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D E C I S I O N
of 15 May 1995

Case Number: T 0716/91 - 3.2.4

Application Number: 83201090.4

Publication Number: 0101628

IPC: F04D 29/40

Language of the proceedings: EN

Title of invention:

Pump station and mould parts and method of manufacturing the same

Patentee:

Stork Pompen B.V.

Opponent:

K.S.B. Aktiengesellschaft

Headword:

Pump Station/STORK

Relevant legal provisions:

EPC Art. 54, 56, 111(1), 123

EPC R. 67

Keyword:

"Respondent's main request - reformatio in peius (inadmissible)"

"Decision re appeals - exercise of discretion"

"Inventive step - yes (subsidiary request)"

"Reimbursement of appeal fee - no"

Decisions cited:

G 0004/93, G 0009/92, G 0007/91, G 0009/91, G 0009/93,

G 0001/84, T 0060/91, T 0096/92, T 0219/83

Catchword:

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Case Number: T 0716/91 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 15 May 1995

Appellant: KSB Aktiengesellschaft
(Opponent) Johann-Klein-Strasse 9
D-67227 Frankenthal (DE)

Representative: -

Respondent: Stork Pompen B.V.
(Proprietor of the patent) No. 25 Szeenbakkersweg
NL-7553 EH Hengelo (NL)

Representative: Konings, Lucien Marie Cornelis Joseph
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office dispatched on
17 July 1991 and concerning maintenance of
European patent No. 0 101 628 in amended form.

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
M. Lewenton

Summary of Facts and Submissions

- I. The European patent No. 101 628 was opposed on the basis of Article 100(a) EPC.

By the interlocutory decision of the Opposition Division dispatched on 17 July 1991 the patent was maintained in amended form.

- II. On 16 September 1991 the Appellant (Opponent) lodged an appeal against this decision. The appeal fee was paid on 12 September 1991. A statement setting out the grounds of appeal was received on 18 November 1991.

- III. Oral proceedings were held on 15 May 1995.

- IV. The Appellant requested that the decision under appeal be set aside and the patent be revoked. It further requested the reimbursement of the appeal fee.

As the main request the Respondent (Proprietor of the patent) requested that the decision under appeal be set aside and the patent be maintained as granted. As a first subsidiary request it requested that the case be remitted to the first instance for further prosecution. As second, third and fourth subsidiary requests it requested the maintenance of the patent on the basis of claims filed during the oral proceedings (defined as first, second and third sets of subsidiary claims).

- V. The Appellant essentially argued that the subject-matter of the independent Claim 1 according to the second, third and fourth subsidiary requests of the Respondents did not involve an inventive step having regard to the prior art disclosed in the document US-A-1 107 591 (D9) and in the brochure 501 W 10-11/120 of the firm Ritz-

Astro Pumpwerksbau GmbH entitled "Archimedean screw pumps - Ritz -" (document D1) as well as to prior art considered as made available to the public by the use of a pump station corresponding to that described on page 1 of the originally filed application corresponding to the patent in suit.

VI. With respect to the second, third and fourth subsidiary requests, the Respondent contested the arguments of the Appellant. With respect to the main request it argued that it is not equitable that the Respondent is prevented from defending the Patent as granted.

VII. (i) Claim 1 according to the second subsidiary request (first set of subsidiary claims) of the Respondent reads as follows:

"1. A pump station (1) comprising a pump housing (3), particularly for a pump (4) of a high yield, said pump housing comprising a suction casing (5), a suction mouth (6) and a volute (7) of concrete arranged in a concrete substructure (2) of said pump station (1), characterized in that the pump housing (3) comprises prefabricated, thin walled mould walls of reinforced concrete, said walls including a volute mould wall and comprising a plurality of parts all embedded in and interconnected by means of the concrete (13) of the concrete structure (2), said concrete of the substructure (2) being reinforced and extending up to a higher level than the prefabricated mould walls in order to surround the latter completely."

