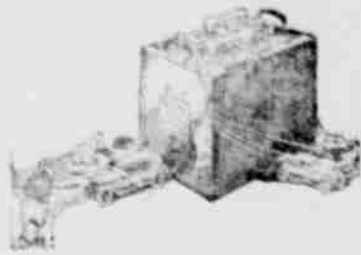


Exide BATTERIES



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EXIDE BATTERIES

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When buying a battery demand EXIDE XNC CONSTRUCTION

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SUNSET GARAGE

Barrick Transfer Service
SOLICITS YOUR BUSINESS
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10% greater power

The energy of a storage battery is generated by the action of the solution on the "paste" of the plates.

By a special formula a superior "paste" of greater energy value and cohesive qualities has been compounded for Columbia plates.

Standard size Columbia Storage Batteries easily generate 10% greater power and likewise give 10% more service. The type for Dodge cars costs only \$38.00, exchange price. The size which fits 80% of all cars costs only \$74.65, exchange price.

(All prices f. o. b. San Francisco, Calif.)

Columbia Storage Batteries

Williams & Williams
Sales and Service

NATIONAL CARBON COMPANY, San Francisco
Also makes of the famous Columbia Dry Cell Batteries

MUFFLER IS NOT WATCHED CLOSE

Cleaning Up Process Is Overlooked or Delayed Until Openings Become Clogged.

INCREASES USE OF GASOLINE

Very Important Part of Automobile Is Located Under Car and Out of Sight, and to Merit Given Attention.

One of the parts of an automobile most neglected by many owners and drivers is the muffler. As a boy with a dirty face puts off the cleaning up process just as long as possible, so the motorist with a muffler that needs attention procrastinates and thinks perhaps he will fix it up tomorrow. And tomorrow never comes. But today it always has been with its greater use of gasoline and various other complaints that a dirty muffler causes.

The muffler is located under the car and behind most of it is usually out of sight. It is therefore often neglected or missed. And yet it ought not to be. The muffler is placed on the end of the exhaust pipe of the engine so that the driver of an automobile while taking pleasure himself does not wholly deprive others of it.

Let us consider the use of the muffler. The exhaust gases escape while the engine runs and it still under a pressure of from 25 to 30 pounds per square inch. If this were exhausted directly into the air the resulting noise would be deafening. The muffler prevents this. It provides a chamber in which these exhaust gases may expand and cool somewhat and at the same time breaks up the pressure by allowing it to pass out slowly through a number of very small holes, instead of letting it loose in one big noise.

The "Cut-Out" Valve.

In the early history of the automobile the mufflers were not used and every body of them around knew when an engine was running. As the automobile improved its number this became a nuisance and was stopped by law. Then they would, indeed, had been passing a means of silencing the sound. In the early muffler there was trouble because the gas would back up in the muffler and decrease the power of the motor. It was thought there was no way to decrease the sound without increasing the power, therefore the muffler makers devised a valve to "cut out" the muffler so the car whenever extra power was desired.

Sometimes the back pressure was so great as to interfere when driving through heavy traffic on up hills. The "cut out" let the gas exhaust directly into the air instead of going through the muffler. At the present time nearly every city has a law prohibiting the use of "cut outs."

The average driver does not know that his muffler needs as careful attention as any other part of the mechanism, and so he neglects it. In these days of noiseless cars it requires a great number of very small holes inside the muffler. These become clogged with soot or carbon from the exhaust. The result is that the muffler is unable to do its duty especially when the grade of oil used is poor or too much oil is used. It may result when the carburetor is adjusted to give too rich a mixture.

Openings Become Clogged.

When these small openings become clogged the exhaust gases cannot escape readily and naturally the cylinder of the engine is not cleared at the exhaust stroke. Result: It is impossible to bring in a full cylinder of new gas on the next intake stroke. There is not a full charge to explode, and this means a loss of power to the engine.

Cars are known where the throttle was opened with without any increase in power. Trying to find out what the matter was, the driver opened the "cut out" and this caused the machine to accelerate very rapidly.

TEST REVEALS LARGE TIRE NOT DANGEROUS

Wide-Spread Belief of Peril Shown to Be Erroneous.

Big English Vehicle Run Over Sharpened Spike Making Perfect Blow-Out, But No Damage Done Except to Tire.

One way to overcome a prejudice is to ignore it. The introduction of the large size pneumatic tire for passenger cars in England was met by many objections because of a wide spread belief that the use of these tires was dangerous.

In case of a blow-out, men argued the tremendous momentum of the occupying air would carry the car off the roadway. The objection is based between the tire and the car after one tire had been run over and would be as great as to the car as a whole. In the case of a blow-out, men argued the tremendous momentum of the occupying air would carry the car off the roadway. The objection is based between the tire and the car after one tire had been run over and would be as great as to the car as a whole.

To test this belief, on Feb. 1, 1920, ten, managing director of the London General Trust Co., Ltd., of London, England, decided to test the belief that a large tire was dangerous. A heavy 10-ton truck was loaded with a large tire and driven over it at an angle just across the road.

When all was over the tire was found to be perfectly safe. The test was made on a road 30 ft. by 25 ft. in size. As the big sharpened spike struck the side of the tire it caused a jagged hole through the tire and tube. It was a perfect blow-out. The tire was completely flat, with a hole 10 ft. in diameter. But no damage had been done except to the tire itself.

