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(71) Applicant : **Barroso, Angel Lorenzo**
San Pelegrin, 28-38
E-08300 Mataro (Barcelona) (ES)

(72) Inventor : **Barroso, Angel Lorenzo**
San Pelegrin, 28-38
E-08300 Mataro (Barcelona) (ES)

(74) Representative : **Ferregüela Colon, Eduardo**
Agricultura, 99
E-08019 Barcelona (ES)

(54) Device for feeding strips of clips in clip sealing machines.

(57) A device for feeding strips of clips in clip sealing machines, formed by a pair of drive discs (4), mounted on a shaft (5) and provided with bevelled edges (6) and by an intermediate disc (7), which may freely rotate about a second shaft (8) parallel to the first shaft (5) and is permanently pushed towards the latter. The shaft (5) rotates intermittently, so that it pulls along the clips (1) in the feed direction thereof. The bevelled edges (6) of the pair of drive discs (4) are preferably non-slip. The shaft (5) is provided with a unidirectional rotation device.

Applicable to sausage tripe clip sealing machines.

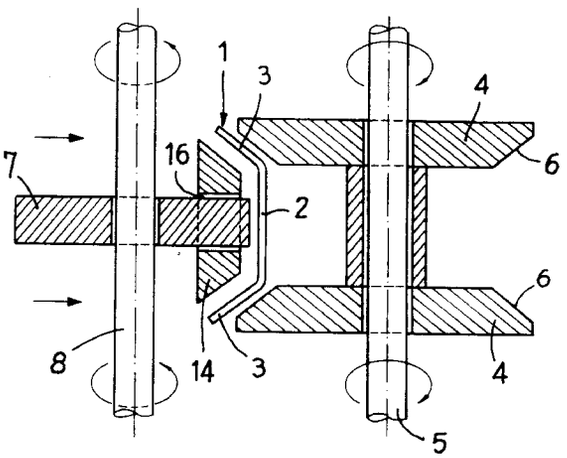

FIG. 3

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Field of the Invention.-

This invention relates to a device for feeding strips of clips in clip sealing machines, said strips being of the type in which the clips are isosceles trapezial shape in elevation, with a central portion and two diverging side portions.

Prior Art.-

In the known clip sealing machines, mainly used in the sausage industry for sealing the ends of sausage tripes, the clip strips are gravity fed, with the aid of a counterweight acting on the upper free end of the strip, when this is relatively short, or by mechanical pulling in the case of very long strips in coil form. This type of clip strip is clearly disclosed in German patent P32449798 of the applicant.

For the mechanical pulling of the said type of very long strips in coil form, the applicant developed a mechanical device, disclosed in Spanish Utility Model n° 272,421 for "A clip-sealing machine" which at the same time as it inwardly closes the side portions of the isosceles trapezial shaped clips, converting them into a rectangular form, it pulls the strip forwardly to position the first rectangular clip of the strip opposite the sealing die of the clip sealing machine.

Nevertheless, the said mechanical device is provided with a reciprocating pulling member which may at times cause undesired recoiling of the strip and subsequent jamming.

Description of the Invention.-

The device of the invention completely avoids the abovementioned drawbacks and provides for a reliable, safe feeding of clips in clip sealing machines.

Essentially, said device is characterized in that it is formed by a pair of drive discs, fixedly mounted on one same drive shaft and provided with bevelled edges adapted to rest on the outer surface of the strip of clips, and by an intermediate disc which may rotate freely around a second shaft parallel to the said first drive shaft and is permanently pushed towards the latter, said intermediate disc being adapted to rest on the edge thereof on the inner surface of the centre portion of the strip of clips, and said first drive shaft being adapted to rotate intermittently, so that it pulls the clips along in the feed direction thereof.

According to a further feature of the invention, at least the bevelled edges of the said pair of pulling discs are made of non-slip material.

According to a further feature of the invention, the said first drive shaft is provided with a unidirectional rotation device.

According to a further feature of the invention, the member permanently pushing the second shaft towards the first drive shaft comprises a tension spring, one of the ends of which is attached to a first fixing rod fixedly attached to the device frame, while the other end is attached to a second fixing rod fixedly attached to a fork, which supports the second shaft fixed to the clip sealing machine frame, to which the device is mounted.

Brief Description of the Drawings

In the accompanying drawings there is illustrated as a non limiting example, one embodiment of the device of the present invention.

Figure 1 is a side elevation view in cross section of the device in question;

Figure 2 is a front elevation view of the device of Figure 1; and

Figure 3 is an enlarged schematic view in cross section on a substantially horizontal plane of the pulling members as such of the device of the invention.

