

### VERTICLE SPLIT IS MOTOR INNOVATION

Oldsmobile Has New Idea For Automobile Which is Found to Be Patentable.

Few indeed are the patentable features of any automobile motor. That is why automobile engineering is largely a matter of picking and choosing from among the scores of ways of accomplishing the same results.

But a peculiarity in the design of the eight-cylinder motor in the Oldsmobile, a design known as the "vertical split," was found to be patentable. As a consequence the Oldsmobile manufacturers are enabled to offer motor-car buyers an engine not open to general copying.

One of the main difficulties barricading the path to perfection in eight-cylinder engine design was a complication of parts. The Oldsmobile engineering department devoted months to simplifying its engine and it was the "vertical split" which eventually brought success.

Instead of dividing the cylinder blocks horizontally, it was discovered that a vertical division could be made in such a way that a V-shaped eight-cylinder motor could be assembled more quickly, more simply and with fewer parts than a pair of fours. The two blocks, containing four cylinders each, and the crankcase are made in only two castings.

The righthand block includes four cylinders, half the crankcase and solidly supports the crankshaft and camshaft. The lefthand block is "blank"—that is, it includes four cylinders and half the crankcase, but it bears none of the strains of crankshaft or camshaft.

Each half is assembled as a separate unit, the blocks are clamped together by anchor bolts, detachable cylinder heads are bolted to each block and the motor is practically built, except for minor assemblies, such as wiring.

A clean, simple, light and durable engine is the result of this patented design. It is a design that removes the complication from the eight-cylinder motor and gives the car owner all the advantages of eight-cylinder power and smoothness without the troubles of traditional eight-cylinder design, as attested by thousands of Oldsmobile owners who have been driving eights for the last three years.

### Auto Dealers Make Liberal Response to Liberty Loan

During the past week Guy L. Smith and E. R. Wilson, two of the leading automobile dealers on the Omaha Auto Row, have been devoting their time to prosecuting the sale of Liberty loan bonds. At noon Saturday they reported the sale of \$150,000 worth of bonds to dealers and employees along the row.

A very considerable portion of this amount was subscribed by the employees of the various automobile concerns. A great many of the dealers themselves had already subscribed

### Practical Auto Paragraphs

By S. P. La Due

#### Steering Knuckle Troubles.

Front wheel spindles upon which the wheels are mounted turn on the king bolt or pin. There are bronze pin bushings to take the wear, but due to the lack of lubrication the bolt often "freezes" in the bushing and then the bolt turns around causing wear where there is no renewable bushings. In a case of this kind, the king bolt should be removed by first removing the castellated nut at the bottom. After cleaning the bolt and the part it fits into, oil copiously and replace. Tighten the nut well.

#### Making Brake Adjustments.

In taking up on the brakes do not always remove the slack at the same place. There usually are two or three places in the brake assembly where a "take-up" is possible and each time the brakes are adjusted a different place should be used. The first time take up the rods at the rear, the next time at the brake heads, etc.

#### Drain the Vacuum Tank.

At fixed intervals open drain cock at bottom of the vacuum tank. Usually a few drops of water and rust flow before the gasoline starts running. The fact that it often will not flow until a wire is run through the drain cock, shows there is foreign matter which may cause carburetion trouble.

Look at the Battery Terminals—Did you ever wonder why the engine does not show the accustomed pep or why the lights burn dimly or the ignition seems poor? Unfasten the wires and bars at the battery terminals and notice if they are clean. They must be clean if current is to flow freely. Scrape off with a stick any green or white deposit you see, and spread a little cup grease over the parts to prevent corrosion.

#### Oil Spark and Throttle Levers.

Do not neglect to squirt oil around the spark and throttle lever connections at intervals. A little of the oil will run down the post and prevent the lever rods from freezing and thus moving at the same time.

#### Stopping Plug Leaks.

There still are a great many engines without detachable cylinder heads and these use valve plugs. These plugs often leak. This leaking may be stopped by spreading ordinary paste stopper over the threads. Do not use too much. This may be used at any hot joint in place of white or red lead and is much better because it does not make removal of the part an hour's job.

#### Removing Overhead Valves.

In some overhead valve engines valve grinding is made a harder task than it should be, because when the valves are removed the owner dismantles the rocker arm assembly. In most engines this is not necessary because the rocker arm can be disconnected from the vertical rod, pushed one side and the valve removed. In engines using cages this is particularly easy though most owners go to the trouble of dismantling the rocker arm assembly. To push the rocker arm

to the Liberty loan through their banks and considering this it is estimated that the subscriptions of auto row now will exceed considerably the reported amount of \$150,000.

aside, use a flat wrench with a pair of pliers at one jaw to twist with. **Water in the Crankcase.**

This is the time of the year when water condensation in the crankcase is a serious matter. The more cylinders the engine has the worse the situation. Water, a product of combustion, makes its way past the piston rings into the crankcase where it interferes with lubrication. In the warmer weather the water in the form of steam may blow out of the breather. But when the crankcase is fanned by a cold breeze the steam condenses into water which contaminates the oil. The remedy of course lies in draining the oil about every four weeks and filtering it. In some eight and 12-cylinder engines more than a pint of water may be removed under certain conditions.

