OUR BEST SALESMAN

AND

Forty Reasons Why.

MILWAUKEE AUTOMOBILE CO.

19TH ST. AND ST. PAUL AVE.,

MILWAUKEE, WIS.

U. S. A.

SOME THINGS THAT SHOULD BE ON A GOOD STEAM AUTOMOBILE AND SOME THAT SHOULD NOT.

In design, the **"Milwaukee"** is not a "Radical departure from all other types, and one that will revolutionize the whole automobile industry." Its superiority lies in the fact that the designers adopted that engine, that boiler, that tire, etc., which had proved by long usage to be the best. Steam is our oldest artificial power; inventors have been working with it for 200 years, and have applied it in every conceivable form, so that if your attention is called to an engine or boiler that is "entirely different" from anything else, more than likely it was tried years ago, and proved to be a failure.

The **"Milwaukee"** engine has no ball bearings, as their value was uncertain, while bronze bearings were a known quantity. After a year's experience with balls, other manufacturers have begun to discard them.

Locomotives are equipped with link valve motion. There are other methods of working the valves, but the link is still used, as giving better sat isfaction; the **"Milwaukee"** engine has links for the same reason.

A wire-wound boiler was an experiment, while a seamless steel boiler was not. We use seamless steel.

There is no doubt that a big boiler gives more power than a small one, that a *seamless steel* boiler is stronger and lighter than one with seams; that a tire ¾ in. thick is better than a tire ⅜ in. thick; that air and gasoline tanks made of copper with soldered seams, strengthened by bolts and bands, will leak sooner or later, and that *seamless* steel tanks will never leak. Seamless steel was first used on the **"Milwaukee."**

Forty of the Superior Points of "The Milwaukee."

1.

Large boiler, seamless steel shell, 30 per cent. more power generated than other machines. Being seamless steel, there are no seams or rivets exposed to the fire, and no piano wire is necessary. (Piano wire rusts and eventually breaks; then what?)

2.

The boiler is provided with an extra large blow-off cock, for cleaning out the sediment.

3.

The burner is fitted with a separate pilot light, so that the fire never blows out, neither does the safety valve ever blow off; the result being that the machine can stand for hours with the fire burning without any attention. This is one of the greatest improvements made on the steam vehicle and *originated with us.*

4.

The main fire is under complete control from the seat. The gasoline stop valve is also brought so that the driver can instantly shut off the entire supply of gasoline without changing his position.

We *originated this,* a vital point.

5.

The machine is fired up without having to build a fire of some sort in which to heat a piece of pipe, and when once fired up, can be kept under steam and left standing all day without going through the operation again.

6.

The machine is locked when left standing with a lock valve which shuts off the steam, instead of putting a padlock on the throttle lever. Throttles will leak sometimes, and locking the handle does no good.

7.

The *engine has no ball bearings.* All the main bearings, including *the crosshead and wrist pin are adjustable* for wear, and can be easily renewed when worn out. All bearings are steel, running in bronze, no bearing having both surfaces composed of the same metal. The surfaces are large, to ensure cool running. The crosshead and wrist-pin, which get the hardest work, are oiled from a reservoir on the crosshead.

8.

When a ball bearing engine commences to knock, the engine must go to the shop, and have parts replaced. With bronze bearings, when the engine gives evidence of wear, the bearings can be taken off by any one, and made as good as new in a very few minutes, thus prolonging the life of our engine, indefinitely.

The life of the ball bearing engine under the most favorable conditions, is two years.

9.

The crankshaft, crank pins, eccentrics and sprocket flange are all made up in a *one-piece forging,* thus doing away with 13 to 47 pieces as employed by others to do the same work, and which sometimes come apart, with disastrous results to the engine. We use forgings for the connecting rods, links, and valve-stem guides, instead of castings.

10

The water pump is worked by a double rockshaft, and is extra large, furnishing over twice as much water as is ordinarily needed, so that the water never fails on long or heavy pulls.

11.

In order to obtain best results, it is necessary to properly lubricate the valves and cylinders; our sight feed does this regularly, and with any steam pressure. It requires no special kind of oil, and will not syphon the oil into the boiler.

Our lubricator is the result of long road experience, and with a complete knowledge of all others on the market, none of which combine these requirements. Our long distance lubricator is sufficient for 50 miles or more.

12.

The valves and pistons are carefully fitted, so that they do not allow steam to blow by. Our engines are not built by boys, but by high grade labor. And none of its parts are made on Automatic Screw machines.

13.

The exhaust passage pipe and muffler are extremely large, to avoid back-pressure on the engine.

14.

Many manufacturers of steam vehicles have experienced great difficulties in overcoming the back draught on windy days. Our vehicles are tested on the shores of Lake Michigan in all kinds of weather, and since perfecting our burner and flues, we have experienced no trouble with high winds.

15.

