CATALYST REGENERATOR WITH A CENTERWELL

ABSTRACT OF THE DISCLOSURE

A catalyst regenerator for regenerating spent light FCC catalyst and heating the catalyst to supply heat to an FCC reactor. The regenerator has discharge outlets for catalyst and off gas and a valve for introducing spent catalyst through a central stand pipe portion. The regenerator houses a dense phase catalyst bed. A centerwell receives a lower end of the standpipe portion and defines an annulus therebetween. The spent catalyst is introduced through the standpipe portion into the annulus. A fuel distributor introduces fuel into the centerwell for mixing with the catalyst in the annulus. A fluidization distributor introduces fluidization gas into the centerwell for fluidizing the catalyst in the annulus. A radial slot in the centerwell introduces the catalyst and fuel mixture from the annulus below the upper surface of the dense phase bed. An air distributor located below the radial slot introduces combustion air into the dense phase bed.

Figure 1