Sept. 8, 1959 R. W. KRITZER 2,903,245

BASEBOARD RADIATORS

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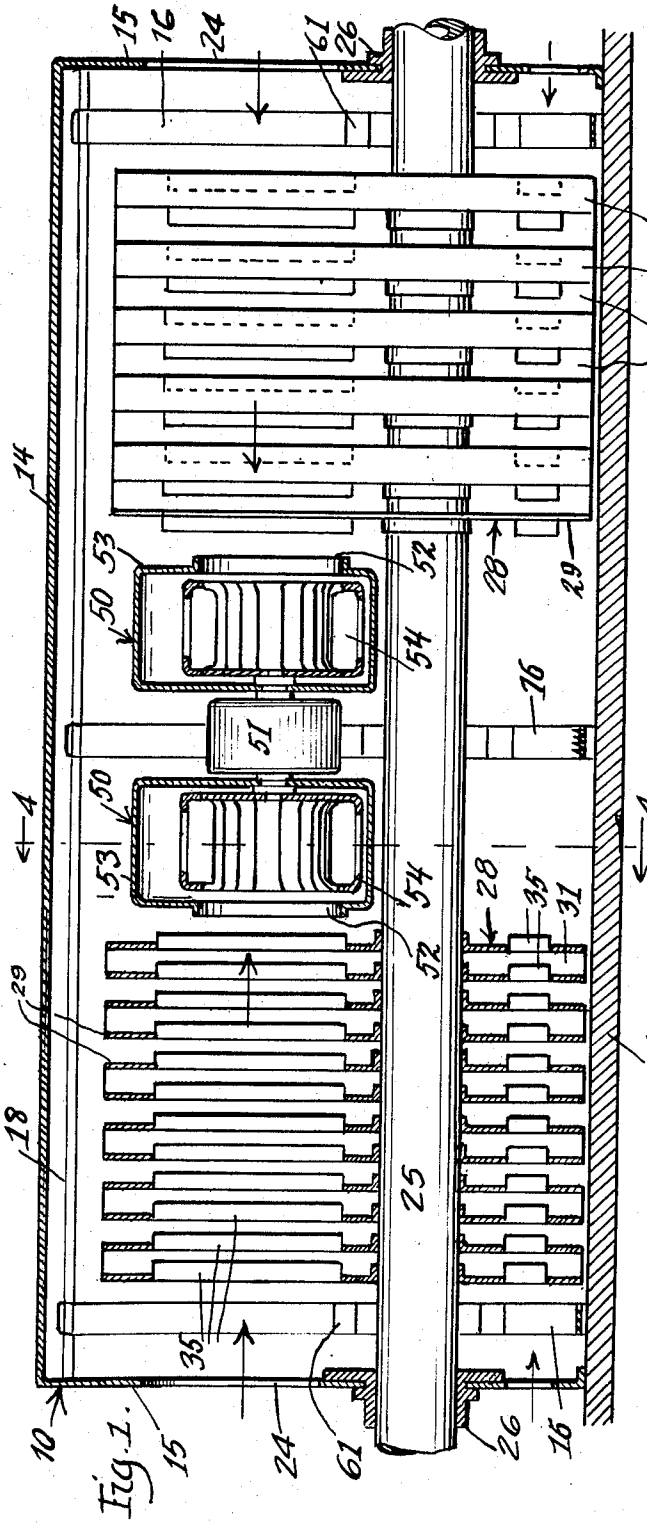



Fig. 1.

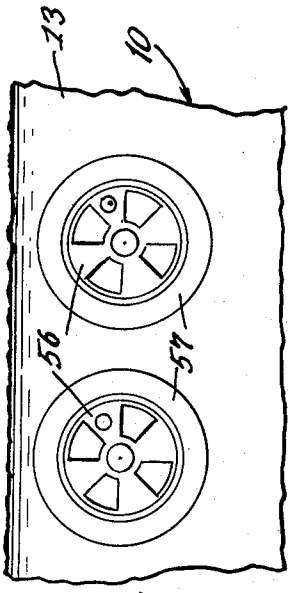



Fig. 2.

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Fig. 5.

