BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS | BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE | CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 8 February 1994

Case Number: T 1036/92 - 3.4.1

Application Number: 83305150.1

Publication Number: 0132471

IPC: G07B 17/00

Language of the proceedings: EN

Title of invention:
Franking machine

Patentee:
Francotyp-Postalia GmbH

Opponent:
Alcatel Business Systems Ltd.

Headword:
-

Relevant legal norms:
EPC Art. 56

Keyword:
"Inventive step (no)"
"Analogous use of known means"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1036/92 - 3.4.1

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 8 February 1994

Appellant: (Proprietor of the patent)
Francotyp-Postalia GmbH
Postfach 51 02 41
D - 13362 Berlin (DE)

Representative:
Thoenes, Dieter
Schaumburg, Thoenes & Thurn
Mauerkircherstraße 31
D - 81634 München (DE)

Respondent: (Opponent)
Alcatel Business Systems Ltd.
South Street
PO BOX 3
Romford
Essex RM1 2AR (GB)

Representative:
Weinmiller, Jürgen
Lennéstraße 9
Postfach 24
D - 82336 Feldafing (DE)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office dated 8 September 1992 revoking European patent No. 0 132 471 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: G.D. Paterson
Members: H.J. Reich
R.K. Shukla

Summary of Facts and Submissions

I. The Appellant is owner of European patent No. 0 132 471.

II. The Respondent "Alcatel Business Systems Ltd" and the Opponent "Pitney Bowes, Inc." separately filed notices of opposition against this patent on the grounds mentioned above all in Articles 100(a), (b) and (c) EPC, citing *inter alia* the following documents:

D1: US-A-3 869 986,
D2: US-A-4 170 422,
D3: US-A-0 277 154, and
D8: GB-A-2 102 740.

III. During the proceedings pending before the Opposition Division the Opponent "Pitney Bowes, Inc." withdrew his opposition with a letter dated 4 September 1990.

IV. The patent was revoked by a decision of the Opposition Division dated 8 September 1992 for the following reasons:

A person skilled in the art would arrive at the subject-matter of amended Claim 1 as filed on 8 December 1990 (comprising the features of granted Claims 1 and 8) by making an analogous use of the thermal print head disclosed in document D2 and the roller described in document D3 in the postal franking apparatus according to document D1. No surprising advantage could be found in choosing a thermal print head instead of an ink jet printing device. Since in a postal franking apparatus envelopes of very uneven thickness frequently have to be clearly franked, a skilled person would realise that the gimballed print head of document D2 only follows small surface irregularities. Postal franking being in

principle a printing process as any other wherein the information to be printed represents *inter alia* the value to be paid for the transportation of the envelope, it was obvious to look around in the general prior art of printing devices for backing means with greater elasticity, allowing a close contact between the printing head and an uneven envelope and to find thus the roller embodiment with uncemented individual rings disclosed in document D3.

V. The Appellant filed an appeal against this decision and requested that the patent be maintained in amended form on the basis of a reworded Claim 1 filed with the grounds of appeal which reads as follows:

"Postal franking apparatus comprising memory means in which all the information to be printed onto an envelope (14) is stored electrically; means for reading out information from the memory to form printing control signals; a printing station through which the envelope to be franked can be moved, a backing device (30) and means for conveying the printing control signals to the print head (24) to selectively apply ink to the envelope in the printing station in order to frank the envelope, characterized by a thermal print head (24) which together with said backing device (30) forms a nip between which an envelope passes during printing, and thermally activatable inking means (28, 28', 63), said backing device (30) comprising a plurality of separate but axially touching discs or annuli of resiliently deformable material mounted as a unitary cylindrical member for rotation on a spindle, in such a way that the device is differentially resiliently deformable perpendicular to the plane of the envelope along a line to be printed which is perpendicular to the direction of movement of the envelope."

VI. In a communication which was annexed to a summons to oral proceedings, the Board informed the parties of its preliminary view, that the features of a thermal **transfer** printing device claimed in Claim 1, would be known from document D8 and that a skilled person would easily derive from document D3, in particular page 2, lines 95 to 110, that this conventional roller with touching discs or annuli would exercise the desired function of a backing means which is differentially resiliently deformable perpendicular to the direction of movement of the envelope.

VII. Oral proceedings were duly held at the end of which the Appellant (Patentee) requested that the decision under appeal be set aside and that the patent be maintained. The Respondent (Opponent "Alcatel") requested that the appeal be dismissed.

VIII. In support of his request the Appellant made essentially the following submissions:

(a) Though the difficulties of ink jet printers in producing a clean print were generally known and thermal transfer printing devices were state of the art since about 1960, a thermal transfer printer had never been used for postal franking. The device disclosed in document D8 would not be used for postal franking but for printing labels with a flat and even surface.

(b) In an ink jet printer the problem of producing a print on a region of an envelope with frequently very uneven thickness in form of a step would, to some extent, be compensated by the distance between print head and paper surface. However, this problem would exclude a use of a thermal transfer printer for postal franking, because of the missing

homogeneous contact pressure between print head and paper surface. Hence, the complete solution according to the invention would consist of the claimed thermal print head with thermally activatable inking means **and** the claimed backing device which both work together to produce the desired technical result of a clean print on the uneven envelope surface.

