

# THE BAKER BOILER

AS USED IN THE BAKER STEAM CAR

THIS FAMOUS BOILER  
WAS USED IN  
THE BAKER STEAMER  
BUILT FOR SEVERAL  
YEARS AT  
PUEBLO, COLORADO



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MOTOR SCRAPBOOK  
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FIG. 1

**D**URING the past few years a vast amount of engineering skill and hundreds of thousands of dollars have been expended by various concerns in an effort to bring STEAM to its own as AN AUTOMOTIVE POWER. To accomplish this the great engineering problem has been to produce a boiler that was highly efficient, absolutely dependable, economical in operation and maintenance and as fool proof as possible.

The Baker Boiler has incorporated within it the correct and necessary principles to produce UNINTERRUPTED, RAPID and PERFECT CIRCULATION, to completely eliminate choking of the tubes, priming, and all danger of burning coils in the generating section.

Engineering tests have demonstrated that the watch-spring-like method of construction makes proper allowance for and has resulted in UNIFORMITY of EXPANSION and CONTRACTION in the boiler thruout.

No other known boiler can be as THOROUGHLY, QUICKLY, and EASILY CLEANED WITH ITS OWN PRES-SURE as the Baker Boiler.

The foregoing together with other features given in this circular, have enabled the Baker Boiler to come triumphantly thru grilling tests, not only in actual road service covering thousands of miles thru the deserts and mountain regions of the West, forcefully demonstrating itself as the most efficient, dependable, economical and fool-proof boiler now offered for sale for automotive purposes; but it has also demonstrated its adaptability and practicability for various stationary uses as well.



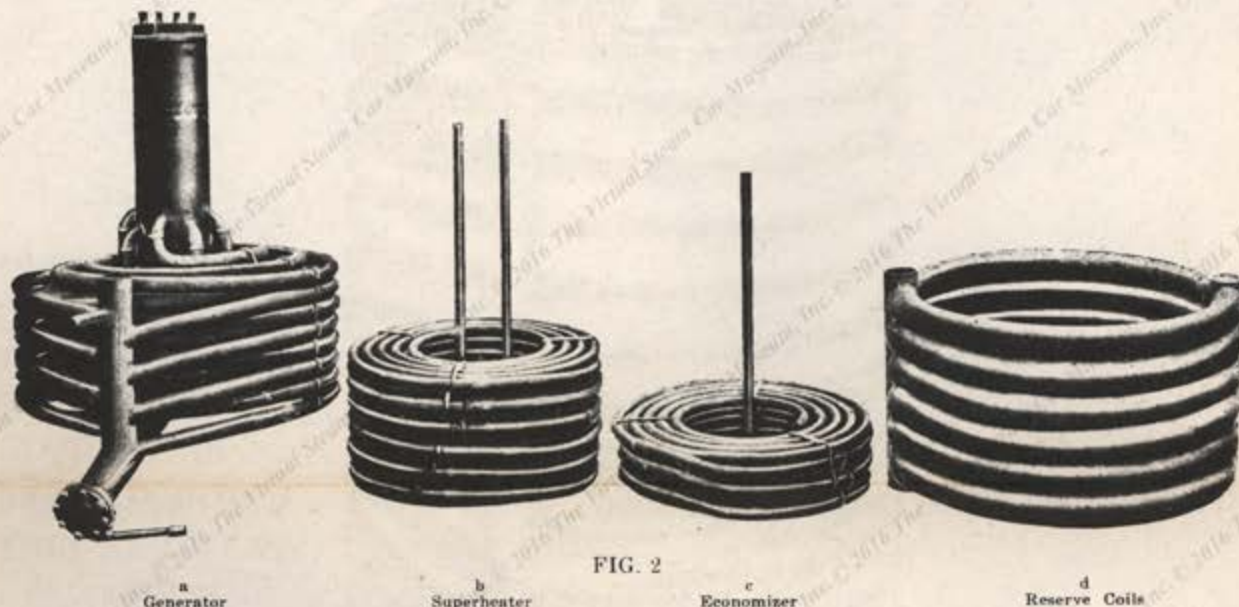
# The Baker Boiler Is Scientifically Constructed

The Baker Boiler is a water tube boiler.

It is constructed of the highest grade seamless steel tubing.

It is built in four sections (a, b, c, d, Fig. 2) each section a separate and distinct unit which in the assembled whole (Fig. 1) functions individually.

It is assembled to properly utilize the maximum amount of heat available.



The generator section (a) is placed nearest the fire.\* The superheater section (b) is placed around the central column just above the generating coils, near enough the fire to insure highly superheated steam yet sufficiently removed to eliminate any danger of burning these coils. The economizer coils (c) are above the superheater, utilizing the heat that has passed thru the generator and superheater sections to preheat the water before it reaches the generating coils. The reserve coils (d) are above the generator surrounding the other two sections.

It is sufficiently insulated to retain the heat.

It does not scale, is not affected by hard water.

A constant water level is maintained.

