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(12) **United States Patent**
Coray

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(54) **SYSTEMS, DEVICES AND METHODS FOR IMPROVED EFFICIENCY OF BALL MILLS**

(56) **References Cited**

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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 0 days.

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This patent is subject to a terminal disclaimer.

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(51) **Int. Cl.**
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(57) **ABSTRACT**

A drum assembly for a ball mill system may comprise: a drum having a first flange extending axially forward from a first radial wall, a second flange extending axially aft from a second radial wall, and a cylinder shell extending axially from a first radially outer end of the first radial wall to a second radially outer end of the second radial wall; a frame coupled to the first flange; and an inlet liner coupled to the frame, the inlet liner comprising a plurality of inlet segments disposed circumferentially adjacent to each other, the inlet liner defining an inlet radius for the drum assembly.

(52) **U.S. Cl.**
CPC **B02C 17/22** (2013.01); **B02C 17/183** (2013.01)

(58) **Field of Classification Search**
CPC B02C 17/22; B02C 17/183; B02C 17/10
See application file for complete search history.

20 Claims, 11 Drawing Sheets