(c) Therefore, starting from a conventional postal franking machine such as disclosed in document D1, two steps were necessary in order to arrive at the subject-matter of Claim 1, first the exchange of an ink jet printer by a thermal transfer printer, second the creation of an appropriate backing device. These steps would, neither in isolation nor in combination, be obvious in view of the cited prior art. The inventiveness of the claimed solution would be supported by the fact that the device claimed in Claim 1 would be the only postal franking apparatus which properly operates with a thermal printer.

(d) The individual discs or annuli disclosed in document D3 are either cemented with each other or pressed together in order to form internal cavities enclosed within the rubber material in order to increase the elasticity of the overall body of the roller by a change of form, in which the surface pressure is distributed throughout and sustained by the entire body of material as follows from document D3, page 3, lines 6 to 13. Thus, as stated in document D3, page 2, lines 80 to 83, the cavities are closed or sealed in order to act as a kind of foam rubber which was not yet developed at the publication day of document D3 in 1883. Therefore, the roller disclosed in document D3

would present the usual elastic properties and not be differentially resiliently deformable for compensating steps in the thickness of an envelope. Moreover, document D3 suggests on page 2, lines 103 and 104 only a use as an inking roller but not as a backing roller opposite a print head as claimed.

(e) Thermal printing process according to document D2 requires a thermally sensitive paper, and is therefore not applicable in franking of envelopes which are not provided with such a thermally sensitive paper.

IX. The above submissions were contested by the Respondent who argued essentially as follows:

(a) In the amended description, the Appellant has limited the problem to be solved to allow for the uneven thickness of envelopes. Hence, in examining the question of an inventive step underlying Claim 1 only those features are to be considered which solve this problem, i.e. the backing device.

(b) The claimed features of the backing device are obvious in view of document D3, in particular page 2, lines 50, 51 and 99 to 111. This text clearly discloses an embodiment with uncemented rings, which are stated to be sufficient for most purposes. Claim 1 claims a "resiliently deformable material" for the discs or annuli. Such material is clearly anticipated by the vulcanised rubber disclosed in D3, page 2, line 7 and by the deformations mentioned in D3, page 1, line 90 to page 2, line 3. Hence, the solution claimed in Claim 1 is identical to that known from document D3.

(c) Moreover, document D3 discloses on page 2, lines 107 to 111 that this conventional roller is very serviceable "in a technical process in which a rolling pressure is required admitting a wide range of adjustability or capable of yielding to variable exertions of force". Such a statement hints a skilled person to make use of the conventional roller of document D3 as a backing device for solving the problem in printing on envelopes with very uneven thicknesses.

X. At the conclusion of the oral proceedings, the decision was announced that the appeal is dismissed.

Reasons for the Decision

1. *Inventive step*

1.1 In view of the fact that a postal franking apparatus represents basically a printing apparatus wherein the information to be printed comprises the value to be paid for transportation and wherein the printed paper surface is formed by the envelope to be transported, in the Board's view, the technical starting point of the patent in suit is given by the particular type of printer claimed in Claim 1, i.e. a transfer printer with thermally activatable inking means. For this reason, the thermal transfer printer according to document D8 forms the most appropriate starting point for the assessment of inventive step in the subject-matter claimed in Claim 1, and is regarded as the closest prior art. From document D8 there is known in the wording of Claim 1:

"... apparatus comprising memory means (see D8, 14 in Figure 2) in which all the information to be printed

onto "a sheet" is stored electrically (D8, page 1, line 125 to page 2, line 14); means (15 in Figure 2) for reading out information from the memory to form printing control signals (page 2, lines 3 to 8); a printing station (13 in Figure 2 and 30 in Figure 3) through which the "sheet to be printed" can be moved, a backing device (32), and means for conveying the printing control signals to the print head to selectively apply ink to the "sheet" in the printing station "in order to print it" (page 2, lines 9 to 15)" characterised by a thermal print head (31 in Figure 3) which together with said backing device forms a nip between which "the sheet" passes during printing, and thermally activatable inking means (F in Figure 3 and page 1, line 14 in combination with page 2, lines 83 to 107)".

1.2 The Appellant's arguments in paragraph VIII(a) fail to show the existence of a generally existing technical prejudice against the use of a thermal transfer printer for the postal franking of envelopes. The clean print produced by this technology as put forward by the Appellant, would, in the Board's view, motivate a skilled person to adapt in the apparatus of document D8 the dimensions of the conventional nip between print head 31 and backing roller 32 to those of an envelope and to change the information printed out of memory 14 into that for postal franking as claimed. Whenever the prior art offers a skilled person an advantageous printing technique, nothing inventive can be seen in the fact that he tries to enlarge the practical usability of this advantageous printing technique for all kinds of objects to be printed, and thus envisages its use for the generally known purpose of postal franking of envelopes. Such obvious modifications for an obvious purpose convert the printer disclosed in document D8 into the postal franking apparatus claimed and lead the skilled person to the situation wherein he notices in

practice the deficient print on envelopes with uneven thickness.

