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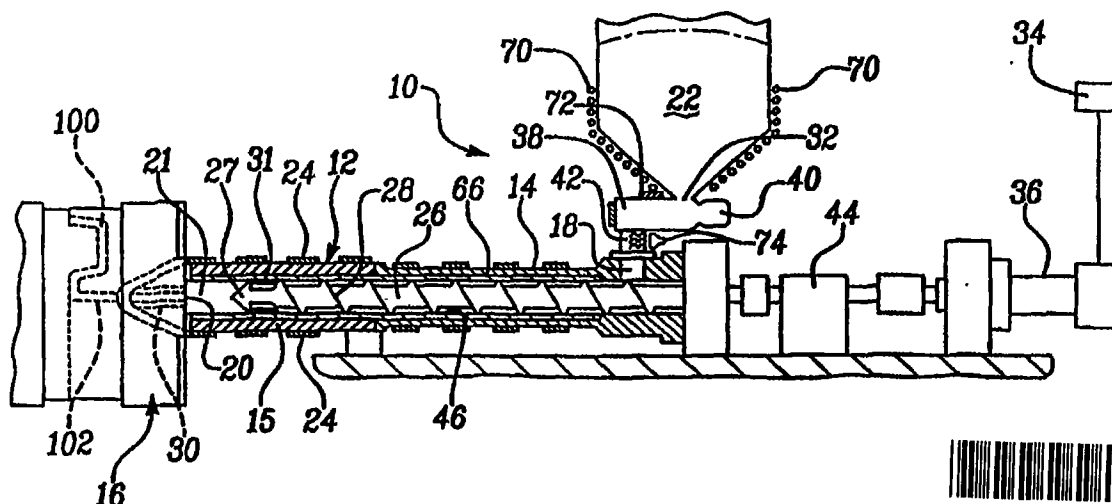
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(54) Title: THERMAL SHOCK RESISTANT APPARATUS FOR MOLDING THIXOTROPIC MATERIALS



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(57) Abstract

An apparatus for processing feed stock into a thixotropic state. The apparatus includes a barrel with first, second and nozzle sections. The first, second and nozzle sections are connected together and include surfaces that cooperatively define a central passageway through the barrel. The first section is constructed of a first material, the second end section is constructed of a second material and the nozzle is constructed of a third material. The first material exhibits a greater resistance to thermal fatigue and thermal shock than the second material while the nozzle section includes a bushing which inhibits heat transfer to the die, precluding excessive molding pressures and cycle times. The apparatus also includes a preheater for preheating the feed stock before entry into the barrel, a thermal gradient monitoring system, a novel robust nozzle construction, and a two-stage embodiment of the apparatus.