In said drawings, it may be seen that the device for feeding strips of clips in clip sealing machines of the present invention, of the type in which the clips 1 are isosceles trapezial shaped in elevation view, having a centre portion 2 and two divergent side portions 3, is formed by a pair of drive discs 4 fixedly mounted on a first drive shaft 5 and provided with bevelled edges 6 adapted to rest on the outer surface of the strip of clips 1 and by an intermediate disc 7, which may freely rotate about a second shaft 8 parallel to the first drive shaft 5 and is permanently pushed towards the latter.

The intermediate disc 7 is adapted to rest constantly on the edge thereof against the inner surface of the strip of clips 1, under the action of a tension spring 9, one of the ends of which is attached to a first fixing rod 10 fixedly attached to the device frame, while the other end is attached to a second fixing rod 11 fixedly attached to a fork 12, which supports the second shaft 8 and is disposed rotatably on a shaft 13 fixed to the clip sealing machine frame, to which the device is mounted.

In turn, the first drive shaft 5 is adapted to rotate intermittently, so that it pulls the strip of clips 1 in the feed direction thereof.

The strip of clips 1 is guided on a guide bar 14, also fixedly attached to the clip sealing machine frame and provided with a notch 16 allowing the passage of the edge of the disc 7, so that the latter may rest on the lower surface of the strip of clips 1.

The said pair of drive discs 4 is advantageously made from a non-slip material, at least on the bevelled edges thereof.

The first drive shaft 5 is provided with a unidirectional rotation device which, in the embodiment shown, is formed by an air cylinder 17, the piston 18 of which moves in its reciprocating movements a small connecting rod 19 which is connected to the

shaft 5 by a unidirectional drive mechanism, such as for example a ratchet mechanism.

Having sufficiently described the nature of the invention, as well as the way of reducing it to practice, it is stated that all which does not change, alter or modify the fundamental principle thereof may be subject to variations of detail, the essence of the present invention being as summarized in the following claims.

Claims

1.- A device for feeding strips of clips in clip sealing machines, said strips being of the type in which the clips (1) are isosceles trapezial shape in elevation, with a central portion (2) and two diverging side portions (3), characterized in that it is formed by a pair of drive discs (4), fixedly mounted on one same drive shaft (5) and provided with bevelled edges (6) adapted to rest on the outer surface of the strip of clips, and by an intermediate disc (7) which may rotate freely around a second shaft (8) parallel to the said first drive shaft (5) and is permanently pushed towards the latter by a pushing member, said intermediate disc (7) being adapted to rest on the edge thereof on the inner surface of the centre portion (2) of the strip of clips, and said first drive shaft being adapted to rotate intermittently, so that it pulls the clips (1) along in the feed direction thereof.

2.- The device for feeding strips of clips in clip sealing machines of claim 1, characterized in that at least the bevelled edges (6) of the said pair of drive discs (4) are made of non-slip material.

3.- The device for feeding strips of clips in clip sealing machines of claims 1 and 2, characterized in that the said first drive shaft (5) is provided with a unidirectional rotation device.

4.- The device for feeding strips of clips in clip sealing machines of claim 1, characterized in that the pushing member permanently pushing the second shaft (8) towards the first drive shaft (5) comprises a tension spring (9), one of the ends of which is attached to a first fixing rod (10) fixedly attached to the device frame, while the other end is attached to a second fixing rod (11) fixedly attached to a fork (12), which supports the second shaft (8) and is disposed rotatably on a shaft (13) fixed to the clip sealing machine frame, to which the device is mounted.

