

COMMISSIONER'S DECISION

Obviousness: Magnetic Core Windings

The applicant's apparatus establishes the final form and shape of the end turn portions of the windings of a magnetic core. It had been refused as obvious.

An amendment overcame the objections of the Office.

Final Action: Affirmed - Modification accepted.

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated November 29, 1977, on application 216,291 (Class 26-66). The application was filed on December 16, 1974, in the name of Alan L. Kindig, and is entitled "Method And Apparatus For Forming Winding End Turns."

The application relates to methods and apparatus for forming winding end turns and, more particularly, for establishing the final form and shape of the end turn portions of the windings supported on a magnetic core.

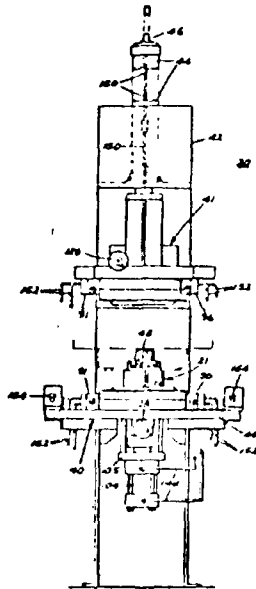
In the Final Action the examiner refused all of the claims (1 to 9) for failing to define patentable subject matter over the following United States patent:

3,593,405

July 20, 1971

Hahn

Hahn discloses an apparatus for forming magnetic core winding end turn assemblies which includes a center-mounting member to receive the cores. Figure 1 shown below is illustrative of that invention:



In the Final Action the examiner had inter alia this to say:

...

Claims 1 to 9 are fully met by the method and apparatus disclosed in the cited reference. Applicant's method steps in claims 1 to 5 are the same steps as performed by the Hahn apparatus which provides for simultaneous selective pressing of preselected arcuate regions of a plurality of end turn portions of a stator core member by engaging said preselected regions with movable tool segments each capable of adjustment to move an independent predetermined amount. The apparatus defined in claims 6 to 9 is also disclosed by Hahn and comprises means for preselectively and independently determining relative movements of spaced apart tooling members and means for forcing said tooling members against the winding end turns in accordance with the movement patterns provided for by the first means.

Applicant has argued against the pertinence of the cited reference but has failed to show how the claimed method and apparatus differ from the reference. The arguments refer generally to applicant's disclosed method and apparatus rather than to the claimed method and apparatus. The cam surfaces of Hahn are described by applicant as being of a kind which "do not permit of convenient adjustment". The examiner agrees with this statement but applicant has not defined in the claims any structure which is readily adjustable or any method which involves such adjustment. If this is the inventive improvement over the Hahn patent, the claims must include this feature and must do so in distinct and explicit terms.

...

In response to the Final Action the applicant amended page 4 of the disclosure and submitted new claims 1 to 7. He also stated (in part):

...

It appears that Applicant's previous argument and the Examiner's subsequent Final Action are based on the interpretation of one or two words. It was Applicant's belief that the words, for example, "preselectively and independently" should be interpreted as meaning that before any operation one or more independent adjustments could be made, that is an adjustment could be made to preselect a desired movement for any tool segment independent of any other tool segment. In the cited reference the cam ring may be replaced but the replacement affects each tool segment controlled by the cam ring. It is certainly possible in the prior art to replace a cam ring where only one of several camming surfaces are altered to adjust movement of one tool segment, but nevertheless all the camming surfaces on that cam ring are replaced and it was Applicant's belief that this was not "independent" adjustment. The United States Patent Office apparently agreed with Applicant's interpretation of the wording.

On page 2 of the Final Action, under "2", the Examiner argues that the "Relative movement of the tooling members is independent since each tooling member has its associated cam roller and cam recess and the movements are preselected by the chosen cam". This is not quite what claim 6 says at this point. It recites "means for preselectively and independently determining". Applicant still believes the replacement of a cam ring does not come within the meaning of "independently determining".

However, in order to expedite the prosecution of this application Applicant has amended all the claims (with the exception of the added claim). It is believed these amendments will emphasize the separate adjustment of each tool segment movement.

...

On March 10, 1978, the examiner referred this application to the Board and stated that the amendments satisfy all objections made in the Final Action "except for the excessive breadth of claims 1 to 4." He went on to say that this objection could be overcome by adding to claims 1 and 3 a restriction along the following lines "the step of adjusting the adjusting means so that one or more tool segments will move a greater or lesser distance than the remaining tool segments."

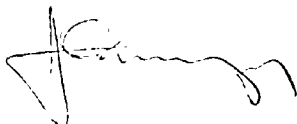
We carefully reviewed the prosecution of the application and decided that such an amendment would, in our view, place the claims in allowable form. Accordingly, we notified the agent, Mr. J. Lamb. He in turn, on April 6, 1978, submitted amended claims 1 and 3. On April 24, 1978, further clarifying amendments were made to these claims. Amended claim 1 reads:

A method of establishing a predetermined desired form and shape of at least part of an arcuately extending envelope of at least part of a plurality of end turn portions of a number of turns of wire supported adjacent to at least one end face of a magnetic core, said method comprising individually adjusting at least one of a plurality of adjusting members which have means to cooperate with respective tool segments positioned to engage arcuately displaced regions of the envelope for individual predetermined amounts of movement in a direction towards said envelope, the step of adjusting the adjusting members enabling one or more tool segments to move a greater or lesser distance than the remaining tool segments, and thereafter moving each tool segment by its respective individual predetermined amount to establish the desired form and shape of the envelope.

In the circumstances we find it unnecessary to comment further because the amendments made and the arguments presented overcome the rejection in the Final Action. We recommend that claims 1 to 7 be accepted.


B.J. Hughes
Assistant Chairman
Patent Appeal Board, Canada

I have reviewed the prosecution of this application and agree with the recommendation of the Patent Appeal Board. Accordingly, I accept the claims presently on file in this application. The application is returned to the examiner for resumption of prosecution.


J.H.A. Gariepy
Commissioner of Patents

Dated at Hull, Quebec

this 5th day of May, 1978

Agent for Applicant

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