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Walker et al.

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(54) **METHODS AND SYSTEMS FOR DEPLOYING EQUIPMENT REQUIRED TO MEET DEFINED PRODUCTION TARGETS**

(58) **Field of Classification Search**
CPC G06Q 10/06313; G06Q 10/06315; G06Q 10/0635; G06N 7/01
See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 21 days.

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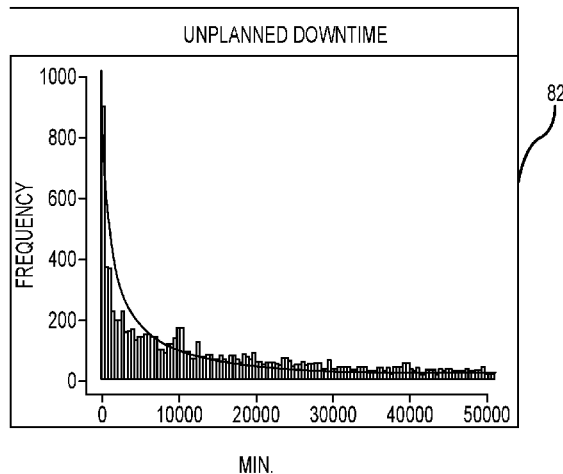
(57) **ABSTRACT**

Methods and systems determine at least one production constraint for a material loading system and a material processing system; estimate an effect of entropy on a cycle time of a material conveying system to produce a future cycle time estimate; estimate an effect of entropy on a material processing time to produce a future material processing time estimate; predict whether a delay will occur during the operation of the material loading, material conveying, and material processing systems; estimate a duration of the predicted delay; determine a loading system capacity and a conveying system capacity required to meet the defined production target based on the production constraint and estimates of the future cycle time, the future material

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