1.3 Thus, starting from the obvious use of the apparatus disclosed in document D8 for franking envelopes, the objective problem underlying the patent in suit can be regarded as providing an improved postal franking machine which allows for the frequently very uneven thickness of the envelopes to be franked across the width of the region to which the printed matter is to be applied; see the patent in suit, column 1, lines 28, 29 and 32 to 35. In the Board's view, a skilled person is able to recognise that the deficient print on the surface of an envelope is caused by its uneven thickness. Hence, the formulation of the objective problem of the patent in suit does not contribute to an inventive step underlying the subject-matter of Claim 1.

1.4 In view of the above, the Board does not accept the Appellant's submission that the claimed thermal print head is part of the solution to be considered for inventive step; see paragraph VIII(b) above. Moreover, since the thermal transfer printer is already part of the technical starting point of the patent in suit, contrary to the submission of the Appellant in paragraph VIII(c) above, the obviousness of only one step has to be examined for answering the question of inventive step. This one step concerns the question whether it is obvious to solve the objective problem as set out in paragraph 1.3 above by replacing the backing device 32 in the apparatus of document D8 by a:

"backing device (30) comprising a plurality of separate but axially touching discs or annuli of resiliently deformable material mounted as a unitary cylindrical member for rotation on a spindle, in such a way that the device is differentially resiliently deformable

perpendicular to the plane of the envelope along a line to be printed which is perpendicular to the direction of movement of the envelope."

as claimed in the characterising part of Claim 1.

1.5 In the Board's view, a skilled person is able to find out that the deficient print results from too low contact pressure between print head and the thinner parts of the envelope and that a uniform contact pressure in both regions neighbouring the thickness step can more easily be realised by improving the conventional backing means rather than the conventional print head.

1.6 Document D3 discloses in Figures 1 and 4 with the corresponding description a device comprising "a plurality of separate (see D3, Figure 4) but axially touching discs or annuli (B in Figures 1 and 4) of resiliently deformable material (page 2, line 7 and page 3, lines 8 and 9) mounted as a unitary cylindrical member for rotation on a spindle (A in Figure 1 and page 1, lines 46 to 53)".

1.7 Document D3 also describes on page 2, lines 50 to 51, an alternative wherein the individual discs or annuli A are not cemented to each other. There is, above all, no explicit disclosure in document D3 that the individual rings A are pressed together in such a way that their lateral contact areas stick together and exclude any differential deformation of neighbouring rings. On the contrary, the statement in document D3, page 2, lines 110 and 111, that the conventional roller provides a rolling pressure "capable of yielding to variable exertions of force" implies, in the Board's view, to the skilled person the claimed property that the "device is differentially resiliently deformable". This

deformability lies - when the roller of document D3 replaces backing means 32 of document D8 - automatically "perpendicular to the plane of the envelope along a line to be printed which is perpendicular to the direction of movement of the envelope".

1.8 Interpreting the claimed wording "that the device is differentially resiliently deformable" in the sense disclosed in granted Claim 1, i.e. "that the backing device shall be "resiliently deformable in a direction perpendicular to the surface of the envelope differentially along a line perpendicular to the direction of movement of the envelope", this property means, technically, the following:

In its deformed state the roller surface should be able to contact the thinner part of the envelope approaching asymptotically the thickness step and to transfer to the envelope in the thinner region the same counterpressure as in the thicker region, so that the contact pressure between print head and envelope is uniform and approaches the same value over the entire printed region. In an elastic material usually the elastic restoring force is proportional to the length of deformation. Therefore, when applying a roller with an elastic material, the thin envelope parts would produce a low counterpressure and the thick envelope parts a high counterpressure. In other words, in an elastic material with elastic properties as usual, the elastic resistance varies with the compressing force and excludes that the backing means produce a uniform contact pressure for printing an envelope with a thickness step. However, document D3 states explicitly on page 2, lines 95 to 99, that the conventional roller offers "the **same** elastic resistance to **any** compressing force applied along its face parallel with its axis. The skilled person, in the Board's view, would easily

conclude from this statement that the thinner envelope parts with their lower compressing force would produce the same elastic resistance as the thicker envelope parts with their higher compressing force when sliding over the conventional roller of document D3. The same elastic resistance in the thinner and thicker envelope regions does not only provide a differential deformation but also produces the desired uniform contact pressure within the entire printed region. It thus enables the conventional roller of document D3 to solve the problem of printing envelopes having a step in their thickness. For these reasons, the Board is not able to follow the Appellant's submission that the touching discs of document D3 behave as normal elastic material and are unable to solve the step-problem as set out in paragraph VIII(d) above.

1.9 For the reasons set out in detail above, the subject-matter of Claim 1 - as far as concrete apparatus features are claimed - is the result of an obvious analogous use of the roller disclosed in document D3 as a backing device in the apparatus disclosed in document D8 wherein only the known properties of the conventional roller are exploited. Therefore, in the Board's judgment, Claim 1 lacks an inventive step within the meaning of Article 56 EPC.

2. Claims 2 to 7 fall because of their dependency on an unallowable Claim 1.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Beer G.D. Paterson