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Chain Link Wire Mesh Making Machine: Case Study

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Abstract: *Fences can be defined as an arrangement that provides an obstruction, enclosure, or a boundary, made up of posts or stakes linked together by boards, wire, or rails. The chains run vertically and are bent into a zigzag pattern so that each "zig" hooks with the wire immediately on one side and each "zag" with the wire immediately on the other. The manufacturing of chain-link fencing is called weaving. A metal wire, frequently galvanized to reduce corrosion, is pulled along a rotating long and flat blade, thus making a somewhat flattened spiral. The spiral continuously rotates passing the blade and winds its way through the previous spiral that is part of the produced fence. When the spiral reaches the distant end of the fence, the spiralis cut near the blade. Then the spiral is pressed flat and the whole fence is moved up, ready for the next cycle. The end of each second spiral joins the end of each first spiral. The machine clamps both ends and gives them a few twists. This makes the links permanent. In this attempt of Experimental analysis of automatically manufacture chain link fencing wire is done. Here tensile test of Plain and Fenced wire is done for analyzing effect of tensile strength on wires*

Keywords: Fences

I. INTRODUCTION

A fence is an arrangement that encircles a space, typically exterior, and is usually created from posts that are connected by panels, wire, railings or mesh. A fence varies from a wall is not having a rock-solid foundation alone its entire span. A chain- link fence usually made from galvanized steel wire. The manufacturing of chain-link fencing is called weaving. A metal wire frequently galvanized to reduce corrosion, is pulled along a rotating long and flat blade, thus making a somewhat flattened spiral. The spiral continuously rotates passing the blade and winds it through the previous spiral that is part of the produced fence. When the spiral reaches the distant end of the fence, the spiral is cut near the blade. Then the spiral is pressed flat and the whole fence is moved up and ready for the next cycle. The end of each second spiral joins the end of each first spiral. The machine clamps both ends and gives them a few twists. This makes the links permanent. An enhanced version of the weaving machine winds two wires around the blade at once, thus creating a double helix. One of the spirals is woven through the last spiral that is part of the already produced fence. This progress allows the process to advance twice as fast. Fences can be defined as structures serving as an enclosure, a barrier, or boundary, usually made of posts or stakes joined together by boards, wire, or rails. In contrast, a “virtual fence” can also serve as an enclosure, a barrier, or a boundary, but that relies on other than physical objects on the landscape to alter an animals’ behaviors. The concept of virtual fencing occurs increasingly in discussions of those whose job it is to manage.

II. Methodology

Steps in methodology
1) Plan of work
2) Data collection
3) Designing of components
4) Testing

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5) Analyse of the performance
6) Identfiy the conclusion

III. MATERIAL USED

1. DC motor
2. Wire
3. Nut and bolt
4. Base plate
5. Meshing mold
6. Scrap iron
7. Padel bock bearing
8. Chain
9. Power supply (Battery\Adapter)
10. Gear

IV. CONCLUSION

By using techniques of machine design and studies based on material sciences the objective of improving the locally available chain link wire meshing machine was achieved.

i. The machine was successfully built with available resources.

The machine has a competitive advantage over its counterparts in terms of performance, product quality and it is more economical.

The newly designed adjustable stand makes it possible to operate the machine in confined spaces and thus making it more user friendly.

ii. It satisfies all the parameters from an engineering point of view. By using the observations obtained from data samples of different mesh sizes and dies, the machine has been redesigned to achieve more accurate and better results

iii. Also, the life expectancy and quality of the mold has been considerably increased with the use of high carbon steel as a substitute material.

Fig no:-01 Chain link wire mesh making machine

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