The throttle is double seated, so that the engine can be started without a jerk, even with very high steam pressure. *The area of the large opening is the same as the area of the steam pipe.*

16.

Check valves on the water glass have been the direct cause of nearly all the cases of scorched boiler, on account of their penchant for "sticking," and their disinclination to work when wanted. (They would not be tolerated on stationary or locomotive boilers.) We have discarded them, and use valves operated by hand for shutting off the water glass if the glass breaks. The water glass fittings are solidly put in, and do not spring out of line under high steam pressure. This springing is the cause of the glass breaking in practically every case.

17.

By discarding check valves we are enabled to make the water glass so that dirt can be blown out of it. This is important.

18.

The water glass and steam gauge are lighted at night with electric lights. The bell is a mechanical chime.

19.

Instead of copper tanks with soldered seams, for gasoline and air, we originated the seamless steel tanks which are tested to 500 pounds pressure as against the 50 pounds limit for the former.

20.

The frame is 10, 12 and 14 gauge seamless tubing with all connections drop forged; has our special rear truss. Has a solid rear shaft instead of tubing, and the bearings on the shaft are adjustable, is standard guage, 4 feet 8½ inches.

21.

The hubs are all the same size. The rear ones are keyed onto the shaft instead of being screwed on. The differential gears are also keyed on and pinned.

22.

The compensating ring is a very important feature of the running gear, we double the heft of it at considerable cost to ourselves.

23

The rims and spokes are heavy, the rims have flared edges to prevent tire cutting. The tires are 3 in. diameter, ¾ in. thick, over twice the thickness used by other makers. They are fastened on with 8 lugs instead of 5.

We use roller chains figured with a factor of safety of 7. They have no perceptible stretch, wear better, run easier, and with less noise. The block chain was good; the roller chain is better.

24.

The Stanhope carries 6 gallons gasoline and 27 gallons water.

25.

The water tank has a level indicator; has two strainers. The opening into the tank is at one side of the carriage, so that it can be filled *without the use of a funnel, without reaching into the smoke flue to get at the opening, and without slopping water over and down into the fire.*

26.

We have substituted a differential spur gear, for the bevel gear heretofore used. It avoids the side thrust on the bearings, and reduces the strain fully

on-half, and is covered against dust. The change costs us $25.00 in each vehicle, but the best of everything goes into "The Milwaukee", regardless of cost. This gear runs in oil, and requires no attention during the season.

27.

The vehicles are all equipped with a double acting bronze brake which holds absolutely, either forward or backward. Our brake costs us five times as much as the brake used on any other steam vehicle, but as it is a vital point, we know the expense is justified.

28.

The side lamps are acetylene instead of kerosene. They don't blow out.

29.

The body has thicker panels. All sill corners braced with angle iron. The seats are ample and are measured across the top of the cushion. The boot in the rear is enameled metal instead of "rubber" cloth. The painting does not peel off; the pipes are cut to fit and not sprung into place. The valves and fittings are all tight. In fact the machine is carefully assembled and put together to stay put, and to give satisfactory service without recourse to a machine shop every other trip.

30.

A full kit of tools, also spare nuts, bolts, hub caps, spokes, spoke wrench, packing, waterglasses, links of chain, collapsible rubber pail, rubber storm apron, etc., goes with each machine.

31.

The machines are all given a severe hill climbing test and a 38 mile trip or more before shipment, and we know that there is *no* defective workmanship or material in them.

32.

After exhaustive tests, we equip all vehicles with air pumps, doing away entirely with the only real objection to the steam motor carriage. This and the positive automatic lubricator adopted by this company, secures to "The Milwaukee" its pre-eminent position, which it has held from the start, and purchasers of these vehicles can rest assured that if there

are any really desirable features that are thoroughly practical, and that can be embodied in steam vehicle construction, they will be adopted by this company.

One of the features to which we call attention, is the fact that the 3 in. tires and rims, in the set of four wheels of the Milwaukee Company, weigh forty-two pounds more than those of other makes, and it is a pertinent inquiry why do other companies, for the sake of saving a few dollars, risk their reputation, and the chance of dissatisfied customers, rather than give them the best to be had for the purpose.

33.

Other large shops hesitate about adding little devices and necessities required by the customers, and when they are put on they are charged up at exorbitant rates. We make our vehicles to suit our customers, and if they desire any additions made to the standard vehicle, which are at all practical, we make them gladly, and promptly, at ordinary cost. We have no fancy prices.

34.

Our vehicles are equipped with feed water heaters.

35.

After exhaustive tests covering a period of 18 months and many thousand of miles of all kinds of roads, we have succeeded in securing a feed water regulator and low water alarm, which gives perfect service.

We have watched the promotion and failure of many such devices with interest, and have not been slow to avoid the mistakes brought to our notice thereby.

