Design & Fabrication of Semi-Automatic Hound Washing system at KKE Wash System Pvt Ltd

Mr. Tejpal Parshiwanikar[1], Nikhil P Gurnani[2], Chandrakant V Bhuyar[3], Rajendra P Bandhekar[4], Nayan Meshram[5]

[1]Assistant professor of Mechanical Engineering Department, G.H.R.A.E.T, Nagpur, India
[2-5]Student of Mechanical Engineering Department, G.H.R.A.E.T, Nagpur, India

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Abstract— *the project is based on manufacturing of Pet washing machine. Here in this report design and development of dog washing machine is present. Hygiene of dog is matter of issue in our society as a result of which many diseases are spreading within the animal and the society. The dog owners find it difficult to wash their dogs properly because of which many skin diseases may find their way to the specie. The project emphasizes on proper cleaning of dogs without any manual effort. It is a dog friendly machine that allows them to relax and enjoy the bath.*

***Keywords*—Blowers, Pipes, Jets, Sprinklers, venturi**

1. INTRODUCTION

These days the most common pet are dogs. There are many dogs that get skin infections and itchiness due to improper bathing. We see many dogs who like to participate in outdoor activities, playing in dirt, rolling in grass, which make them dirty and the owner cannot wash them regularly and find it difficult to clean them on daily basis. This results in bad hygiene. Thus seeing all these things around, the idea to make a machine that makes washing and cleaning of dog easier and less time consuming with less effort came to our min. To deal with dogs could be quite frustrating at times especially while making them bathe and doing it on regular basis is time consuming and much difficult .Our project takes care of such problem which helps the owners helps the owners to wash their dogs without much effort as it involves automated bathing and drying system. It involves sprinkler jets for bathing, blowers and rollers for drying. It can be adjusted according to the size of dogs. Dog washing machine is a simple device that is easy to operate and is at the same time very convenient for bathing any dog. It is based on simple mechanism which consists of objects like shower, blower, and brush (for massage). The machine size can be adjusted accordingly as per requirements. This machine is fully automatic which reduces time and effort and is dog friendly. It consists of a trolley which helps the owner to move from one place to another.

2. PROBLEM STATEMENT

a) As we know after bathing the dog will shake their body to get dry.

b) Many animals that live on or in the sea consume flotsam by mistake, as it often looks similar to their natural prey. Bulky plastic debris may become permanently lodged in the digestive tracts of these animals, blocking the passage of food and causing death through starvation or infection.

3. OBJECTIVES

1) Fully self-contained and low maintenance.

2) Optional customized graphics and enclose to suit hot and cold climates.

3) Two speed industrial driers.

4) Low water consumption.

5) A disinfectant function to clean the machine after each use.

4. METHODOLOGY

The dog washing machine consists of shower, blower, and motor. First we assemble all the parts as per design and requirements and then the dog is walked in with its face through the facing wall. Then by using proper pressure water is supplied and shower will cleans out the dirt. Then waste water is rinsed out from the sink. The proposed solution is given here as we can see in that the design of frames are given and these frames will be used for the tough base of machine and for mechanism which helps in cleaning.

5. Construction & Working

- **Construction: -**
- consists of following parts: -

1) Frame
2) Motor
3) Pressure switch
4) Venturi meter
5) PVC fittings

Working: -

Dog washing machine uses sprinklers to sprinkle water throughout the body of the dog which cleans out the dirt up to some extent and then cleansing agent is introduced in the water which eventually cleans the skin and fur of the dog. And then the blower is turned on along with the brush which will relax the dog. Water is supplied through the pipes and then to sprinkler with the help of a pump which covers every part of the body by dispensing water at every part due to its design. When the body is thoroughly wet then water knob is closed and cleanser is added and supplied through pipes. Then again clean water is supplied along with brushes which cleans out the mud completely. To dry out the dog, blower supplies a gush of air is supplied on body by using a to and fro mechanism. To clear out the waste water the base is attached with a sink through which a pipe collects the waste water. The height, width and length are adjustable according to dog's size as three of the wall are extendable.