Expansion and contraction are uniform throughout, and are properly allowed for in the watch-spring-like method of construction.

No threaded or expanded joints to spring a leak.

No sharp bends to retard circulation, (every competent steam man can quickly comprehend the extreme significance of uninterrupted circulation and the great extent to which this is interfered with by sharp curves and hair-pin turns).

It is compact in form, light in weight and possesses marvelous steam producing qualities.



# A CIRCULATION WITHOUT EQUAL Perfect—Forced—Uninterrupted

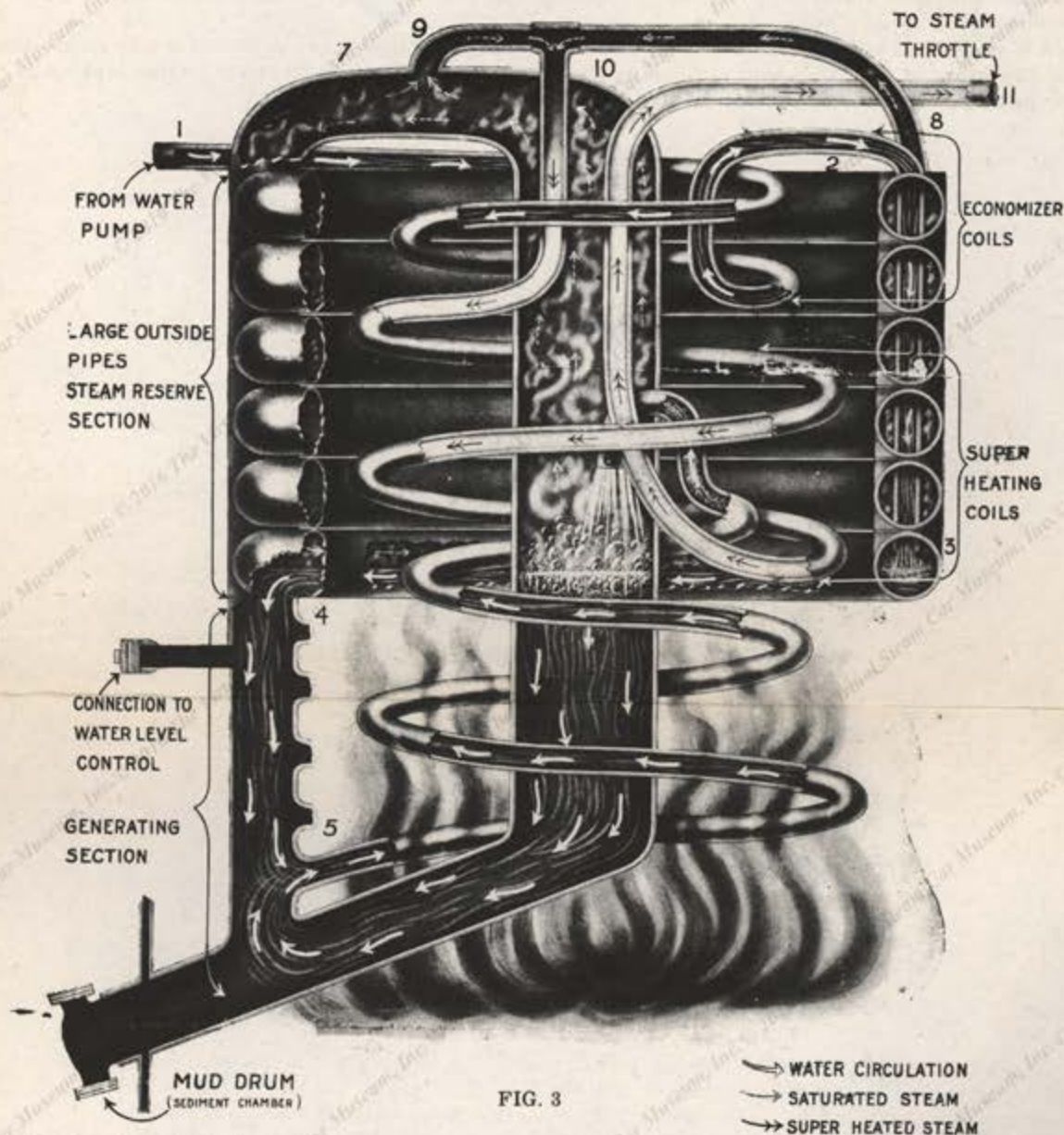


FIG. 3

In Fig. 3 portions of the boiler are cut away, showing only one coil each of the generator, superheater and economizer sections, in order that the circulation of water and steam may be more graphically shown.