(ii) Claims 1, 2 and 7 according to the third subsidiary request (second set of subsidiary claims) of the Respondent read as follows:

"1. A pump station (1) comprising a pump housing (3), particularly for a pump (4) of a high yield, said pump housing comprising a suction casing (5), a suction mouth (6) and a volute (7) of concrete arranged in a concrete substructure (2) of said pump station (1), characterized in that the pump housing (3) comprises prefabricated, thin walled mould walls of reinforced concrete, said walls including a volute mould wall and comprising a plurality of parts all embedded in the concrete (13) of the substructure (2) and interconnected by means of tie means, said concrete of the substructure (2) being reinforced and extending up to a higher level than the prefabricated mould walls in order to surround the latter completely."

"2. Use of mould wall parts (22 to 27) for manufacturing the pump station (1) as claimed in Claim 1, characterized in that the mould wall parts comprise parts of a prefabricated thin-walled volute mould wall (16) of reinforced concrete."

"7. A method of manufacturing a pump station (1) as claimed in Claim 1, said pump station comprising a pump housing (3), particularly for a pump (4) of high yield, in which a suction casing (5), a suction mouth (6) and a volute (7) are arranged in the concrete substructure (2) of said pump station (1), characterized by the following steps:

- prefabricating thin walled mould walls of reinforced concrete, said walls including a volute mould wall and comprising a plurality of parts,

- mounting said mould walls in place,
- interconnecting said plurality of parts and connecting reinforcing elements (14) of the volute mould wall (16) with reinforcing elements (15) of the concrete (13) to be subsequently cast in the concrete substructure (2) of the pump station (1), and
- embedding the mould walls in concrete (13) for the substructure by pouring in concrete (13) up to a higher level than the prefabricated mould walls in order to surround the latter completely and allowing it to set."

Reasons for the Decision

1. The appeal is admissible.
2. *The Respondent's main request*
 - 2.1 According to the decision G 0004/93 of the Enlarged Board of Appeal, corresponding to G 0009/92 (OJ EPO 1994, 875), a Patent Proprietor who has not filed an appeal against an interlocutory decision issued by an Opposition Division has indicated, by not filing an appeal, "that he will not contest the maintenance of the patent in the version accepted by the Opposition Division ...". The Proprietor "is therefore primarily limited to defending this version" during the appeal proceedings (see particularly Section 16).

In the present case, an appeal against the interlocutory decision of the Opposition Division was filed only by the Opponent. The Patent Proprietor therefore is only a

party to the proceedings in accordance to Article 107 EPC (second sentence), and is furthermore, in accordance with decision G 0004/93, primarily limited to defending the amended version as accepted by the Opposition Division.

- 2.2 The Respondent pointed out that the decision G 0009/92 corresponding to G 0004/93 was published in the Official Journal of December 1994, that "in the present case it was uncertain until December 1994 whether it was allowable for the Patentee to maintain a request based upon the originally granted claims" and that "on this issue contrary case-law [of the technical Boards of Appeal] existed" (see letter dated 23 January 1995, page 2). It also asserted that "if the content of this decision would have been known before the appeal date of the present case, the patentee would certainly have filed a separate appeal" (ibidem) and argued that it would be equitable not to apply to the present case the law as interpreted by the decision G 0004/93.

In this context the Respondent furthermore referred to the decision G 0009/93 (OJ EPO 1994, 891) in which the Enlarged Board made an interpretation of the EPC with respect to the admissibility of an opposition filed by the proprietor against its own patent which differs from the previous interpretation made by the Enlarged Board in the decision G 0001/84 (OJ EPO 1985, 299). The Respondent pointed out that, according to section 6.1 of the decision G 0009/93, it would be inequitable to apply to pending cases relying on the previous decision G 0001/84 the law as interpreted in the subsequent decision G 0009/93, and that for the same reasons it would also be inequitable to apply the interpretation given in decision G 0004/93 to the present case.

The Board cannot accept this argument of the Respondent because the decision G 0004/93 firstly is the first and only decision of the Enlarged Board of Appeal which decides the question of requests by a non-appealing party which go beyond the scope of the appeal defined in the Appellant's request, and secondly does not contain any indication limiting the applicability of the law as interpreted therein to pending cases. Thus, the law as interpreted in this decision of the Enlarged Board of Appeal was binding for the particular case and has to be applied to other pending cases. Therefore, according to the Board, the present case is not analogous to the situation as discussed in section 6.1 of the decision G 0009/93, so that the Respondent cannot rely on it. On the contrary, following the arguments of the Respondent itself that "contrary case-law" existed, the Respondent thus had to make sure by appropriate procedural steps (appeal) that it would still be possible for it to request the maintenance of the patent as granted, instead of taking the risk of the other possible interpretation being followed by the present Board.

