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(54) **Automatic seam sealing machine for cylindrical metal cont**

(57) Automatic seam sealing machine for cylindrical metal containers equipped with a circular shaped part to perform the seam sealing function, instead of sealing rollers.

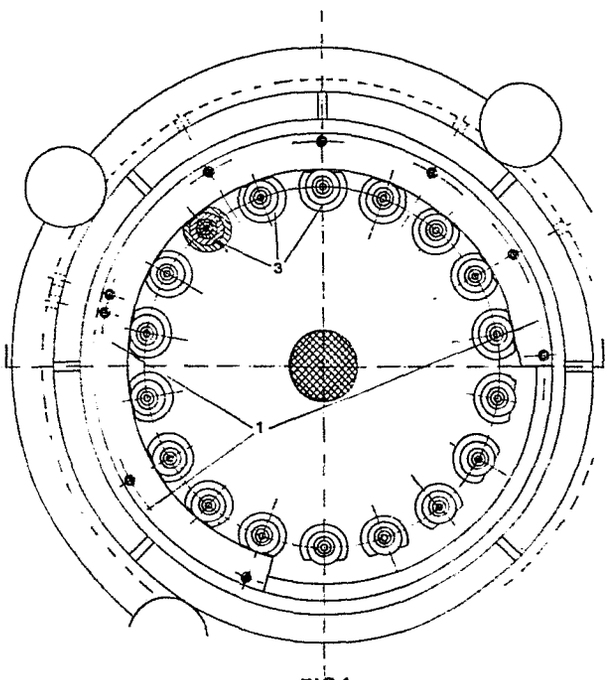

FIG.1

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Automatic seam sealing machine for cylindrical metal containers

Cuomo Carmine

This invention involves an automatic seam sealing machine for closing cylindrical metal containers, such as tins of tomatoes, preserves, jam, and the like.

It is well known that current seam sealing machines have several rotating sealing heads, such that each tin or metal container is introduced with a ratchet mounted on a chain which, in phase with the motion of the machine itself, supplies a number of tins equal to that of the sealing heads. As soon as all the tins have been introduced, the cover placing group, also in phase with the motion of the machine, separates the covers with a suitable device and introduces them in the machine using a rotating separator, in a number equal to that of the tins.

A plate-carrying star with ratchets on the top and pans equal in diameter to the tins on the bottom follows suitably placed guides to bring the cover and the tin under the chuck.

The tin is thus blocked between the chuck on top and a lower pan beneath the rotating head. It is then rotated by means of gears on an upper and lower shaft in the upper tower and lower drum, and suitably shaped

rollers enter into operation for the sealing process. By means of an upper cam and two levers, one roller is brought close to the cover. Upon contact, friction causes the roller to turn and so effect the first phase of the sealing process.

The second phase is analogous, but the roller is shaped differently to tighten and complete the seal.

However, to achieve high working rates, these machines require numerous sealing heads and so movement mechanisms, which make them complex, costly and subject to frequent breakdown.

The aim of this invention is to realize a machine which is economic to construct (due to many fewer components than the current machines), highly functional and capable of working long periods with no breakdown because of the simplicity of the structure and its component parts.

This aim is achieved with a seam sealing machine with a stationary circular part made to serve the function of the sealing rollers, so that the tins in succession are blocked in a known way between the chuck and the lower pan and upon rotation enter the above mentioned specially shaped sharp area where the sealing process takes place.

The machine according to this invention differs from current ones in that the seal is not formed using moveable rollers but rather as a result of the rotation of the tins or containers beihg closed against the sharp portion of the stationary circular section.

A preferred embodiment of the invention is shown in the enclosed figures 1 and 2.

Fig. 1 shows a top view.

Fig. 2 shows a side view.

The details of the drawings show the stationary circular section 1 with arrangement 2 designed to seal the covers and tins, which are fed using a supply device of known type and then blocked between chucks 3 and pans 4. They are then run through the entire circular section 1, rotating and pressing against said arrangement 2 with no slippage.

The machine according to the invention is particularly simple and economical since said circular section 1 is of simple construction and remains fixed, while the numerous rollers in traditional machines, as rotating pieces, must be frequently checked and replaced.

Of course, while the principle of the invention remains the same, the realizations and particulars of construc-

tion may be varied widely from that described above, without going beyond the bounds of this invention.

Claims:

1. Automatic seam sealing machine for circular metal containers, with a stationary circular part made to serve the function of the sealing rollers, so that the tins in succession are blocked in a known way between the chuck and the lower pan and upon rotation enter said specially shaped sharp area where the sealing takes place, as a result of the rotation of the tins or containers being closed against the sharp portion of the stationary circular section.

