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Journal Name:	Journal of Energy Research and Reviews
Manuscript Number:	**Ms_JENRR_48514**
Title of the Manuscript:	**Efficient thermal cycle undergoing adiabatic contraction based work by releasing heat**
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**I think would be necessary many experiments before any conclusion that the proposed in this work is really true. Experiments with different fluids and conditions. In real world it's known that isentropic processes aren't possible. I think the consideration of equal entropy is not appropriated. There aren't none detailed information about the experiments.**	The author consider that the reviewer comments are correct and appropriated. We must take into account that the objective of the paper is to demonstrate that there exists the possibility of doing a transformation characterized by doing useful mechanical work by contraction based compression, while increasing the internal energy. Although such thermodynamic transformation has never been considered in cycle analysis, and in fact seems to violate the principle of conservation of energy, in reality this does not happen, so that a closed contraction based compression process is physically possible in which net work is produced by contraction of a thermal working fluid while fulfilling the fundamental laws. As a novel concept, this type of analysis must be carried out theoretically as a preliminary approach. The constructed test rig based on a double acting cylinder equipped with the basic necessary accessories is useful to verify just a proof of concept, which consists of a qualitative instead of quantitative proof of concept. Thus, the experimental test rig has been constructed to demonstrate that: a.- efficient heat transfer is only possible by means of forced convection instead of natural convection. b.- useful work is obtained by adiabatic expansion, by previously heating a working fluid by an isochoric process c.- useful work is obtained by adiabatic contraction based compression, by previously extracting heat from a working fluid by an isochoric process Consequently such observations needs some theoretical studies, which is the objective of this paper. Of course, practical thermal cycles studies requires the considerations inherent to the irreversibilities as real transformations. However, the evidence of experimental observations in qualitative mode cannot be refuted. In theoretic thermal cycles such as Otto, Rankine Diesel etc., the analysis assume isentropic efficiency of 100% including Carnot. Real thermal cycle analysis will be performed when irreversibilities can be estimated based on the plant structure. However, a theoretic thermal cycle indicates its performance with respect to a reference cycle such as Carnot, which is our case. Analytical experiments with different working fluids have been carried out in the references. For instance, see reference [7], although the rest of them deal with this topic. The prototype considered in this case study is patented with application number 201700181, and publication number 2 680 043, of the University of A Coruna, Spain. http://consultas2.oepm.es/InvenesWeb/faces/busquedaInternet.jsp;jsessionid=JLihEKvHpFyU0xqE63TE4517.srvvarsovia2; Actually the technology concerning the thermal cycles characterised by doing work by extracting heat is actually patented, about 7 patents dealing with this topic exist.
Minor REVISION comments		
Optional/General comments		

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	