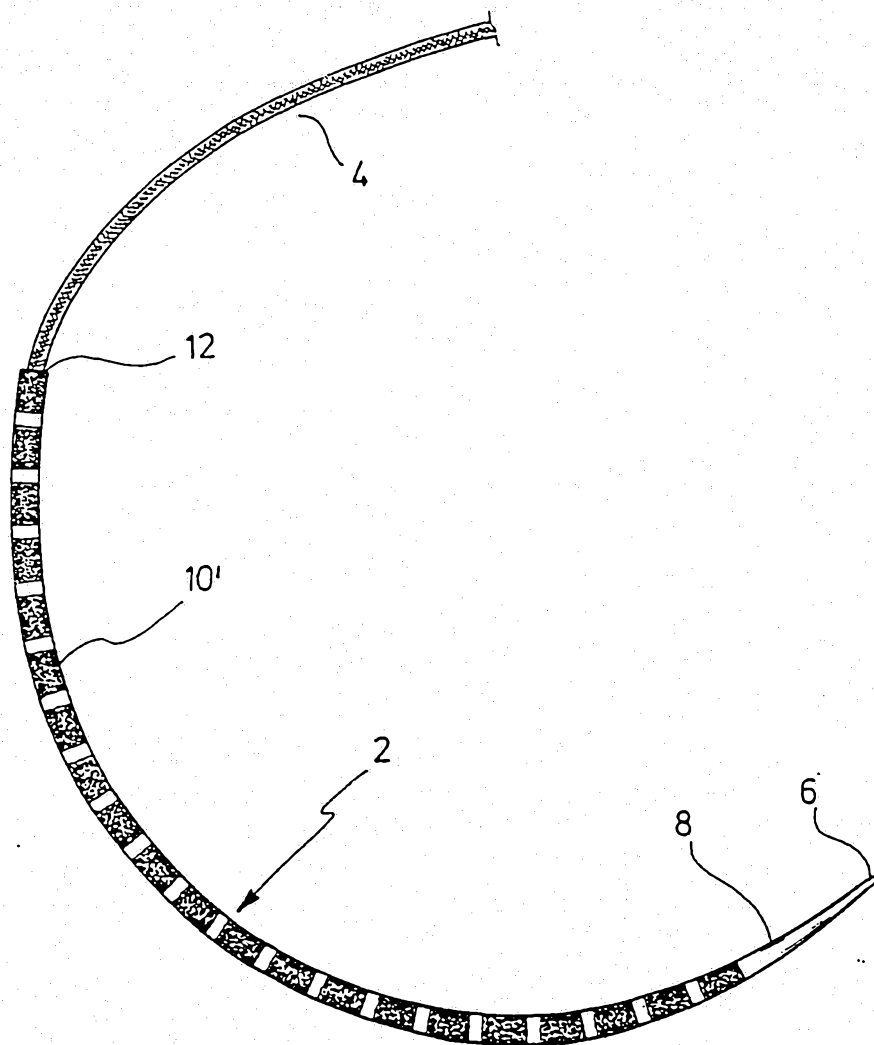


FIG. 2

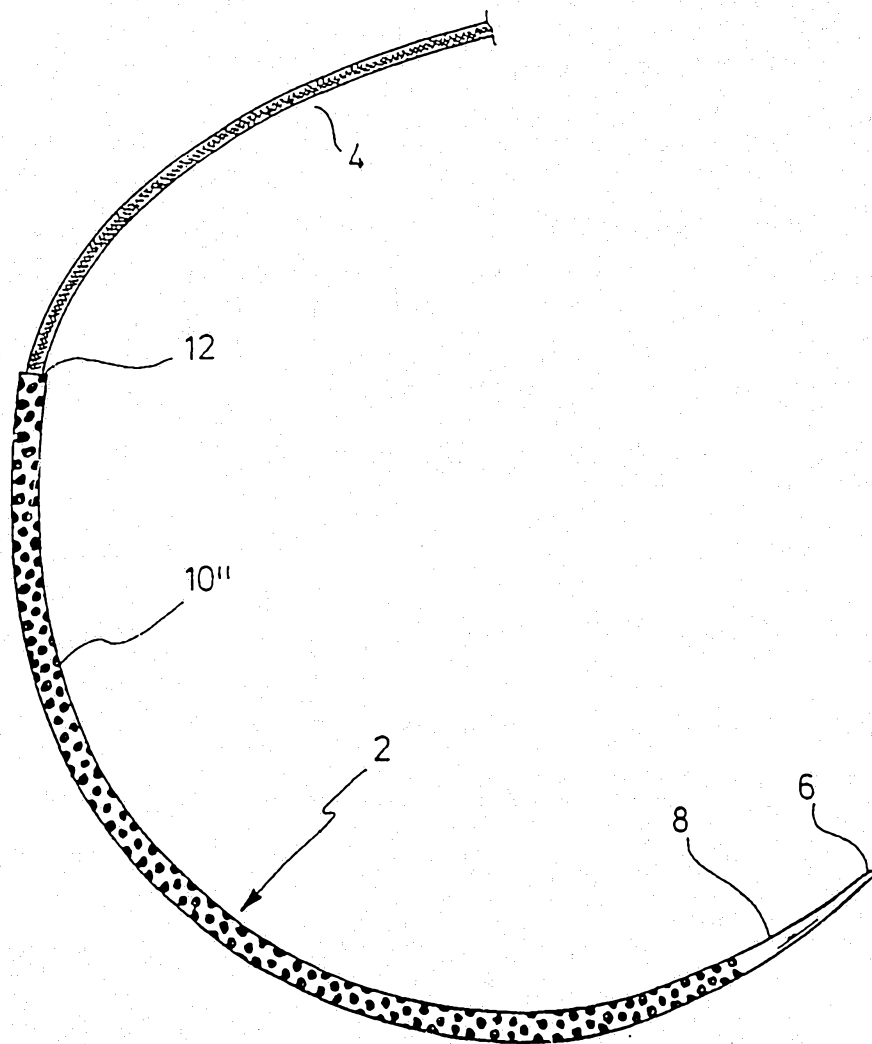


FIG. 3