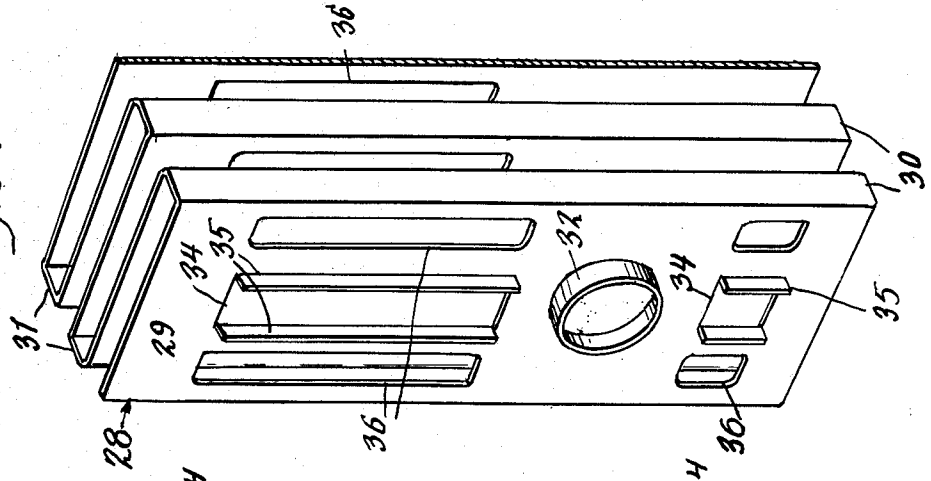



Fig. 3

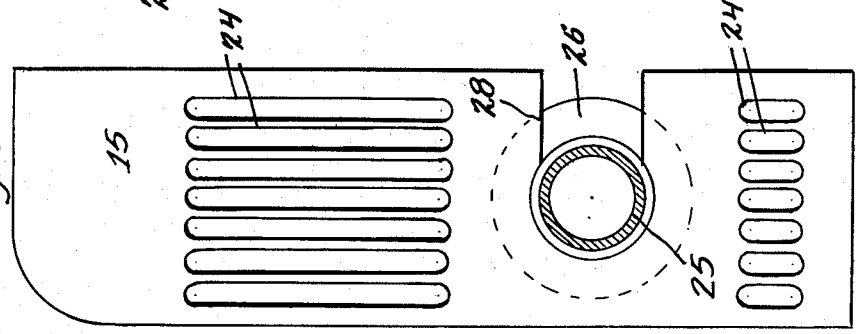
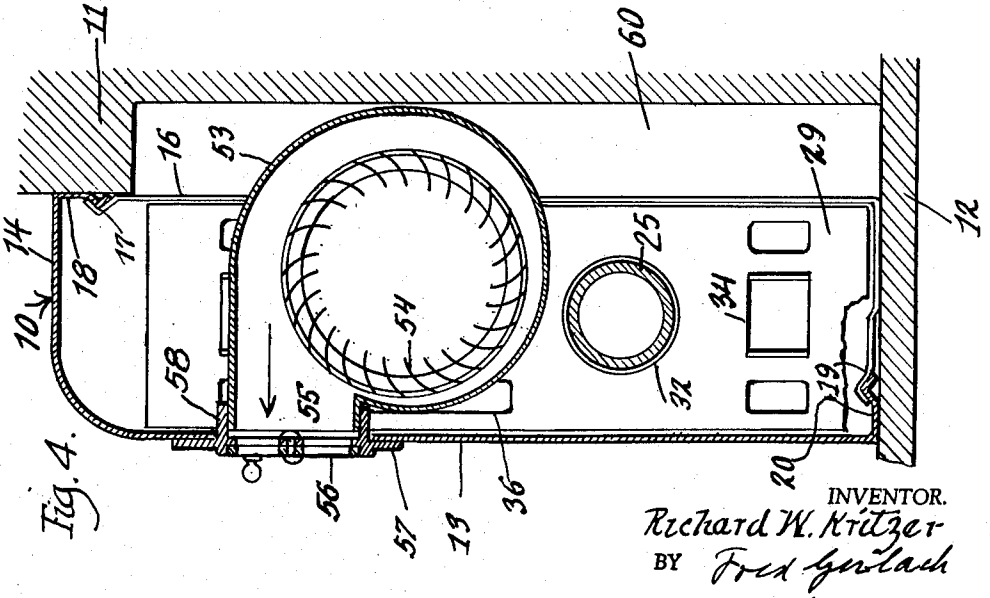



Fig. 4.




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United States Patent Office 2,903,245
Patented Sept. 8, 1959



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# BASEBOARD RADIATORS

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Application December 20, 1957, Serial No. 704,072

2 Claims. (Cl. 257—133)

The invention relates to radiators of the baseboard type which are adapted to extend along a floor and back-wall of a room for heat-transfer into the surrounding room.

One object of the invention is to provide a radiator of this type which is simple in construction, efficient in heat conduction and can be economically fabricated.

Other objects will appear from the detail description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawings:

Fig. 1 is a vertical longitudinal section of a radiator embodying the invention, one fin-structure being shown in elevation;

Fig. 2 is a fragmentary front elevational view of a portion of the structure shown in Fig. 1;

Fig. 3 is an end elevational view of the structure shown in Fig. 1;

Fig. 4 is a sectional view taken substantially along the line 4—4 of Fig. 1; and

Fig. 5 is a perspective view of a portion of a fin structure employed in connection with the invention.

The invention is exemplified in a sheet-metal casing, generally designated **10**, and adapted to extend along the back-wall **11** and the floor **12** of a room or enclosure to be heated. The casing comprises a front-wall **13** and a top-wall **14** which extend longitudinally of wall **11**, and end walls **15**. Casing **10** is removably secured against back-wall **11** by strips **16** (Fig. 4) which are fixed to the room-structure and are provided at their upper ends with clips **17** for engaging a downturned back-flange **18** on the rear of top-wall **14** and at their lower ends with arms having clips **19** for engaging a rearwardly extending flange **20** on the lower end of the front-wall **13**. End-walls **15** are provided with slots **24** which form inlets for air into the casing.

