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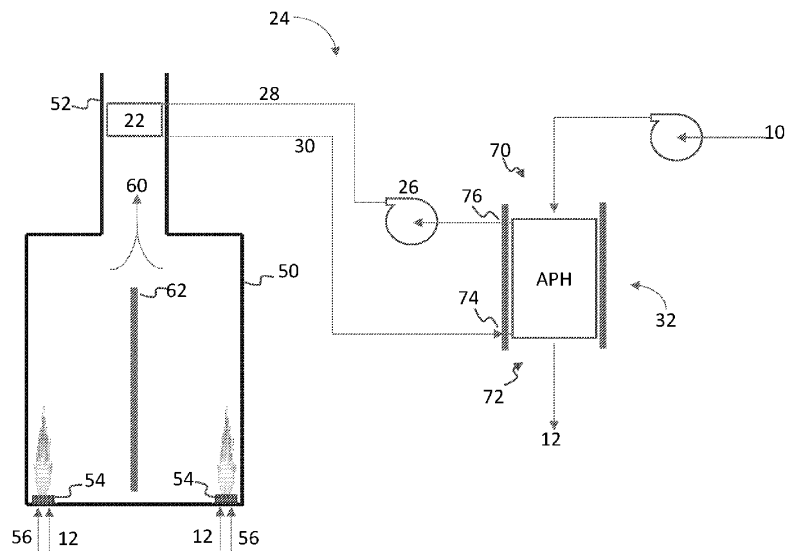
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(54) Title: EXTERNAL COMBUSTION AIR PREHEAT

Fig. 2



(57) Abstract: Systems and processes for external combustion air preheating for providing preheated combustion air to a furnace. The furnace systems convective heating section includes multiple heating coils for waste heat recovery. The heating coils may be used for preheating a feed (feed preheat coils), heating a boiler feed water, superheating steam, or heating or superheating a feed stream prior to the feed being fed to the radiant coil. The waste heat in the combustion gas is also used to heat a heat transfer fluid, which may be used to preheat combustion air or for other purposes within the plant.

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