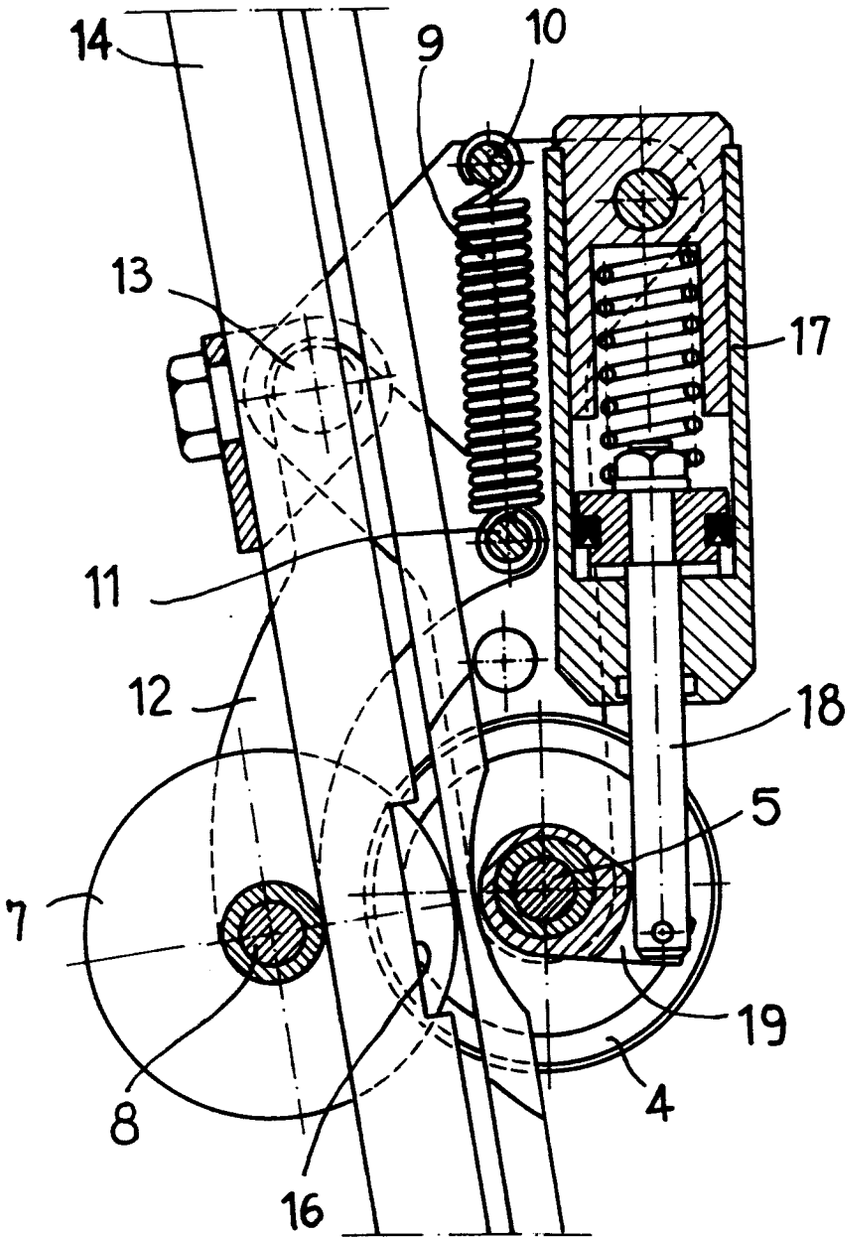

FIG. 1

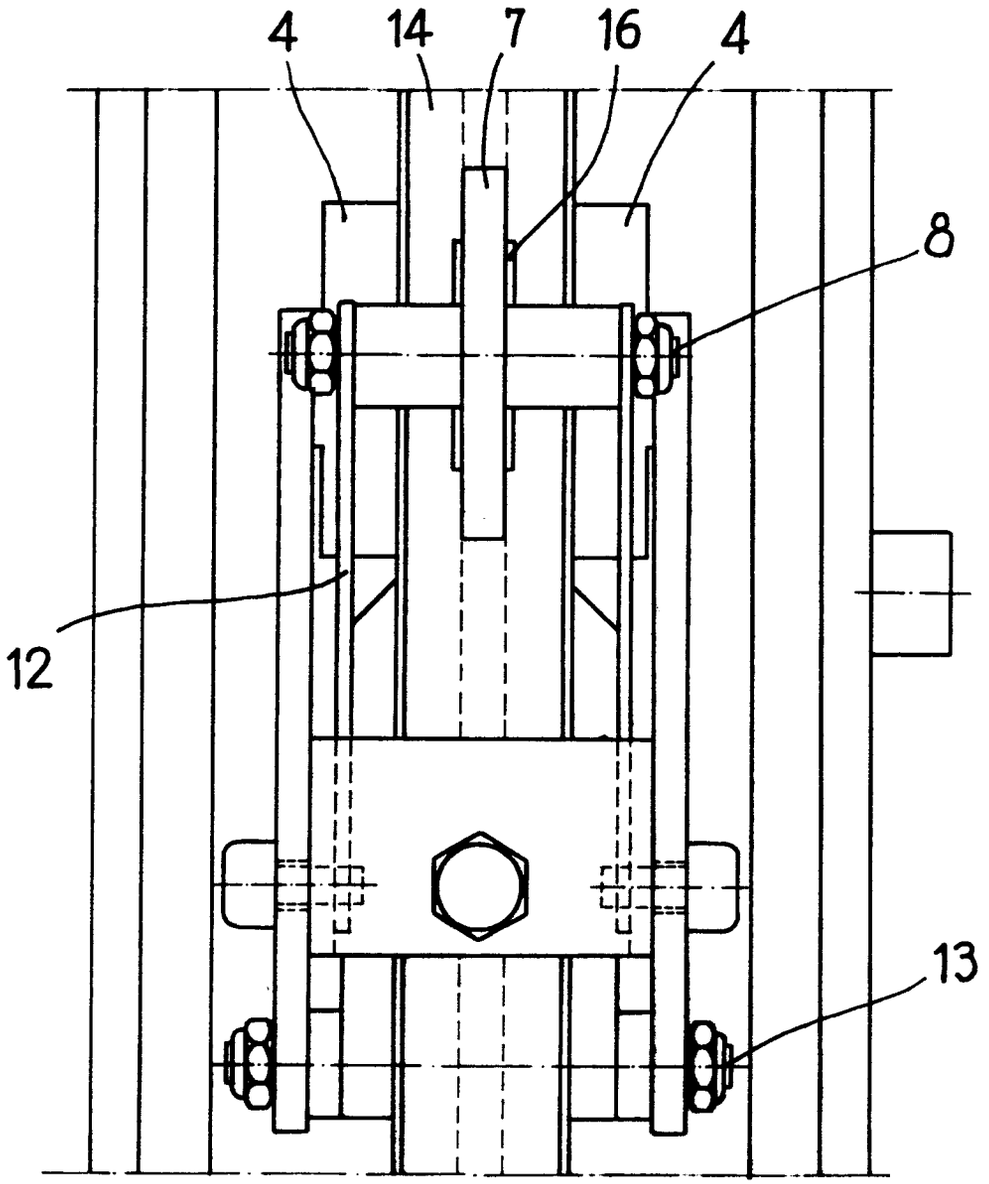

FIG. 2

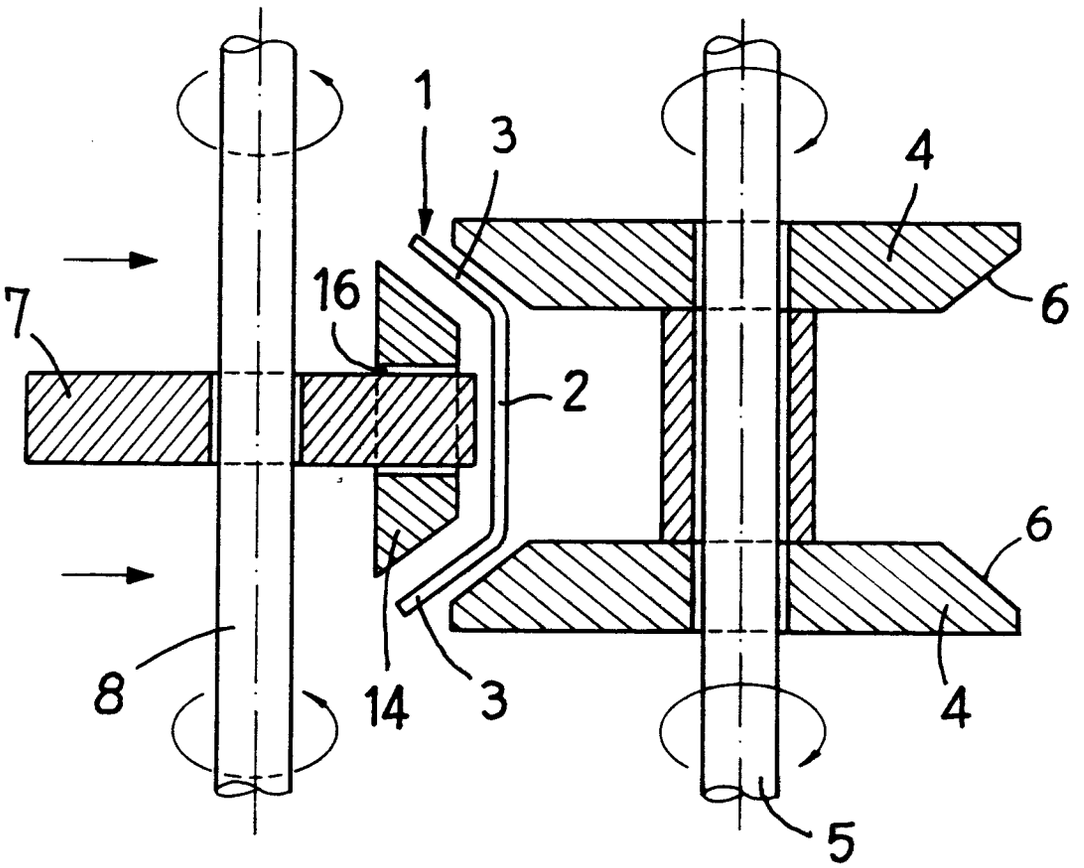

FIG. 3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 92 50 0116

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	DE-A-2 410 332 (NIEDECKER) * page 5, paragraph 6 - page 7, paragraph 1 * * page 8, line 15 - line 18; figures 1-3 *	1-3	B65B51/04
A	DE-B-1 232 108 (BRESCHINSKY) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B65B
B27F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	05 JANUARY 1993	CLAEYS H.C.M.

CATEGORY OF CITED DOCUMENTS

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