2. Automatic seam sealing machine as claimed in claim 1, wherein the stationary circular section 1 has arrangement 2 designed to seal the covers and tins, which are fed using a supply device of known type and then blocked between chucks 3 and pans 4; they are then run through the entire circular section 1, rotating and pressing against said arrangement 2 with no slippage.

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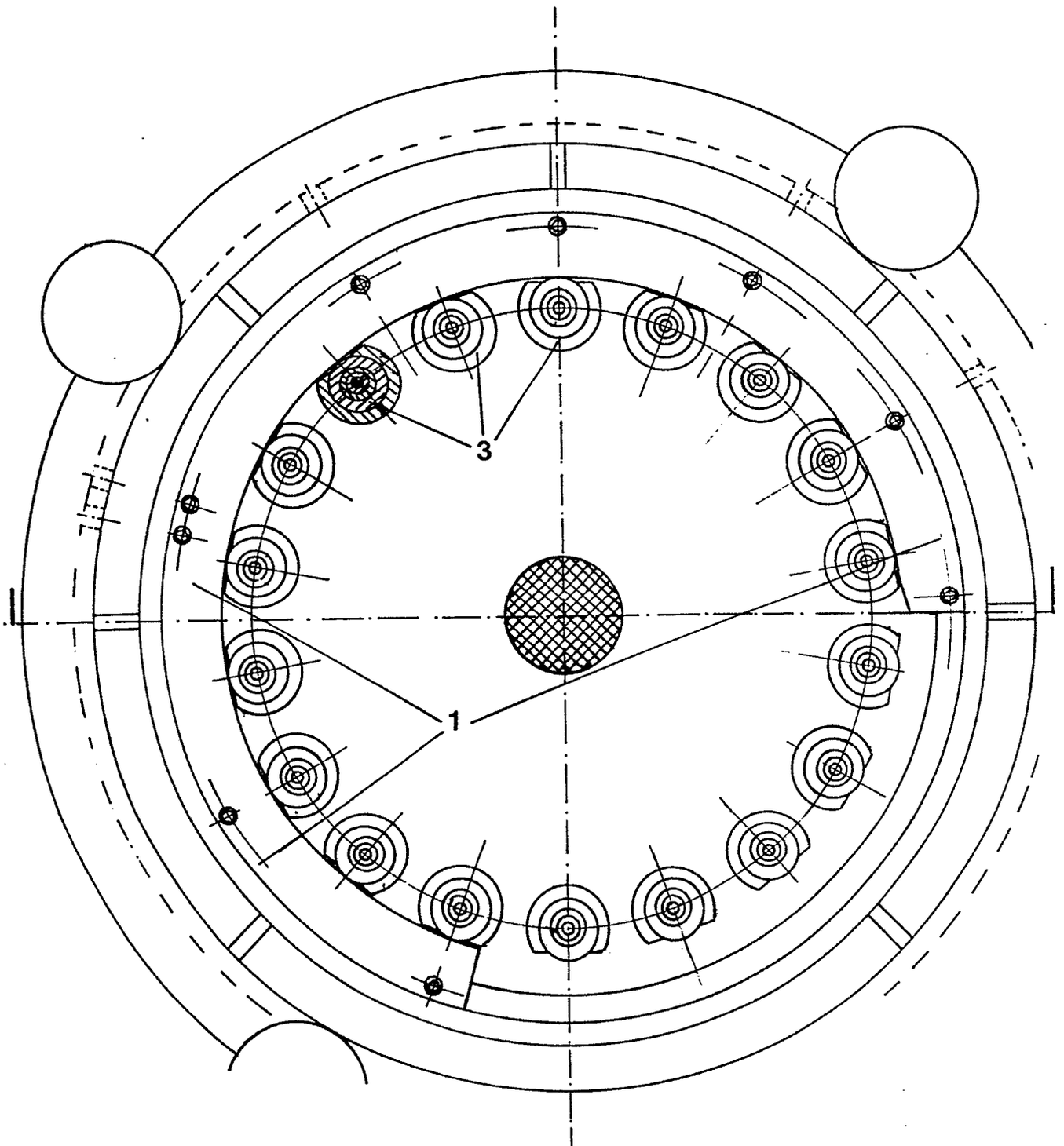