- 2.3 The main request of the Respondent, which in effect has to be considered as an amendment of the form of the patent in which it was maintained by the Opposition Division, can however not be considered by the Board as an amendment which is either necessary or appropriate to defend the patent as it was maintained by the first instance against the appeal. The Board therefore has in view of the decision G 0004/93, to reject the main request.

3. *The first subsidiary request of the Respondent*

3.1 In the communication dated 20 September 1994 the Board expressed its provisional opinion that the amended Claim 1 upon which the interlocutory decision of the first instance was based did not satisfy certain formal requirements of the EPC, e. g. Article 123 (2) EPC.

The Respondent pointed out that such formal objections with respect to the amended claims had not been raised by the first instance and that the opposition grounds according to the notice of opposition did not relate to such formal objections either. It argued that such formal objections represented the introduction of fresh grounds for opposition. The Respondent referred inter alia to the decision G 0009/91 (OJ EPO 1993, 408), in particular to section 18 of this decision according to which "if a fresh ground is admitted, the case should be remitted to the first instance for further prosecution, unless special reasons present themselves for doing otherwise".

Therefore, the Respondent requested the remittal of the case to the first instance in order to have the right of a second instance with respect to this issue.

3.2 In the present case, it must be assumed that the amended Claim 1 upon which the interlocutory decision of the first instance was based was examined by the Opposition Division with respect to the requirements of the EPC (cf. wording of Article 102(3) EPC, that means that at least in relation to the amendments made by the Respondent during the opposition proceedings examination with respect to Article 123 EPC has taken place).

Furthermore, it cannot be stated that, in case of amendment of the patent, the examination of whether

these amendments meet the requirements of the EPC is comparable to the extension of the examination to a new ground for opposition. Indeed, the admissibility of new grounds for opposition as considered in section 18 of the decision G 0009/91 essentially relates to grounds which can prejudice the maintenance of the patent as granted, i. e. unamended. This can be derived from section 19 of the decision G 9/91: "... in case of amendments of the claims ... in the course of opposition or appeal proceedings, such amendments are to fully be examined as to their compatibility with the requirements of EPC..."

It is emphasized that the objections raised by the Board relate to parts of the claim which were added to the wording of the granted version of Claim 1.

3.3 For the above reasons, the Board will exercise its discretionary power according to Article 111 (1) EPC and not remit the case to the first instance for further prosecution, particularly since the first instance must have already examined the same subject, but itself check the position of the first instance in this respect. Therefore, the first subsidiary request of the Respondent is rejected.

4. *The second subsidiary request of the Respondent*

4.1 Claim 1 according to this request is identical with the Claim 1 upon which the interlocutory decision of the first instance is based.

4.2 This claim has been amended with respect to Claim 1 of the patent as granted inter alia by addition of the feature that all the parts of the pump casing are interconnected by the concrete of the substructure.

This feature is inconsistent with the description of the patent and with that of the application as originally filed according to which the interconnection of the parts is made by tie means (see description of the patent as granted, column 3, lines 14 to 23; description as filed, page 4, lines 16 to 24).

The argument brought forward by the Respondent, that - due to the fact that all the parts of the pump casing are externally surrounded by or embedded in concrete - these parts are interconnected by means of the concrete, cannot be accepted by the Board. Indeed, in the application as originally filed the expression "interconnection" has only been used to define a connection between mould wall parts with the help of additional features, namely by tie means. The interpretation by the Respondent that the "interconnection" is obtained by means of the concrete surrounding the casing parts, which merely can be considered as a retaining of these parts, cannot be considered as defining an interconnection in the meaning of the originally filed disclosure.

Thus, the introduction of this feature into Claim 1 extends the subject-matter of the claim beyond the content of the application as filed (Article 123(2) EPC).