Starting at 1, the water enters from the water pumps shown by the solid white arrow; tracing this down through the economizer coils it rises and goes over through the pipe at 2, down through the steam reserve coils, emptying its water at 3 into the lower steam reserve coil passing around the steam reserve coil emptying into the small outside stand-pipe at 4. The water passes down and mixes with the other water at the intake of the generator coil 5. From there the water passes up around through the generating coils, of which one is shown emptying into the center stand-pipe as part water and part steam at number 6, as in passing through these coils the heat of the fire has converted it partially into steam. This water circulates downward again through the

center stand-pipe and passes around and back and feeds again at 5, thus completing its circuit over and back again. The steam, which naturally separates from the water at 6, rises in the center stand-pipe and is indicated by a small light-faced dotted arrow, rising to the top of the stand-pipe where the steam goes over through the goose-neck continuation (7) of the center stand-pipe around to the left and distributes down through the large pipe to the steam reserve coils at the left. Then the steam circulates through the steam reserve coils to the right or opposite side and rises through the small pipe 8, going down through the superheating coils at 10. The connection at 9 through the goose-neck going over to 10 is for the purpose of equalizing the draw of the steam and not causing a siphon or suction action. The passing of this steam through the superheater is shown by small double-pointed dark arrows passing around downward through the superheating coils and then going upward out of the superheating coils to the steam throttle number 11.

With this type of circulation, boiler efficiency is very materially increased; proper separation of water and steam is insured; a constant water level is maintained; scaling and choking of tubes is eliminated and easy methods of cleaning the boiler obtained.



## The Baker Boiler Is Easily Kept Clean

The operative **EFFICIENCY** and the **LIFE** of any boiler depends in large measure upon whether or not the boiler is kept **clean**. With most operators, the degree of cleanliness of the boiler depends upon the ease of the methods by which this condition is attained.

Fig. 4 is an enlarged view of the **CENTRAL BLOWOFF ATTACHMENT** shown at the top of the central column in Fig. 1. By means of this attachment each and every coil of the generator section can be cleaned separately, under boiler pressure, in approximately five minutes.

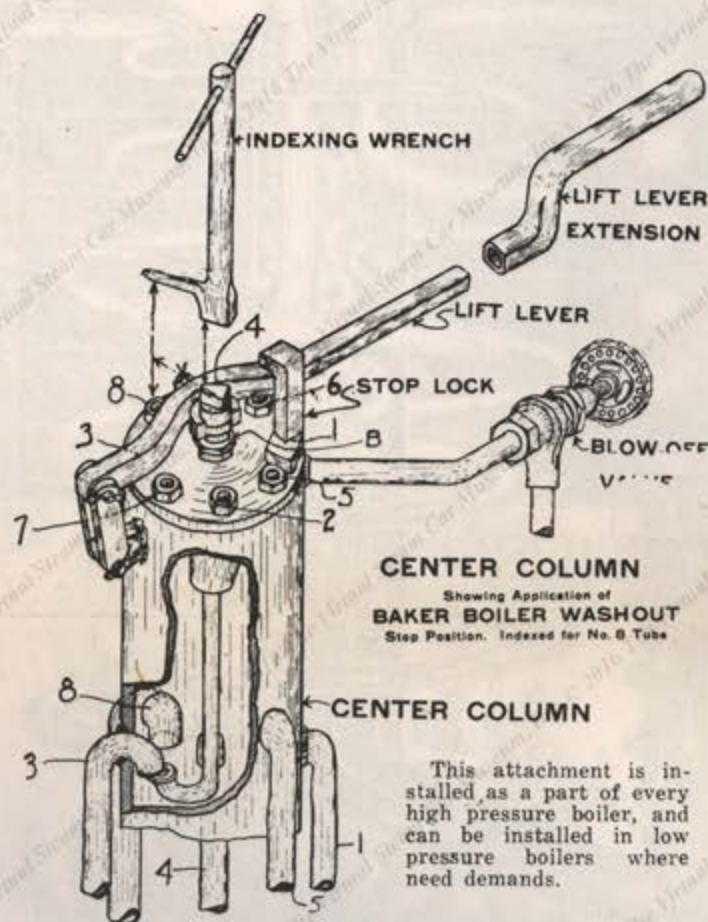


FIG. 4

To clean a coil, e. g. No. 8, turn the indexing wrench so that it points to No. 8 on the dial; release the stop lock; raise the lifting lever and coil No. 8 is connected with the blowoff valve; open the blowoff valve wide and close it and the operation is complete. In like manner each of the other coils can be quickly and easily cleaned.

By reference to **PRINCIPLES OF CIRCULATION**, Fig. 3, it will be discovered that sediment is deposited in a mud drum which is not only outside the circulation but also removed from the direct influence of the fire. An easily accessible blowoff valve makes it possible to keep this clean.

No other known boiler can be as thoroughly, quickly, and easily cleaned with its own pressure as the Baker Boiler.

Baker boilers can be built to produce almost any desired temperature from that of saturated steam to 1500° F. total heat, or any desired steam pressure from zero to 1000 pounds.

All sizes and forms of Baker Boilers are constructed on the same principles as are used in the Famous Baker Automobile Boiler.

**THE BAKER BOILER IS CONTROLLED BY POSITIVE AND DEPENDABLE AUTOMATICS.**

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