(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 074 678**
A1

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **82201034.4**

(22) Date of filing: **17.08.82**

(51) Int. Cl.³: **E 04 B 1/76**
B 05 B 7/14

(30) Priority: **10.09.81 NL 8104179**

(43) Date of publication of application:
23.03.83 Bulletin 83/12

(84) Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

(71) Applicant: **Talmer BV**
Stadhoudersmolenweg 37
Apeldoorn(NL)

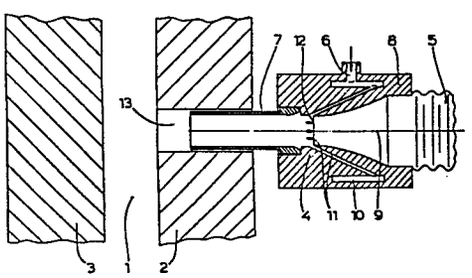
(72) Inventor: **van Brummen, Derk Jan**
Wijenburg 9
NL-7339 DG Ugchelen(NL)

(74) Representative: **Jacobson, Gerard et al,**
Octrooibureau Los en Stigter B.V. Postbus 20052
NL-1000 HB Amsterdam(NL)

(54) Method for feeding fibrous insulating material, in particular glass wool fibres, into the cavity of a hollow wall.

(57) The invention relates to a method for feeding fibrous insulating material, in particular glass wool fibres, into the cavity (1) of a hollow wall (2, 3) by means of an ejector (4) which on the one hand is connected to a supply pipe for the insulating material and which on the other hand is connected to a supply pipe (5) for air under pressure and which is further connected to a discharge tube (7), the insulating material being sucked into the ejector (4) by the air under pressure and being blown through the discharge tube (7) into the cavity (1).

According to the invention the air is subjected to a drying operation, before the same reaches the ejector (4).



EP 0 074 678 A1

0074678

Method for feeding fibrous insulating material, in particular glass wool fibres, into the cavity of a hollow wall.

The invention relates to a method for feeding fibrous insulating material, in particular glass wool fibres, into the cavity of a hollow wall by means of an ejector, which on the one hand is connected to a supply pipe for the insulating material and which on the other hand is connected to a supply pipe for air under pressure and which is further connected to a discharge tube, the insulating material being sucked into the ejector by the air under pressure and being blown through the discharge tube into the cavity.

For feeding fibrous insulating material into the cavity of a hollow wall, in many cases a hole with a diameter of approximately 2 cm is drilled in the outer wall at the crossing of a lying and an upstanding joint, in which hole the discharge tube is inserted. In this case the fibres used as insulating material have a length of only a few millimeters. Although in the known method a homogeneous degree of filling is reached, the insulating material fed into the cavity obtains a high density. This results in that the costs of the insulation material are considerable, whilst furthermore relatively much time is necessary for feeding the insulating material into the cavity.

It is an object of the present invention to provide a method, which leads to a considerable decrease of the costs of material and to a shortening of the supply time.

For this purpose the method according to the invention is characterized in that the air is subjected to a drying operation before the same reaches the ejector.

Surprisingly it has been found that due to the drying of the air the possibility is obtained to use longer fibres, i.e. fibres having a length of several centimetres, without clogging or obstructing occurring, whereby in particular both the narrow discharge tube and the narrow bore in the outer wall co-operating therewith may be passed without problems.

The application of these longer fibres turns out

to result in a lower density of the insulating material fed into the cavity, whilst a homogeneous degree of filling is maintained. In this manner the costs of material may be considerably decreased, whilst furthermore a quicker operation is possible.

The invention will be elucidated hereinafter with reference to the drawing, which shows by way of example a section of an embodiment of a device, wherein the method according to the invention may be applied.

This device, which serves for feeding fibrous insulating material, in particular mineral glass wool fibres into the cavity 1 of a hollow wall 2,3, is provided with an ejector 4, which on the one hand is connected to a supply pipe 5 for the insulating material and which on the other hand is connected to a connection 6 for a supply pipe for air under pressure connected to a compressor (not shown). The fibrous insulating material is sucked in the ejector 4 by this air under pressure.