#### Anti-Freeze Solutions.

Every owner who will use his car this winter will have need for an anti-

freeze solution. The following formula have been found excellent. Do not use calcium chloride or other chemicals as they injure the metal of the cylinders and radiator.

ALCOHOL, GLYCERINE AND WATER SOLUTIONS.			
Alcohol.	Glycerine.	Water.	Freezing Point.
Pct.	Pct.	Pct.	Degrees Fahrenheit
7.5	7.5	85	-20
10	10	80	-15
15	15	75	-10
20	20	70	-5
25	25	65	0
30	30	60	+5
35	35	55	+10
40	40	50	+15
45	45	45	+20
50	50	40	+25
55	55	35	+30
60	60	30	+35
65	65	25	+40
70	70	20	+45
75	75	15	+50
80	80	10	+55
85	85	5	+60
90	90	0	+65

#### ALCOHOL AND WATER SOLUTIONS.

Denatured Alcohol.	Freezing Point.	Wood Alcohol.	Water.
Pct.	Pct.	Pct.	Pct.
25	-10	17	83
40	0	24	76
55	+10	31	69
70	+20	38	62

#### Kane Comes to Omaha to Take the Ajax Tire Agency

J. A. Kane has come to Omaha to manage the Ajax tire branch. Kane

formerly was connected with the Dallas agency of the Ajax Tire company and is pleased with the Omaha outlook.

#### Must Moisten Own Stamps; No Supplies Received Yet

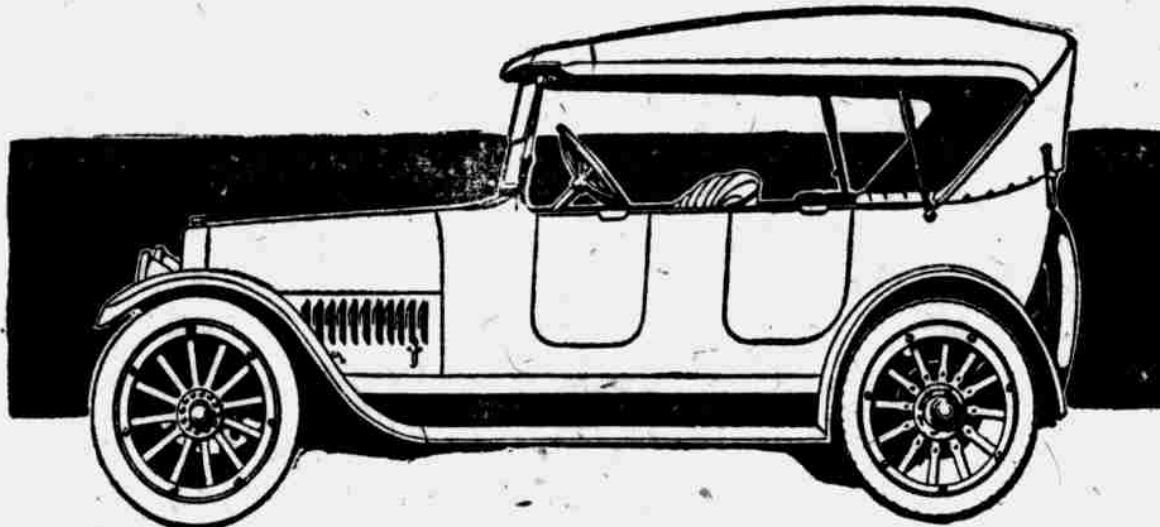
Great demands are being made on the Omaha postoffice for postcards of the 2-cent denomination and stamped

envelopes of a 3-cent denomination for use on and after November 2 when the new first-class postage rates go into effect.

"People must remember that printing these supplies is a gigantic job," said Postmaster Fanning. "For some time to come people must expect to lick stamps, placing an extra 1-cent stamp on a postcard and an extra 1-cent stamp on a 2-cent stamped en-

velope. As soon as possible the new supplies will come."

Many firms which use the rolls of stamps on a stamping machine will either have to run their letters through the machines twice in order to put on a 2-cent and a 1-cent stamp or will have to affix the 3-cent stamps by hand. The local postoffice has 3,000,000 of the 3-cent stamps on hand, but has none of them in rolls.