This device takes care of the water level in the boiler at all times; and, if the source of supply should fail from any cause, sounds an alarm. Besides this, there is a preceptable and positive saving in gasolene, as the feed is so regular and steady that at no time is the boiler flooded, causing water to be carried over with the steam, and valuable heat units wasted, and mileage cut down per tank.

There is only one good feature about the flash boiler. "You have no water glass to watch."

Our device allows you to retain all the good

features of the standard boiler, and at the same time the operator is relieved from that close attention to the water glass, that has so long detracted from the pleasure of operating a steam vehicle. It makes burned out boilers, their attendant expense, and unpleasantness impossible. With this attachment the vehicle may be operated as satisfactorily after night as in the daytime.

36.

Injectors, Jet pumps, Auxiliary Combination Steam, Water and Air pumps, water columns, and cases for the engine, will be supplied at cost if desired. Their value on an Automobile is, however, doubtful.

37.

As far as we can ascertain we are the only Steam Pleasure Vehicle Company to have had its Engine and Boiler tested in the Scientific Department of a foremost university. These tests are exhaustive and give our output a most creditable showing and these records are open at all times.

38.

The wagon work, and finish of our vehicle is done by the highest priced and most skilled labor obtainable, and under the direct supervision of the foremost carriage maker of the West. The upholstering, tops, etc., are made with the same class of labor, and of the finest leather and material securable.

39.

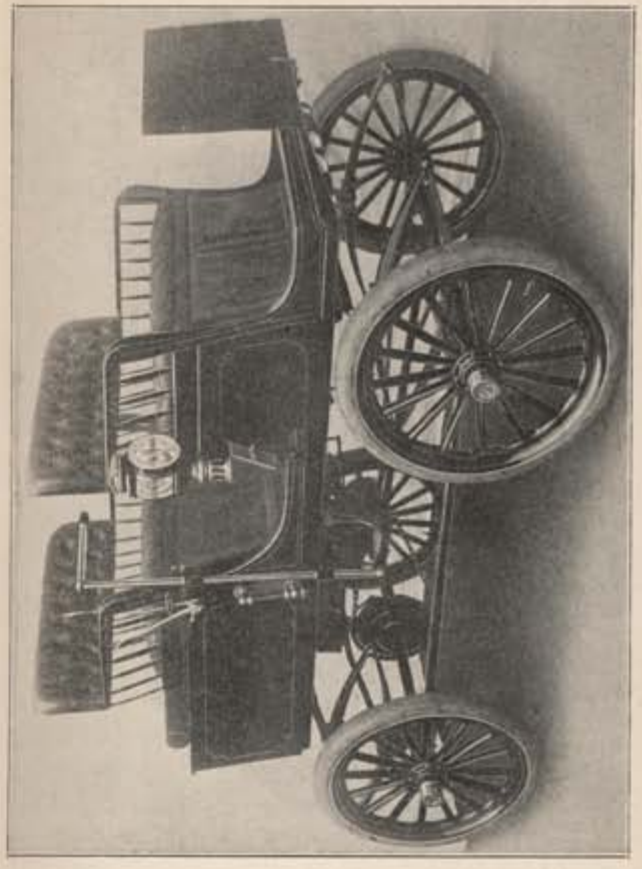
Our vehicles are equipped with a device by which the engine can be cleaned in a few moments, so that it looks as if it had but just left the shop. The same device is used for cleaning the burner, and blowing out the boiler flues, enabling the operator at all times to keep his vehicle in perfect condition.

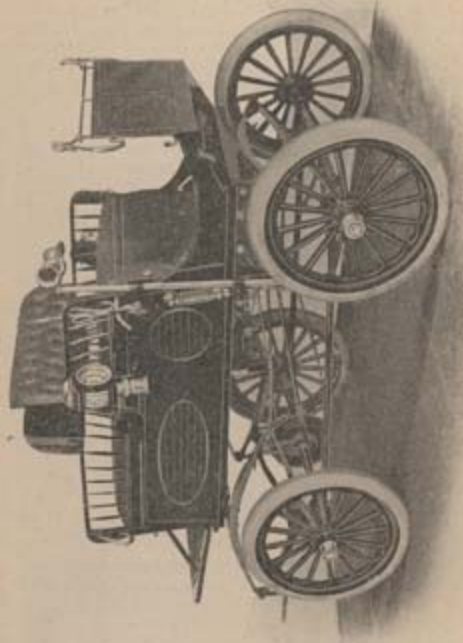
40.

Book of instruction furnished with each vehicle.

We are never too busy to promptly answer all enquiries as to operating and caring for our vehicle.

The **"Milwaukee"** is of better design, is built of better materials, more care is used in assembling, it has more really valuable improvements, without undue complication, and will cost less to keep in repair than any other steam automobile at any price.





OUR BEST SALESMAN

AND

Forty Reasons Why.

* * *

MILWAUKEE AUTOMOBILE CO.
19TH ST. AND ST. PAUL AVE.,
MILWAUKEE, WIS.
U. S. A.