A pipe or conduit **25** for circulating a heating fluid, such as steam or hot water, from a suitable source (not shown) extends longitudinally through the lower portion of the casing and through end-walls **15**. Heads **26** serve to support the pipe **25** in the end walls **15**. A pair of fin structures, generally designated at **28**, are secured on pipe **25** and extend between a point adjacent end-walls **15** and a space adjacent the longitudinal center of casing **10** for conducting heat from the fluid circulating through pipe **25** to air passing from inlets **15** longitudinally of and to the center of the casing **10**. Each structure **28** includes a series of transverse fins serially connected alternately by integral front and rear end-walls. Each fin includes a planar transverse face or body **29** of rectangular contour, front and rear connecting end-walls **30** and **31** between adjacent fins, and an opening surrounded by an annular flange **32** fitting around and coaxial with pipe **25**. Each fin extends above and below pipe **25** and is provided above and below said pipe with a central vertical slot **34** having integral angular flanges **35** extending longitudinally of casing **10** and slots **36** in front and back of slots **34**. The slots **34** and **36** in each fin-structure are longitudinally



aligned for the flow of air from inlets **24** towards the longitudinal center of the casing and in contact with the fins.

A pair of air-impellers **50** are mounted at the longitudinal center of the casing **10** and are driven by an electric motor **51**. Each impeller is provided with a casing **53** having an outwardly facing intake **52** adjacent the inner end of one fin-structure, a propeller-wheel **54**, and a discharge trunk **55** leading from the casing **53** to a register valve **56** which is pivoted in a plate **57** secured to the front-wall **13** of the casing for discharging heated air under pressure from casing **53** through the front of the casing into the surrounding room. Each plate **57** has a sleeve **58** in which trunk **55** is slidably and telescopically fitted to permit removal of the casing **10** from the back-wall **11** for access to the stationary parts in casing **10**.

The casing **10** and pipe **25** may be of any desired length according to the available space along the base of the back-wall and the desired heating capacity. A recess **60** is formed on the back-wall **11** to accommodate the impeller casings **53**.

The operation will be as follows: assuming a heating fluid, such as hot water or steam, is circulating through the pipe **25** and motor **51** is driven, the impellers **50** will draw air through inlet slots **24** in the end-walls **15** and inwardly longitudinally of the casing **10** toward the outwardly facing intakes **52** of impeller casings **53**. In transit to said intakes, the air will successively contact the fins of structures **28** and be drawn through the aligned slots **37** and **38** into impeller casings **53** for transferring heat from pipe **25** to the air flowing longitudinally in the casings **53**. The propeller-wheels **54** will discharge the air under pressure through the trunks **55** under control of valves **56** to the outside of the casing and into the surrounding room.

The invention is not to be restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A baseboard radiator adapted to extend along the juncture between a floor and wall structure, said radiator comprising in combination an elongated casing including front and rear walls respectively, top and bottom walls respectively, and end walls closing the opposite ends of the casing, a fluid conduit in the form of a cylindrical tube extending longitudinally through said end walls and the interior of the casing and adapted to communicate with a source of heating fluid, there being air inlet openings above and below the level of said conduit in said end walls, a twin-blower assembly disposed within the casing medially of its ends above the level of said conduit and overlying the latter, said twin-blower assembly including longitudinally spaced impellers having axially aligned air inlets facing outwardly in opposite directions and facing said end walls respectively, an electric motor disposed between said impellers and operatively connected thereto in common for driving the same, said impellers having radial air discharge outlets facing said front wall, there being a pair of air outlet openings in said front wall in sealed communication with said air discharge outlets respectively, and a series of closely spaced fins mounted on said conduit on each side of said twin-blower assembly and in heat-conducting relationship to the conduit, the various fins of each series extending transversely of the casing and radially of the conduit and presenting transverse surface areas conforming substantially to the cross-sectional configuration of the casing whereby the flow of air longitudinally through the casing inwardly thereof from the inlet openings around at least the bottom and side edges of the fins is substantially restricted, there

being a series of transversely spaced slots in each fin of each series of fins above the conduit and a series of transversely spaced slots in each fin of each series below said conduit, the height of the slots which are above the conduit being at least as great as the height of the blower air inlets, all of the slots above the conduit being in longitudinal register with one of the blower air inlets whereby air entering each air inlet opening in an end wall may pass directly and successively through the slots of one series of fins and enter one of the impeller air inlets, the corresponding slots of each series of fins below said conduit being in longitudinal alignment.

2. A baseboard radiator as set forth in claim 1 wherein there are three transversely spaced slots in each fin of each series of fins above the level of said conduit including a relatively wide medial slot and a relatively narrow slot on each side thereof, and including, additionally, longitudinally extending vertically disposed side flanges projecting laterally from each fin along the side edges of each medial slot.



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