6. DESIGN OF PROJECT

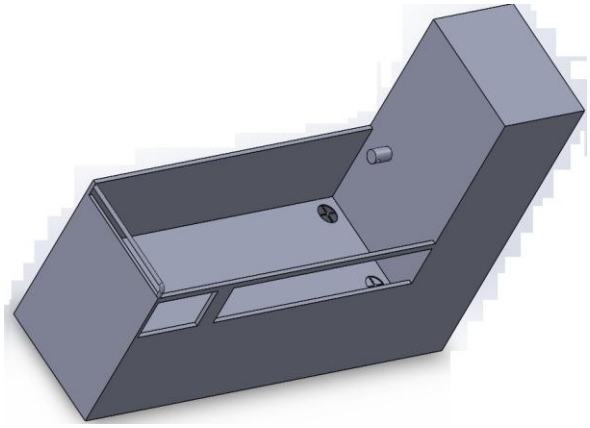

Figure 6.1: Design of CAD Model

Figure 6.2: Design of Model

7. COMPONENTS

Frame: - Here the frame is called the skeleton of the machine on which the tank, motor, pressure switch, venturimeter is to be mounted.

Size of frame: -

1. Height = 1454mm
2. Length = 2250mm

Motor: - The motor can use more power than that if it is under load. If it is not under load will use less than 0.5HP in one minute it will use power *1/60 Watt hours. A 0.5 HP motor use about 380W of powerrunning at 100% rated load.

- Size of motor : -

0.5 HP electric motor

Contractor: -A contactor is an electrically-controlled switch used for switching an electrical power circuit. A contactor is typically controlled by a circuit which has a much lower power level than the switched circuit, such as a 24-volt coil electromagnet controlling a 230-volt motor switch.

venturi: -A venture is a device which creates a vacuum when fluid flow through it. The fluid creates vacuum is known as the motive fluid. The motive fluid for irrigation injectors is the irrigation water itself. Vacuum created by the venture sucks shampoo or chemical into the motive water.

Dimensions of venturi: - 10×5×5 cm; 200g

PVC fittings: - in these the connection between the motor and venture is done.

8. WORKING METHODOLOGY

Dog washing machine uses sprinklers to sprinkle water throughout the body of the dog which cleans out the dirt up to some extent and then cleansing agent is introduced in the water which eventually cleans the skin and fur of the dog. And then the blower is turned on along with the brush which will relax the dog. Water is supplied through the pipes and then to sprinkler with the help of a pump which covers every part of the body by dispensing water at every part due to its design. When the body is thoroughly wet then water knob is closed and cleanser is added and supplied through pipes. Then again clean water is supplied along with brushes which cleans out the mud completely. To dry out the dog, blower supplies a gush of air is supplied on body by using a to and fro mechanism. To clear out the waste water the base is attached with a sink through which a pipe collects the waste water. The height, width and length are adjustable according to dog's size as three of the wall are extendable.

9. CONCLUSION

This is a good alternative to conventional dog bathing. It will serve as a great provider of physical therapy. This machine reports the automatic units for washing function as a form of hydro massage to ease muscle soreness and relieve stress. It is the one of the invention to provide dog cleaning apparatus wherein the dog can be showered and dried in a manner which does not adversely effect the effiency of the drying equipment.

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BIOGRAPHIES

Tejpal C. Parshiwanikar
His is working as an Assistant Professor in M.E Department in G.H. Raisoni Academy of Eng,, and Tech. under Rashtrasant Tukdoji Maharaj Nagpur University, having 11 years of Teaching experience.

Chandrakant V. Bhuyar
I am the students of 8th semester, Mechanical Engineering of G.H.R.A.E.T. and presently working on the project of Design & Fabrication of Semi-Automatic Hound Washing system at KKE Wash System Pvt Ltd

Nikhil P. Gurnani
I am the students of 8th semester, Mechanical Engineering of G.H.R.A.E.T. and presently working on the project of Design & Fabrication of Semi-Automatic Hound Washing system at KKE Wash System Pvt Ltd

Rajendra Bandhekar
I am the students of 8th semester, Mechanical Engineering of G.H.R.A.E.T. and presently working on the project of Design & Fabrication of Semi-Automatic Hound Washing system at KKE Wash System Pvt Ltd

Nayan Meshram
I am the students of 8th semester, Mechanical Engineering of G.H.R.A.E.T. and presently working on the project of Design & Fabrication of Semi-Automatic Hound Washing system at KKE Wash System Pvt Ltd