BUSITEMA UNIVERSITY
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FACULTY OF ENGINEERING
DEPARTMENT CHEMICAL AND PROCESS ENGINEERING

AGRO-PROCESSING ENGINEERING PROGRAMME
FINAL YEAR PROJECT REPORT
BY

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TITLE: Design and construction of a motorised leather shoe dyeing and polishing machine.

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A final year project report submitted to the department of chemical and process Engineering as appatial fulfillment of the requirements for the award of a bachelor of science degree in Agro-processing Engineering

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ABSTRACT

Shoes are the most predominant products made from leather in Uganda. Other products include: - footballs, handbags, belts, mats. After the economic hardship in the 1970s, charity organizations shipped in more second-hand clothes and shoes to Uganda and created at some point a surplus which subsequently turned into a big business.

However, the processes of dyeing and polishing the shoes are tedious and time consuming operations especially when at the same time the shoe vendors are required to attend to the customers. There are no machines in the market to do a complete shoe dyeing and polishing. The available machines dye leather before it is formed into shoes and they are extremely bulky, hence can't be used by the vendors.

Therefore, a machine to dye and polish leather shoes was designed and constructed in this project.

The tests showed an efficiency of 42%, the efficiency was this low due mechanical restrictions. Further improvements need to be done on clamping of the shoes, method of application of the shoe polish and economizing the dye.

DECLARATION

I Nyaika Nelson do solemnly declare to the best of my knowledge that the work in this report is as a result of my efforts and has not been submitted to any institution of learning for the award of a degree or any professional award.

Signature.....

Date 23rd/May/2018

APPROVAL

This project was compiled and submitted to the department of chemical and process engineering under the supervision as approved below.

MAIN SUPERVISOR

Signature..... Date.....
MRS. KABASA MARY

CO-SUPERVISOR

Signature..... Date.....
MR.SSERUMAGA PAUL

DEDICATION

This report is dedicated to the lord God without whom it would have been a complete impossibility.

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CHAPTER ONE: INTRODUCTION

1.1 Background

Shoes are the most predominant products made from leather in Uganda. Other products include: - footballs, handbags, belts, mats. After the economic hardship in the 1970s, charity organizations shipped in more second-hand clothes and shoes to Uganda and created at some point a surplus which subsequently turned into a big business. Today, Uganda beural of statics reveals a market size of 15 million pairs of leather shoes per year and for synthetic shoes another 10 million pairs. Less than 4 million pairs of shoes are produced in the country annually.

Most Second hand shoes work for a shorter period of time and fade off their color due to the hard environmental conditions. As suggested by Sreenivas and shanka, 2013, If you are in the shoe selling business, then you should maintain the stock shining in order to catch up with the competition .

The processes of dyeing and polishing the shoes are tedious and time consuming operations especially when at the same time the shoe vendors are required to attend to the customers. There are no machines in the market to do a complete shoe dyeing and polishing. The available machines dye leather before it is formed into shoes and they are extremely bulky, hence can't be used by the vendors.

There is a shoe polishing machine in the market but it is only suitable for office or factory work but not suitable for venders since its method of clamping requires the person to put on the shoe.

In view of this, the machine to do leather shoe dyeing and polishing was designed and constructed to solve the above constraints.

1.2 PROBLEM STATEMENT

Manual shoe dyeing and polishing are tedious and a time consuming operations especially when the large stock of shoes is to be dyed. Shoe dyeing machines are not available in the market and the single shoe polishing machine available requires modification especially on its clamping means as it was designed for the operator to first put on the shoe. The machine to do both dyeing and polishing operations is also not available.

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