4.3 The second subsidiary request of the Respondents is therefore rejected.

5. *Admissibility of the third subsidiary request of the Respondent*

5.1 Claim 1 of this request differs from Claim 1 of the patent as granted in that the feature that "the pump housing (3) comprises a ... volute mould wall" has been changed into

- (a) "the pump housing (3) comprises ... mould walls including a volute mould wall and a plurality of ... parts".

Moreover the following features have been added:

- (b) the parts are all interconnected by means of tie means;
- (c) the concrete of the substructure is reinforced;
- (d) the concrete of the substructure extends up to a higher level than the prefabricated mould walls in order to surround the latter completely.

Features (a), (b) and (c) can be derived from the description and the drawings of the patent as granted as well as of the application as filed (Patent as granted: column 2, lines 54 to 57; Figures 3 to 6 and 8; column 3, lines 21 to 27. Application as filed, page 3, lines 31 to 34; Figures 4 to 6 and 8; page 4, lines 22 to 28). Feature (d), which substantially represents the clarification of the expression "embedded in the concrete of the concrete substructure" contained in Claim 1 of the patent as granted, can be unambiguously derived from the drawings of the patent as granted (Figure 3) which correspond to those of the application as filed.

The introduction of features (a) to (d) into the independent Claim 1 results in a further limitation of the matter defined by Claim 1 with respect to that defined by Claim 1 of the patent as granted such that no extension of the scope of the claim results.

5.2 Claims 2 to 6, which are directed to the "use of mould wall parts for manufacturing the pump station as claimed in ...", correspond basically to the wording of Claims 2 to 6 on which the appealed decision is based, and which were directed to "mould wall parts exclusively for manufacturing the pump station as claimed in ..." and to Claims 4 to 8 of the patent as granted which were directed to "mould wall parts for manufacturing the pump station as claimed in ...". This amendment, which represents the change of category of the corresponding granted claims and, furthermore results in a further limitation of these claims, can be derived from the description of the patent as granted (column 2, lines 42 to 45) as well of the application as filed (page 3, lines 21 to 23).

5.3 The amendments of Claims 7 to 9, which are directed to the "method of manufacturing a pump station as claimed in ..." and correspond to Claims 9 to 11 of the patent as granted, represent the adaptation of the corresponding granted claims to the amendments of the preceding claims.

5.4 The amendments of the description consist in its adaptation to the amended claims and in the indication of the prior art.

5.5 The Board is satisfied that the amendments according to the third subsidiary request of the Respondents do not contravene Article 123 (2) and (3) EPC .

5.6 Moreover, since the third subsidiary request of the Respondent is based on amended claims whose scope is not broadened with respect to those maintained by the Opposition Division, the amendments are considered as

being appropriate and necessary in the meaning of section 16 of the decision G 0004/93. Therefore, the Board considers that these amendments and the request based on them are formally admissible.

6. *The prior art*

- 6.1 Document D9 discloses (see the embodiments according to Figure 1 or 7) a pump station comprising a pump housing having a volute (casing D) of reinforced concrete having (see page 2, left-hand column, lines 33 to 37) a lower portion which is "set in" or "cast integral" with a foundation block.

The embodiments according to Figure 4 and 6 of document D9 concern pump stations in which the volute and the suction head are divided into two parts secured together by bolts. This implies that at least the upper part of the volute together with the upper part of the suction head is prefabricated and then assembled with the other parts of the pump casing.

- 6.2 The leaflet of the firm Ritz-Atro Pumpwerksbau GmbH (document D1) concerns (see particularly page 7, section 1.1.3) an Archimedean screw pump having an open trough made of precast reinforced concrete blocks.

- 6.3 The description of the originally filed application corresponding to the patent in suit refers (see page 1, lines 1 to 15) to a pump housing known in the art, employed for pumps of high yield and relatively low lift.

During the oral proceedings both the parties considered pump stations comprising a suction casing, a suction mouth and a volute of concrete arranged in the concrete substructure of the station as belonging to the prior

art according to Article 54(2) EPC. For manufacturing a pump station of this type conventional mould wall parts are mounted in place and then concrete is poured up so that the mould wall parts are completely surrounded by the concrete. After cure of the concrete the mould wall parts are removed so that in the concrete of the substructure a cavity is formed corresponding to the pump housing. A pump station according to this prior art could be represented for instance by a drawing similar to Figure 1 of the patent in suit but in which no separate prefabricated mould walls of reinforced concrete indicated therein with the reference signs 5, 6 and 7 are present.