The ejector 4 is further connected to a short discharge tube 7, from which the fibres are blown into the cavity 1.

The ejector 4 comprises a housing 8, which is equipped with a central channel 9, to which the supply pipe 5 for the fibres may be connected at the side remote from the discharge tube 7. The ejector 4 and the discharge tube 7 are combined to a discharge unit. The connection 6 for the supply pipe for the air under pressure communicates with an annular channel 10 formed in the housing 8, the centre line of said annular channel coinciding with the centre line of the central channel 9, whilst a plurality of channels 11 for air under pressure is connected to said annular channel. These channels 11 debouch in the central channel 9 and enclose an acute angle with the longitudinal axis of the central channel 9.

The central channel 9 is provided with a venturi-shaped reduction of cross-section 12. The channels 11 for the air under pressure debouch in this reduction of cross-section 12, equally divided over the circumference of this reduction of cross-section 12.

The discharge tube 7 is detachably mounted in the housing 8 and has such a diameter, that in operation the same

may be inserted in a bore 13 with a diameter of approximately 2 cm in the outer wall 2. The fibres reach the cavity 1 through this bore 13.

A drying device for the air is applied before and/or after the compressor, from which the air under pressure is fed to the connection 6.

This drying device may at least partly consist of a cooling device, wherein the air is cooled, while the moisture which comes free is discharged.

As an alternative, or in combination herewith, the air may be brought into contact with a moisture absorbing means, such as absorption grains, which exert a drying action on the air.

By the use of dried air under pressure for the suction of the fibres serving as the insulating material in the cavity 1, it becomes possible to use fibres with a length of several centimetres, which are nevertheless able to pass the narrow discharge tube 7 with a diameter, which is smaller than 2 cm, as well as the bore 13 without clogging occurring. In this way a considerably smaller density of the insulating material in the cavity 1 is obtained, while the homogeneous degree of filling is maintained. This decreased density of the insulating material in the cavity 1 not only leads to a considerable reduction of the costs of material, but further provides a quicker method of operation, as a cavity 1 of certain dimensions is filled with less material, so that the insulating material may be fed into this cavity 1 in a shorter period of time.

Claims

1. Method for feeding fibrous insulating material, in particular glass wool fibres, into the cavity of a hollow wall by means of an ejector, which on the one hand is connected to a supply pipe for the insulating material and which on the other hand is connected to a supply pipe for air under pressure and which is further connected to a discharge tube, the insulating material being sucked into the ejector by the air under pressure and being blown through the discharge tube into the cavity, c h a r a c t e r i z e d in that the air is subjected to a drying operation, before the same reaches the ejector.

