To all whom it may concern:

Be it known that I, THOMAS H. BURTON, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Baffle-Plates for Boilers, of which the following is a full, clear, concise, and exact description.

My invention relates to baffle plates and the baffle plates of my invention are of particular service in connection with water tube boilers and especially in connection with water tube boilers of sectional type. Hitherto baffle plates have been disposed between adjacent water tubes for checking the gases that rise between the tubes, which baffle plates were formed with pedestal ends that rested upon the tubes and carried the plates between them. These baffle plates have hitherto been cast in one with their pedestal ends. By means of my invention the pedestal ends are cast separately and the baffle plates are united therewith. The patterns may be all uniform as the baffle plates themselves may be readily cut to length, such length varying according to the location of the baffle plates within the boiler. In the preferred embodiment of the invention the baffle plates are made of angle irons that are assembled with the pedestals that rest upon and between the water tubes between which the baffles are disposed.

I will explain my invention more fully by reference to the accompanying drawings showing the preferred embodiment thereof and in which Figure 1 illustrates a sectional water tube boiler, in sectional elevation, baffle plates constructed in accordance with my invention being shown in position; Fig. 2 is a view on line 2—2 of Fig. 1; Fig. 3 is a detail view, partially in section, partially in elevation, and partially broken away, illustrating the baffle plate of my invention as it is preferably constructed and arranged; Fig. 4 is a plan view of parts illustrated in Fig. 3; and Fig. 5 is a perspective view of a baffle plate and its pedestal ends, one of these pedestal ends being separated from the baffle plate.

Like parts are indicated by similar characters of reference throughout the different figures.

The sectional water tube boiler illustrated has a plurality of sets of water tubes that are positioned between headers 2 at the ends thereof, there being steam ejection pipes 3 that direct steam from the headers 2 to the steam drum 4. A usual or suitable furnace 5 is disposed beneath the sets of water tubes, the heat and gases rising between the water tubes, as is well understood by those skilled in the art. The upward flow of heat and gases is retarded by means of baffle plates 6 disposed between adjacent tubes. These baffle plates are provided with pedestals 7 at their ends that rest upon adjacent tubes whereby the baffle plates are properly positioned with respect to such tubes. These baffle plates do not entirely span the spaces between the tubes in which the baffle plates are disposed, clearance existing between the longitudinal edges of the baffle plates as indicated at 8. These baffle plates are generally of angular formation, in cross section, and have hitherto been integrally cast with their pedestal ends. Because of the integral formation of the baffle plates and their pedestal ends molds of differing lengths were required and the out put of the castings was materially restricted. In accordance with my invention the pedestal ends 7 are cast separately and the baffle plates are cast in suitable lengths from metal of suitable shape. Common angle iron may be found upon the market and such may be cut to fit. The pedestals 7 are provided with saddles 9 upon which the ends of the angle irons may rest, these saddles conforming in shape to the angular shape of the angle iron. To prevent the pedestals from tipping they are desirably provided with retaining lugs 10 that are parallel with the saddles. The lugs and saddles are spaced apart sufficiently to receive the ends of the baffle plates therebetween. The metal of which the castings 7, 9, 10 are made is desirably semi-steel so that the pedestals may be driven into engagement with the angle irons forcibly whereby the pedestals and baffle plates are rigidly held together. The angle iron of each baffle plate is disposed with its ridge uppermost and the saddles conform to the shape of the bottom of the baffle plate.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without de-
parting from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

5 A baffle structure for water tube boilers comprising a plate of angle iron with the ridge of the angle iron uppermost; separately formed pedestals provided with angular saddles conforming to the under side of the plate; and lugs carried by the pedestals and disposed adjacent the saddles above and spaced apart therefrom a distance conforming to the thickness of the angle iron, the ends of the plate being received between said saddles and said lugs, in combination with a water tube boiler between and upon adjacent tubes of which said pedestals are supported, said plate in conjunction with such adjacent tubes forming a baffle.

In witness whereof, I hereunto subscribe my name this thirty-first day of January A. D. 1917.

THOMAS H. BURTON.