7. *Novelty (third subsidiary request of the Respondent)*

The subject-matter of independent Claims 1, 2 and 7 is novel. In fact, novelty has not been disputed.

8. *The closest prior art (third subsidiary request of the Respondent)*

The Appellant submitted that the pump station referred to in section 6.3 above is the closest prior art. The Respondent considered that this prior art is equivalent to the prior art known from document D9 and, thus, substantially agreed with this submission of the Appellant.

Although both document D9 and the prior art referred to in section 6.3 above can be considered as concerning a pump station having a concrete substructure according to the preamble of Claim 1, it should be emphasised that only the prior art referred to in section 6.3 above discloses in reality a concrete substructure in the meaning of the present patent, whereas document D9 discloses in fact only a foundation block in the lower

part of the pump station and only a volute in the upper part. The Board therefore prefers to consider the pump station referred to in section 6.3 above as being the closest prior art.

9. *Problem and solution (third subsidiary request of the Respondent)*

9.1 In order to manufacture the pump station according to the prior art referred to in section 6.3 above, a mould or casing is required for casting the concrete. A drawback of this pump station is that the casing or mould, due to the complicated shape of the volute, is difficult to manufacture. A further drawback is that the casing or mould must be removed after curing of the concrete whereby the removal - due to the fact that the casing or mould is enclosed, i. e. completely surrounded by the concrete - is also time-consuming.

Starting from this prior art, the problem to be solved therefore is to provide a pump station which is free of these drawbacks.

The Board is satisfied that the above mentioned problem is solved by the combination of features specified in Claim 1.

9.2 The drawbacks mentioned in section 9.1 above can also be attributed to the pump station known from Figures 1 and 2 of document D9. Therefore, even if document D9 were to be considered as the closest prior art, the problem to be solved would be the same as that defined in section 9.1 above.

10. *Inventive step (third subsidiary request of the Respondent)*

- 10.1 Claim 1 according to the third subsidiary request of the Respondent is distinguished either from the prior art referred to in section 6.3 above or from the prior art according to document D9 by the features specified in its characterising portion.

In particular, the solution according to Claim 1 is substantially based on the idea of using, for the manufacture of the pump housing, prefabricated thin walled mould walls including a volute mould wall and comprising a plurality of mould wall parts which are interconnected by tie means and are all embedded in the reinforced concrete of the substructure which surrounds all parts completely. In other words, mould wall parts forming the mould or casing required for casting the concrete of the substructure remain embedded in this concrete, forming thereby an integral part of the final product, i.e. the pump station.

- 10.2 Document D1 relates to Archimedean screw pumps. The pumps referred to in sections 1.1.1 to 1.1.3 (pages 6 and 7) of this document are of the open trough type. The open trough of the pump referred to in section 1.1.1 (Figure 1) is manufactured from in-situ concrete. The pump referred to in section 1.1.2 (Figure 2) is provided with a steel trough which is undersealed with in-situ concrete after installation and alignment. The pump referred to in section 1.1.3 (Figure 3) is provided with an open trough made of prefabricated blocks of reinforced concrete. It can be understood from this document that the prefabricated blocks of the trough - in analogy with the steel trough according to section 1.1.2 - are undersealed with in-situ concrete after installation and alignment in order to form a foundation for the prefabricated blocks. The use of prefabricated

blocks is described as simplifying the manufacture of the trough and allowing a better surface finish and abrasion resistance than those obtained with in-situ concrete.

10.2.1 According to the Board the pump referred to in section 1.1.3 of document D1 must be taken in consideration by the skilled person confronted with the problem mentioned in section 9 above, particularly because this prior art relates to the problem of simplifying the manufacture of the trough.

10.2.2 However the following must be considered:

For casting the concrete of the trough of the pump according to section 1.1.1 a mould or casing is required whose shape - due to the fact that the trough is open and extends linearly - is not complicated. Moreover, the removal of the parts forming the casing after cure of the concrete does not involve difficulties. Therefore, the simplification in the manufacture of the trough obtained by using prefabricated blocks (Figure 3) instead of casting the trough with in-situ concrete (Figure 1) does not particularly relate to the difficulties in assembling and removing the elements of the mould required for casting the concrete.

