

## **ABSTRACT**

### **TOWBARLESS AIRPLANE TUG**

A towbarless airplane tug including a chassis mounted on a plurality of tug wheels, a base assembly, an airplane nose wheel support turret assembly, rotatably mounted on the base assembly, for supporting wheels of nose landing gear of an airplane, at least one force sensor, at least one tug wheel driver unit operative to drive the plurality of tug wheels in rotation to provide displacement of the chassis, at least one tug wheel steering mechanism operative to steer the steerable tug wheels during airplane taxiing and at least one tug controller operative at least partially in response to an output of the at least one force sensor indicating airplane pilot-controlled braking of the airplane to operate the at least one tug wheel driver unit so as to reduce the force applied to the nose landing gear of the airplane as the result of the airplane pilot-controlled braking.

FIG. 1A