

ABSTRACT OF DISCLOSURE

5 A fully automated package identification and measuring system, in
which an omni-directional laser scanning systems are used to read bar
codes on packages entering the tunnel, while a package dimensioning
subsystem is used to capture information about the package prior to entry
into the tunnel. Mathematical models are created on a real-time basis for
the geometry of the package and the position of the laser scanning beam
used to read the bar code symbol thereon. The mathematical models are
10 analyzed to determine if collected and queued package identification data
is spatially and/or temporally correlated with package measurement data
using vector-based ray-tracing methods, homogeneous transformations,
and object-oriented decision logic so as to enable simultaneous tracking of
multiple packages being transported through the scanning tunnel.



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