The men riding in the car felt not a very slight jolt as the tire struck the road. The introduction of the large tire in England was met by many objections because of a wide spread belief that the use of these tires was dangerous.

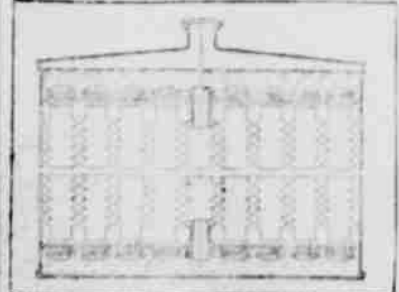
The test has given a long and varied record to the performance of these large tires in case of a blow-out.

RADIATOR FOR AUTOMOBILES

Invention of Brooklyn Man Adapted for Use in Cooling Any Circulating Liquid.

The Scientific American published an article describing a radiator for automobiles. The invention is a radiator for automobiles, but may be used wherever it is desirable to cool a circulating liquid.

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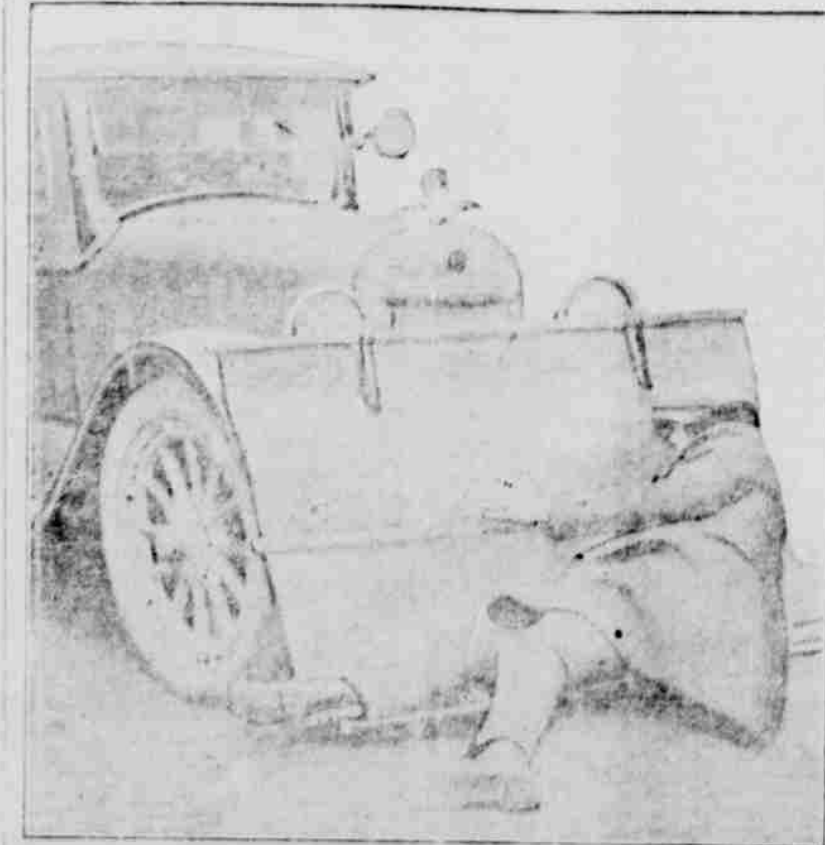


A View Partly in Section, Showing the Arrangement of Tubes.

desirable to cool a circulating liquid. Among the objects is to provide a radiator having the parts so constructed as to bring the circulating fluid in contact with a large exposed surface where the liquid may be effectively cooled in a limited space.

NEW LIFE SAVER FOR AUTOMOBILES

The latest thing in bumpers is the new life saver for automobiles. The inventors are Charles Deary, 11001 Westworth Avenue, Chris Hansen, 11254 South Maryland Avenue and William Egan, 11343 Forest Avenue, Chicago, and they are very confident of their invention. Here you see the "fender" in practical use.



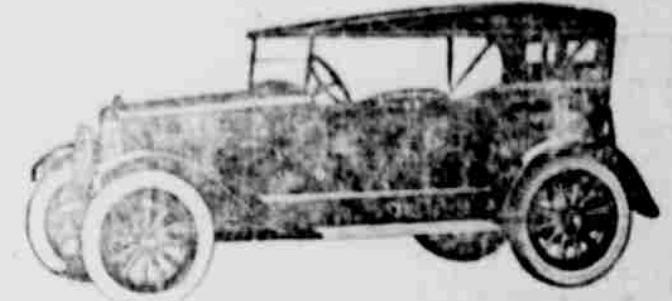
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The men who make it are just as proud of

Today's Overland at \$550

as the men that work on high-priced, "hand-picked" cars are of what they make—and with a better reason. It's a greater achievement to turn out so fine a car at so low a price.



Today's Overland: 21 miles to the gallon, all steel body, baked enamel finish, 130-inch spring base. TOURING, \$550, ROADSTER, \$550, COUPE, \$550, SEDAN, \$395. f. o. b. Toledo

The Star Garage

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 - CENTRAL SERVICE STATION
 - HUDSON'S GARAGE
 - CHAS. F. PANKOW
 - SQUARE DEAL GARAGE
 - SUNSET GARAGE
 - TILLAMOOK TIRE CO.
 - TILLAMOOK GARAGE
 - WILLIAMS & WILLIAMS