FIG.1

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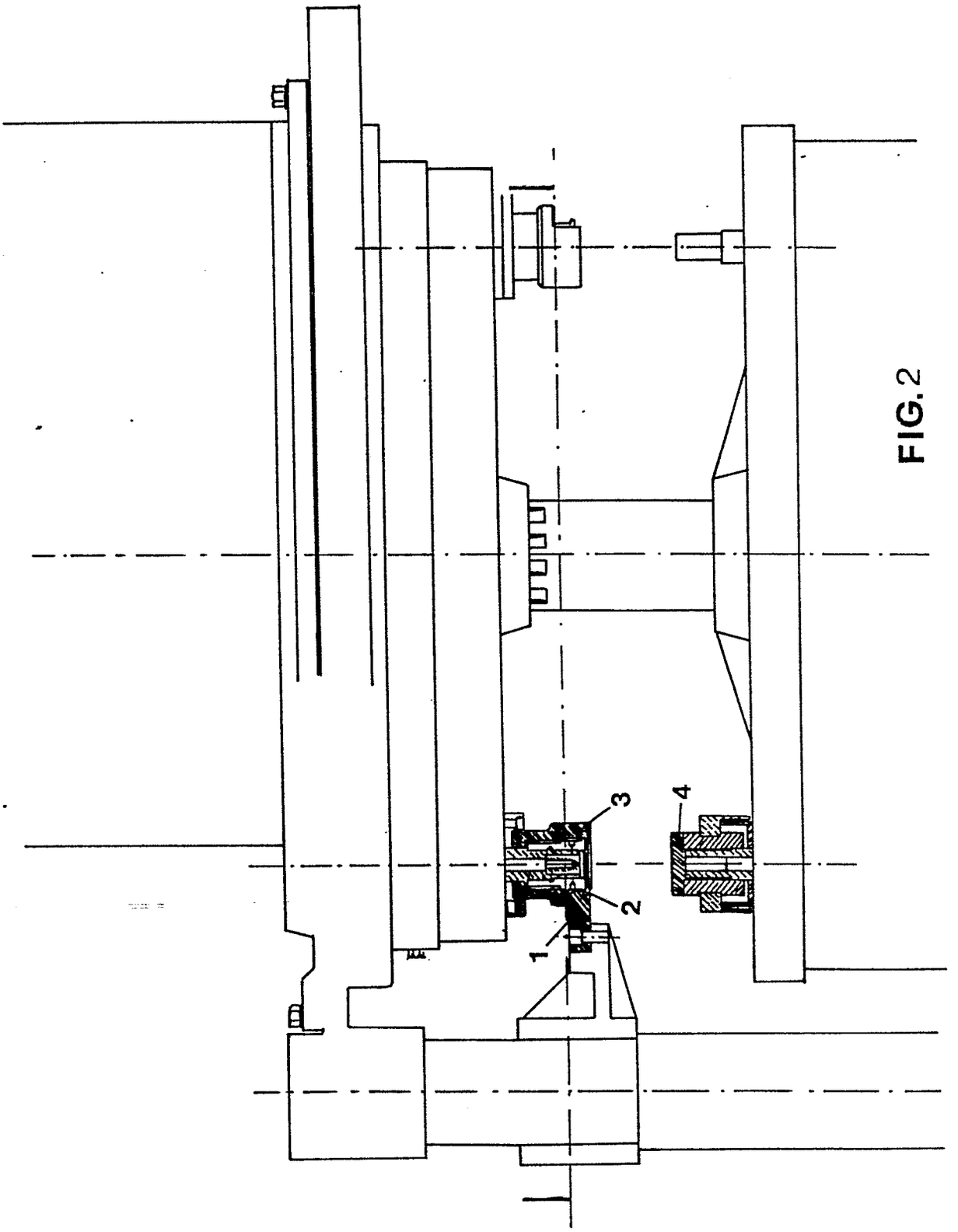

FIG.2

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EUROPEAN SEARCH REPORT

0083909
Application number

EP 82 83 0094

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. ³)
X	US-A-2 957 439 (STUCHBERY) * Claims 1-4 ; column 2, line 55 ; figures 1, 2, 6, 7, references 9, 10 *	1,2	B 21 D 51/32
X	GB-A- 780 937 (BARNES) * Figures 2, 4 ; reference 42 ; claim 1 *	1,2	
Y	US-A-1 436 761 (GRAY) * Claim 1 ; figures 1, 6 ; reference 93 *	1	
Y	CH-A- 258 905 (FERRUM) * Claims 1, 2 ; figure 1 *	1	
A	DE-C- 82 865 (CLEEVE)		TECHNICAL FIELDS SEARCHED (Int. Cl. ³) B 21 D 51/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	03-03-1983	SCHLAITZ J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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