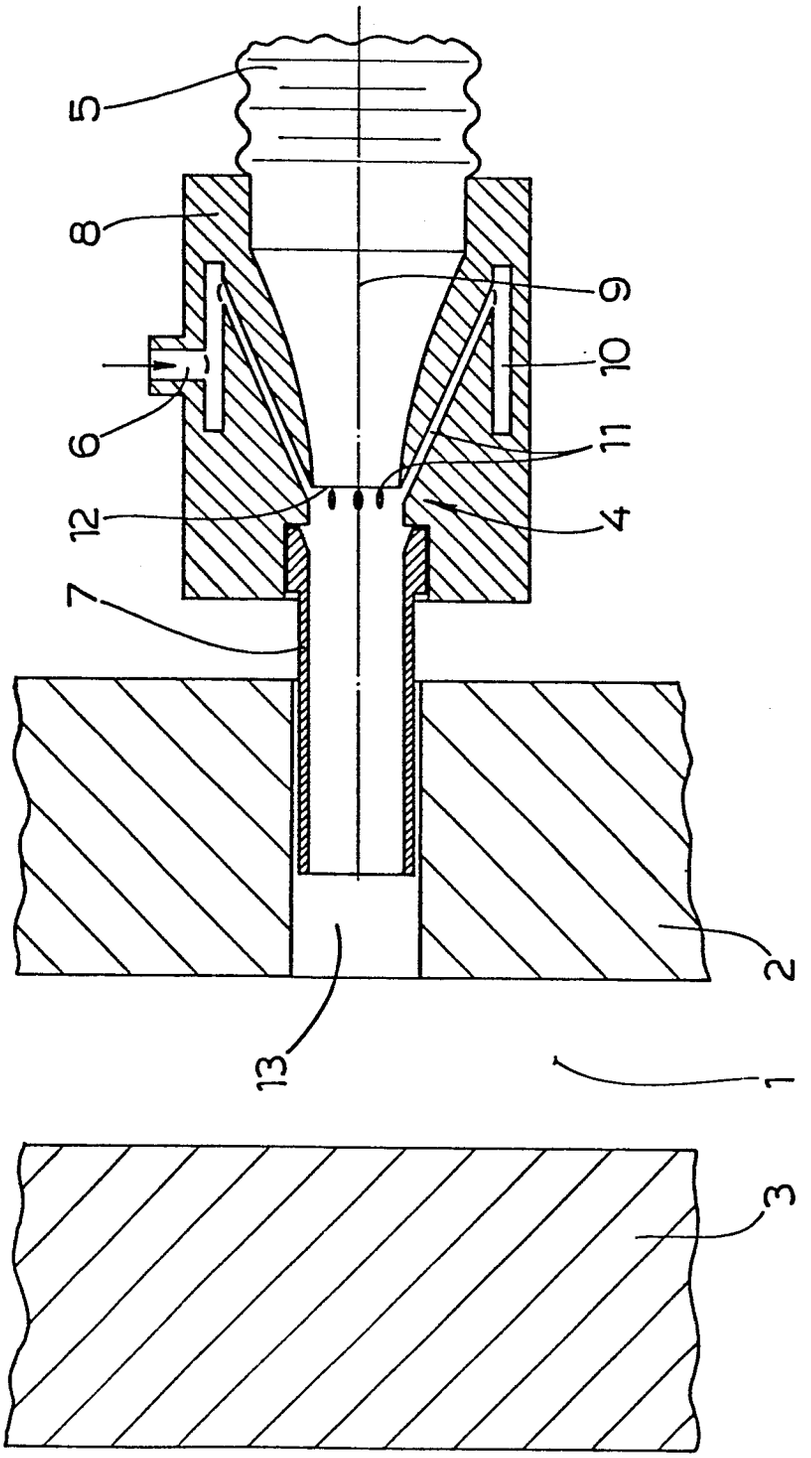
2. Method according to claim 1, c h a r a c t e r i z e d in that the air is subjected to a cooling operation and is thereby at least partly dried.

3. Method according to claim 1 or 2, c h a r a c t e r i z e d in that the air is brought into contact with a moisture absorbing means, such as absorption grains, and is thereby at least partly dried.

4. Method according to any one of the preceding claims, c h a r a c t e r i z e d in that the drying of the air takes at least partially place before the air compressor.

5. Method according to any one of the preceding claims, c h a r a c t e r i z e d in that the drying of the air takes at least partially place after the air compressor.

0074678



European Patent Office

EUROPEAN SEARCH REPORT

0074678
Application number

EP 82 20 1034

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)
A	US-A-2 572 078 (UPHAM) * column 3, lines 4-25; figure 1 *	1	E 04 B 1/76 B 05 B 7/14
A	US-A-3 715 076 (KENDERI) * column 3, lines 72-75; column 4, lines 1-75; column 5, lines 1-45; figures 1-6 *	1,2	
A	US-A-4 129 338 (MUDGETT)		
A	US-A-3 023 967 (SCHLEMMER)		

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

E 04 B
B 05 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16-12-1982	SCHOLS W.L.H.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO Form 1503 03 82