

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENNETH ASSINK, MARK J. FEENSTRA
and GERALD L. BOYER JR.

Appeal No. 1997-0854
Application No. 08/292,846¹

ON BRIEF

Before KIMLIN, JOHN D. SMITH and KRATZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed August 19, 1994. According to appellants, this application is a continuation of Application No. 07/696,837, filed May 7, 1991; now abandoned; which is a division of Application No. 07/529,231, filed May 25, 1990, now U.S. Patent No. 5,018,957, issued May 28, 1991.

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This is an appeal from the final rejection of claims 25-39, all the claims remaining in the present application.

Claims 25 and 29 are illustrative:

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A method of hot staking workpieces with a hot staking apparatus, the hot staking apparatus having spaced apart support plates defining a plenum, a plurality of air heaters for heating a pattern of thermally softenable and pressure deformable studs on each of the workpieces, a plurality of corresponding reciprocable tools for forming the studs after heating, and a fan, the plurality of air heaters and the plurality of tools being supported between the support plates and the fan being positioned along a side of the plenum for urging air through the plenum, comprising steps of:

positioning a selected workpiece on the hot staking apparatus;

hot staking the studs on the selected workpiece by heating the studs with the plurality of air heaters and subsequently forming the studs with the plurality of reciprocable tools;

removing the selected workpiece from the hot staking apparatus;

repeating the steps of positioning, hot staking and removing as desired with other selected workpieces; and

continuously cooling the plurality of reciprocable tools with a stream of forced cooling air urged through the plenum by the fan.

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A method for hot staking thermally softenable and pressure deformable studs on a workpiece with a hot staking apparatus, the hot staking apparatus including a plurality of selectable air heaters for heating the studs, a plurality of correspondingly selectively reciprocable tools for forming the studs after the studs are heated, an air flow device operably connected to the plurality of heaters for controlling air flow to the heaters, and a controller operably connected to the air flow device and the plurality of reciprocable tools for

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controlling air flow to the air heaters and for controlling the actuation of the reciprocatable tools, comprising steps of:

adjusting a time period setting in the controller based on a predetermined thermal energy required to soften the studs;

heating the studs with the heaters for the adjusted time period by providing a limited time period of moving air through the air flow device as controlled by the controller;

after the step of heating, forming the studs with the tools as controlled by the controller; and

repeating the step of adjusting as required for additional workpieces.

The examiner relies upon the following references as evidence of obviousness:

Wells	3,308,225	Mar. 7, 1967
Loren	4,633,559	Jan. 6, 1987

Appellants' claimed invention is directed to a method of connecting workpieces together via hot staking. The method of claim 25 employs reciprocatable tools, or dies, for shaping and forming studs of thermally softenable material, and provides for the continuous cooling of the reciprocatable tools with a fan-generated stream of air through a plenum.

Independent claim 29, as well as independent claims 32 and 36, do not recite the step of continuously cooling the reciprocatable tools. Claim 29 requires the use of a

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controller for controlling air flow to the air heaters and for controlling the actuation of the reciprocatable tools.

Appellants submit at page 3 of the principal brief that the following groups of claims stand or fall together: (1) claims 30 and 31; (2) claims 33, 34 and 35; and (3) claims 36, 37, 38 and 39.

Appealed claims 25-39 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wells in view of Loren.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we agree with appellants that the prior art cited by the examiner fails to establish a prima facie case of obviousness for the subject matter defined by claims 25-28. Consequently, we will not sustain the examiner's rejection of these claims. On the other hand, we fully concur with the examiner that the subject matter defined by claims 29-39 would have been obvious to one of ordinary skill in the art in view of the applied prior art. Accordingly, we will sustain the examiner's rejection of claims 29-39 for essentially those reasons expressed in the Answer.

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Considering first the examiner's rejection of claims 25-28 under 35 U.S.C. § 103, the examiner relies upon Loren for establishing the obviousness of the claimed step "continuously cooling the plurality of reciprocatable tools with a stream of forced cooling air urged through the plenum by the fan." Both the examiner and appellants offer a different interpretation of the portion of Loren that refers to cooling, i.e., column 5, lines 21-32, which is reproduced below:

In practicing the staking steps shown by FIGS. 4, 5 and 6, the die tip 76 and clamp pads 64 are kept cooler than the solidification temperature of the projection 60, and preferably cooler than the creep temperature of the plastic. However, if the staking were to be performed by spin staking or hot tip tool staking, the clamp pads 64 could be chilled to permit solidification of the formed heads when the tool tip 76 is retracted from the work site, i.e., in the relative positions shown in FIG. 4. As those having skill in the art will appreciate, the present invention can also be adapted to spin staking or other forms of staking.

Although it is not unreasonable to conclude that Loren's disclosure of keeping die tip 76 cooler than the solidification temperature of the projection 60 is a teaching, or at least a suggestion, of continuously cooling the reciprocatable tool, we find that Loren falls short of rendering obvious the presently claimed cooling "with a stream

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of forced cooling air urged through the plenum by the fan," which plenum is formed by plates which support the air heaters and reciprocatable tools. The examiner's statement that "the use of any suitable cooling means to effectively maintain the staking tool at a temperature cooler than the solidification point of the studs is considered within the purview of one of ordinary skill in the art" (page 2 of Answer) does not establish the obviousness of the particularly claimed method of cooling the reciprocatable tools in the recited method of hot staking workpieces. We cannot countenance the summary rejection of any and all methods of cooling reciprocatable tools of hot staking processes.

We now turn to the remaining claims on appeal which fail to recite any cooling of the reciprocatable tools. In essence, we are in full agreement with the examiner that it would have been obvious for one of ordinary skill in the art to automate the hot staking method of wells, as modified by Loren, to facilitate controlling the air flow, the amount of heat delivered to the thermally softenable studs, and the timing of the reciprocatable tools. We simply find no error in the examiner's reasoning that:

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[I]t would have been obvious to one of ordinary skill in the art at the time the invention was made to automate the process, the particular values for the timings, as well as for other process parameters such as the air flow and air temperature, being dependent upon well[-]known factors such as the dimensions and shape of the studs and on the type of materials used in the stud. [Page 3 of Answer].

Also, we concur with the examiner that it was "well known in the automation of a process to input particular values for a controller of a process, for example to automate the process for processing a particular type of material" (page 4 of Answer). Appellants have not apprised us of why the claimed automated steps would have been unobvious to one of ordinary skill in the art, especially in this age of high automation. Instead, appellants only emphasize that the claimed automated steps for controlling the individual operations of the process, which operations, per se, are taught or suggested by the prior art, are not disclosed in the references. Appellants do not claim any particular new or unobvious device(s) for controlling the various parameters of the hot staking method. It is well settled that it is a matter of obviousness for one of ordinary skill in the art to provide automated means to accomplish the same or obvious result as non-automated means of the prior art. See In re Venner, 262

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F.2d 91, 95, 120 USPQ 192, 194 (CCPA 1958). See also In re Gioloto, 530 F.2d 397, 399, 188 USPQ 645, 647 (CCPA 1976).

Appellants have advanced no objective evidence which establishes that the automated steps of claims 29-39 produce any unexpected result.

In conclusion, we reverse the examiner's rejection of claims 25-28. However, for the reasons set forth in the Examiner's Answer and those outlined above, we affirm the examiner's rejection of claims 29-39.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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JOHN D. SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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PETER F. KRATZ)	
Administrative Patent Judge)	

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Price, Heneveld, Cooper, Dewitt
& Litton
695 Kenmoor SE
P.O. Box 2567
Grand Rapids, MI 49501