Moreover, the trough of the pump referred to in section 1.1.3 (Figure 3) is made of identical prefabricated blocks which are rather bulky whereas the mould wall parts according to Claim 1 cannot be identical (due to the shape of the volute) and are thin walled.

Furthermore, it must be emphasized that - due to the fact that the trough according to section 1.1.3 (Figure 3) of document D1 is open - the prefabricated blocks forming the trough must be considered as having their bases embedded in the concrete of the foundation. In other words, the prefabricated blocks are not completely surrounded by the in-situ concrete.

It must be considered that document D1 also relates to pump screws provided with troughs of enclosed design or tubular jackets (see Figures 5 to 7 and 9, pages 8, 9 and 12) which are all made of steel and not of reinforced concrete. Thus, document D1 does not contain any indication suggesting that prefabricated elements of reinforced concrete can be used for manufacturing a trough of complicated form and of an enclosed design.

- 10.3 Having regard to the considerations in section 10.2.2, document D1 does not provide the skilled person with the teaching of using prefabricated thin-walled mould walls of reinforced concrete for the manufacture of a pump housing of enclosed design.
- 10.4 The considerations made in sections 10.2 to 10.3 also apply to the combination of documents D1 and D9. In this context, it must be considered that according to document D9 (see section 6.1 above) some parts of the volute may be prefabricated. However, it is clear from this document that the prefabricated parts are made of reinforced concrete in such a way that they can resist on their own the pressure when the pump is in operation. This document does not suggest to a skilled person the use of the prefabricated parts of the volute as mould parts for manufacturing the casing of a pump. Even the indication in the description (column 2, left hand column, lines 33 to 35) that the lower portion of casing

D (Figures 1 and 2) may be set in or cast integral with a foundation block does not point in the direction of using prefabricated mould walls which remain in place in the final product. Indeed, the expression "set in" points in the direction of an already existing (cast) foundation block. Document D9 would suggest to the skilled person that prefabricated parts can be used directly as final parts of the casing without additionally being completely surrounded by the concrete of the substructure.

- 10.5 Since the subject-matter of Claim 1, having regard to the state of the art (see sections 6.1 to 6.3 above), cannot be arrived at in an obvious way by a person skilled in the art, it is considered as involving the inventive step required by Article 56 EPC.
- 10.6 Independent Claim 2 (use) as well as independent Claim 7 (method of manufacturing) are also based on the idea of using a volute mould wall comprising parts of a prefabricated thin-walled volute mould wall of reinforced concrete for manufacturing the pump station as claimed in Claim 1. Therefore, the considerations in sections 10.1 to 10.4 above also apply to these claims.
11. The patent can therefore be maintained according to the third subsidiary request (second set of subsidiary claims) of the Respondent. Therefore there is no need to consider the fourth subsidiary request of the Respondent.

12. *The request of reimbursement of the appeal fee*

The Appellant argued that the decision under appeal did not contain a reasoned statement as to why the subject-matter of Claim 1 was not obvious to a person skilled in the art and requested the reimbursement of the appeal fee by reason of a substantial procedural violation.

According to Rule 67 EPC "the reimbursement of the appeal fee shall be ordered ... where the Board of Appeal deems an appeal to be allowable ... ". Since, in the present case, the appeal is held not to be allowable, the Board has no power to order refund of the appeal fee.

Therefore, the request of the Appellant is refused.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The request for remittal of the case to the first instance for further prosecution is rejected.
3. The case is remitted to the first instance with the order to maintain the patent in the following version:

Claims 1 to 9 as filed during the oral proceedings (defined as the second auxiliary request); description pages 1 and 2 as filed during the oral proceedings and pages 3 and 4 as filed with the letter dated 2 January 1991 and Figure 1 to 8 as filed with the letter dated 2 January 1991.

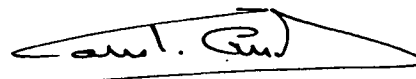
4. The request for reimbursement of the appeal fee is refused.

The Registrar:



N. Maslin

The Chairman:



C. Andries