Sept. 8, 1925.

1,553,233

P. H. HAMILTON

BAFFLE

Filed July 18, 1921

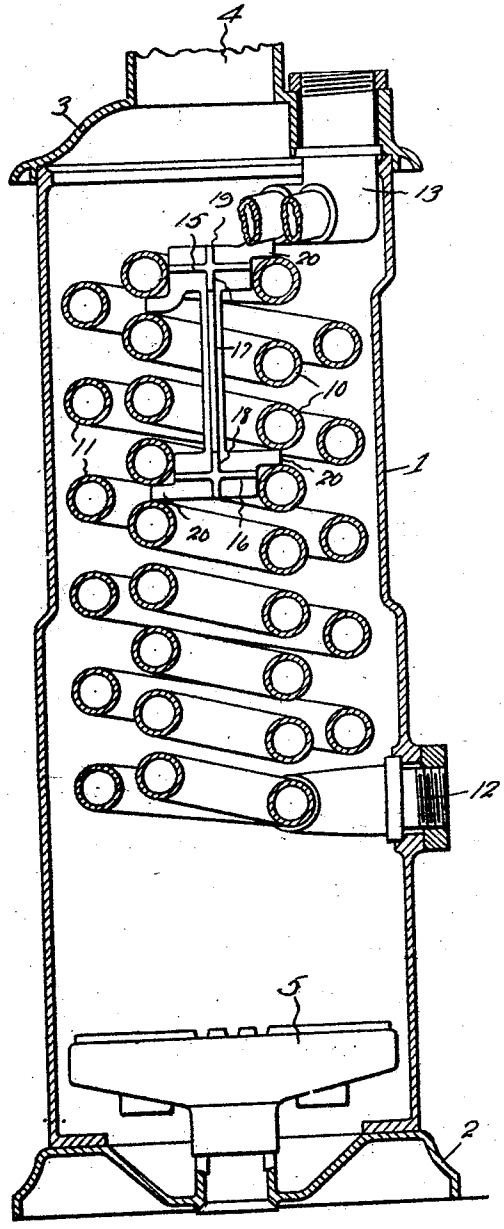
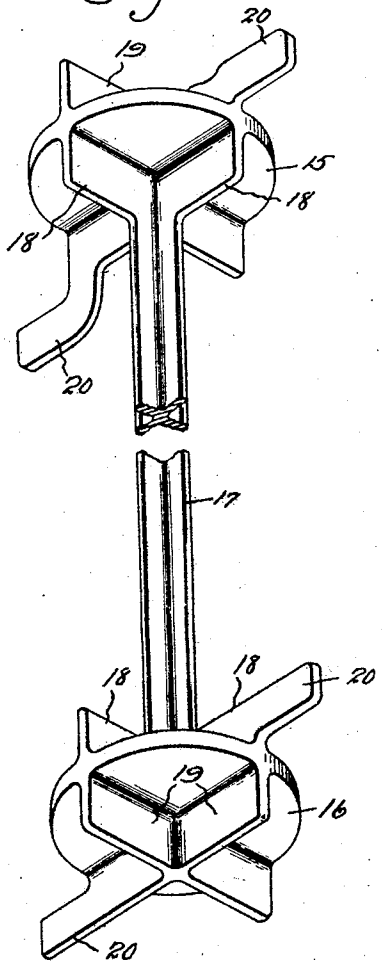


Fig. 1

Fig. 2



Inventor

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Patented Sept. 8, 1925. 1,553,233

UNITED STATES PATENT OFFICE.

PAUL H. HAMILTON, OF CLEVELAND, OHIO, ASSIGNOR TO THE SANDS MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

BAFFLE.

Application filed July 18, 1921. Serial No. 485,601.

To all whom it may concern:

Be it known that I, PAUL H. HAMILTON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Baffles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to an improved baffle for use with helical coils in such apparatus as water heaters.

The objects of the invention are to provide a highly efficient yet simple and inexpensive baffle of the aforesaid character that is preferably formed of an integral casting and is particularly convenient of manufacture and which may be readily inserted in a helical coil, as by screwing it into the same, and which is effectually held in place by its cooperation and interengagement with the coil.

To these ends the invention may be defined as consisting of the combination and arrangement of parts set forth in the claims annexed hereto and illustrated, according to the present preferred embodiment, in the drawing which accompanies and forms a part hereof and wherein Fig. 1 is a central vertical section through a water heater equipped with my improved baffle; and Fig. 2 is a perspective view of the baffle.

The particular water heater, wherewith I have elected to show my improved baffle, comprises a cylindrical casing 1 having a base 2 and a top 3, the latter being provided with an outlet flue 4 for carrying off the products of combustion which rise from a burner 5 that is supported by the base 2. Inner and outer helical coils 10 and 11, respectively, are supported in concentric relation to each other and centrally within the casing by and between an inlet header 12 and an outlet header 13 wherewith the coils have communicative connection, the former header extending outwardly through the side of the casing 1, while the latter projects upwardly through an aperture in the top 3.

My improved baffle comprises disks or plates 15 and 16, which constitute deflectors, that are connected together and spaced apart by a stem 17, the stem being shown as X-shaped in cross section, and the ribs of the stem merge into vanes 18 on adjacent faces of the plates or disks 15 and 16 while corresponding vanes 19 project from the outer faces of the plates or disks in alignment with the former vanes 18. Certain of the vanes 18 and 19 terminate at their outer ends flush with the peripheries of the disks or plates, while other of the vanes are extended therebeyond in the form of lugs 20 that are spaced axially of the baffle according to the spacing between adjacent convolutions of the coil wherewith the baffle is intended for use, or according to a multiple thereof, so that the lugs have what may be termed a pitch corresponding to the pitch of the coil.

Accordingly, the baffle may be inserted in the end of the coil with its first lug 20 engaged between the end and adjacent convolutions, and by turning the baffle in an appropriate direction, it may be fed or screwed into the coil, the other lugs 20 following in order into the space between the convolutions until the last lug is engaged under the end convolution. When the baffle is in place, the two end convolutions of the coil may be pinched together in clamping engagement with the lug to hold the baffle against accidental dislodgement. The diameters of the plates or disks 15 and 16 correspond substantially to the internal diameter of the coil and the ends of the fins 18 and 19 which terminate flush with the plates or disks engage the coil to hold the baffle centrally therewithin.

Having thus described my invention, what I claim is:

1. A baffle for use with helical coils, said baffle comprising deflector plates of a diameter substantially equal to the internal diameter of the coil, a stem connecting together and spacing apart said plates, radial vanes on the plates merging with the stem, certain of said vanes terminating at their outer ends substantially flush with the periphery of the plates, and lugs projecting from other of said vanes for engagement between the convolutions of the coil.

2. A baffle for use with helical coils, said baffle comprising deflector plates of a diameter substantially equal to the internal diameter of the coil, a stem that is X-shaped in cross section connecting together and spacing apart said plates, radial vanes on the plates wherewith the ribs of the stem merge, certain of said vanes terminating at their

outer ends substantially flush with the periphery of the plates, and lugs projecting from other of said vanes for engagement between convolutions of the coil.

3. A baffle for use with helical coils, said baffle comprising deflector plates of a diameter substantially equal to the internal diameter of the coil, a stem that is X-shaped in cross section connecting together and spacing apart said plates, radial vanes on the opposed faces of each of the plates, said vanes being in alignment with the ribs of the stem and certain of which terminate at their outer ends substantially flush with the peripheries of the plates, and lugs projecting from other of said vanes for engagement between convolutions of the coil.

In testimony whereof, I hereunto affix my signature.

PAUL H. HAMILTON.