## A New Studebaker FIVE-PASSENGER SPECIAL

A BEAUTIFUL Five-Passenger Car with low rakish lines and gracefully tilted windshield, which has many new exclusive features.

### New Features —

- Leatherette Gypsy Top with plate glass windows.
- Adjustable Steering Wheel, folding up for convenience of driver.
- Low Luxurious Seats.
- Genuine Buffed Leather Upholstery, parallel plaited.
- Improved Deflecting Headlight Lenses.
- Two Color Options.

Finished in the very newest shades of dark blue and striking red. It is exceptionally aristocratic in appearance.

This car is really a Five-Passenger Sport Model. It has the snappiness of style and action exemplified in the best sport models — and plenty of room for five passengers.

Its light weight, great power, tire-saving balance and sterling high quality make it a very desirable, convenient and economical car—the price is surprisingly low.

Our supply of these Specials is limited. Come in and see them today.

### STUDEBAKER-WILSON, Inc.

Farnam Street and 25th Avenue. OMAHA, NEB.

## Stearns MOTOR CARS

### Sleeve-Valve Motor Performance

For six years now Stearns has built the Knight sleeve valve motor into the Stearns chassis. Stearns engineers have brought this motor to its highest pitch. They designed the Stearns counter-balanced crankshaft—the first one to be used in the United States. This union of the Knight principle with Stearns practice accounts for the incomparable smoothness and silence of the car. The net result is a Stearns Four and a Stearns Eight that deliver a rare and unusual quality of performance.

Stearns Four Five-passenger	\$1785	Stearns Eight Touring Car for Seven, 62375; Four Passenger Roadster, 62375; Coupe, 63360; Coupe-Landaulet, 63360; Limousine, 63675; Limousine Brougham, 63675; Landaulet, 63685; Landaulet Brougham, 63685.
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McIntyre-Hayward Motor Company  
Distributors Nebraska and Western Iowa.  
2427 Farnam Street. Omaha, Neb. Phone Douglas 2406.

Stearns Five Passenger Four Cylinder Touring Car

## OLDSMOBILE ALL-SEASON CARS

**THE** new Oldsmobile All-season Cars—Sedan and Coupe—combine many points of superiority in style and equipment. The bodies are designed and built especially for Oldsmobiles, and will not be found on any other car. Tops are built in and made part of the bodies—complete and permanent. They are instantly converted into open summer cars or closed winter cars by lowering or raising the plate windows.

New convenience is offered in the staggered position of the wide doors. The right or curb door opens to rear compartment. The left door is well forward opening directly to driver's seat. The upholstery is of high quality material of pleasing appearance. The seats are broad and restful—supported by Marshall Cushion Comfort springs. Front seats are of the individual chair type.

In the sedan the driver's seat is adjustable forward and back for either long or short reach. The deep lounge back rear seat has ample room for three. Each model is equipped with automatic car heater and foot warmer, electric dome and dash lights and other accessories for comfort and beauty.

Both sedan and coupe are built on the famous Oldsmobile Model 37 Six chassis, which excels in tire and fuel economy, 34-inch under-slung rear springs give exceptionally easy riding quality.

Sedan, \$1695. Coupe, \$1595. F.O.B. Factory, Lansing, Michigan

### OLDS MOTOR WORKS, LANSING, MICHIGAN

Nebraska Oldsmobile Company, Incorporated  
CHARLES W. TUCKER, Mgr.  
Distributors for Nebraska and Southwestern Iowa.  
2859 Farnam St. Phone Tyler 3356. Omaha, Neb. 16th and O Sts. Phone B-6522. Lincoln, Neb.

# DENBY

Pioneers of the Internal-Gear Drive

## MOTOR TRUCKS

### And Did You Know--

That there are 105 replaceable bushings in the 3-ton Denby, 102 in the 2-ton, and 86 in the 1-ton model?

Every part that wear will affect is protected by one of these bushings. They can be renewed when worn at a cost of a few cents, and the truck is as good as ever.

They add to manufacturing cost—but they form one of the many ways in which Denby construction saves you money.

#### Jones-Opper Co.,

2043-45 Farnam St., OMAHA, NEB.  
Distributors Eastern and Northern Nebraska and Western Iowa.

#### A. A. Jones,

HASTINGS, NEB.  
Distributor Southern and Western Nebraska and Northern Kansas.

<b>PRICES</b>	
ONE TON.....	\$1490
With Express Body and Cab	
TWO TON.....	\$2025
Chassis Only	
THREE TON.....	\$2525
Chassis Only	
f. o. b. FACTORY	