

Chapter 27

Determining the Relationship between Time of Construction and Cranes Organization by Applying the Bees Algorithm for Reducing the Time of Construction of Houses

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ABSTRACT

You can get a wide range of strong cranes able to lift and move heavy weights with constant acceleration, that result in an optimization in the construction time. However, it is possible that factors such as lack of cranes, incorrect cranes for work, lack of coordination, lack of communication, which result in a material is two transportation or more times occur, that once a job is done when another crane at the same time could be doing the following process. This is known as deferred construction time.

INTRODUCTION

Everybody continues in its state of rest or uniform rectilinear unless it is forced to change its state by forces impressed upon him move mentioned at Newton's First Law, or Law of Inertia. The change of movement is proportional to the printed driving force and occurs along the line along which that force line is printed (Gabay, 1974).

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Force = mass * acceleration.

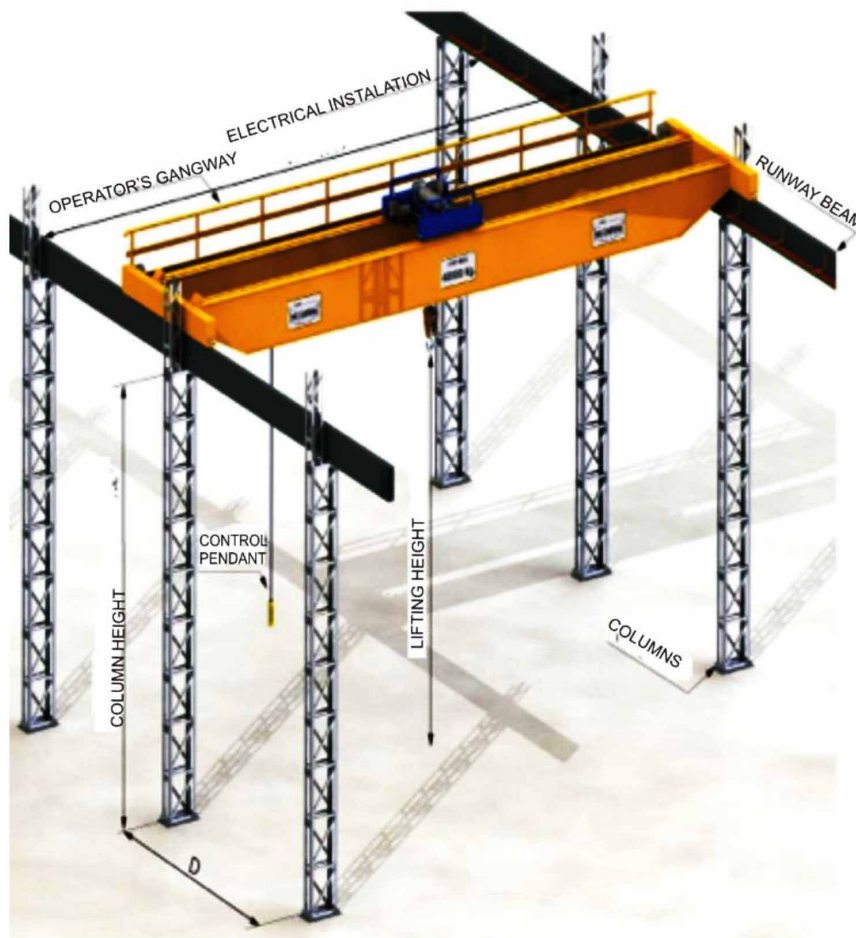
(Second Law of Newton or law of force)

With every action it always happens with an equal and opposite: it means that the mutual actions of two bodies are always equal and oppositely directed mentioned at Newton's third law or principle of action and reaction as in Figure 1.

HONEY BEE APIS MELLIFERA

Putting workers, drones and queen together in a box (hive) get a bee colony. These social insects, they live very close and yet have a division of labor created by them. The Queen is considered the most important bee in the colony. She has the function of laying eggs and propagate the species. (García, 2007). They secrete special pheromones that occur in their mandibular glands and other glands, which are social

Figure 1. Problem representation where was applied Bee Algorithm to improve the solution



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