



The Society of Automotive Historians

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PRESIDENT'S PARAGRAPHS

Each of us has his own special interests in the vast field of automotive history and it is unlikely that any two would share the same pattern of "pet" subjects. It is likely that a large number of members has a mental list of subjects upon which nothing has appeared in print. Such a list might be labeled "Articles Which Have Not Been Written But Should Be." Under such a heading I would place the following:

"The Complete Story of SIMPLEX, CRANE and CRANE-SIMPLEX"

"The Two-Speed Rear Axle from AUSTIN to AUBURN"

"A Complete Index to Antique Automobile, Bulb Horn and Horseless Carriage Gazette"

"U. S. Motors Company - The Combine Which Failed"

This list could be extended for several pages, and is limited only by one's imagination and scope of interest. So, if some member has a yen to do some research but cannot think of a suitable subject, just ask around. There is plenty yet to do.

An article entitled "The Motorcar vs. America" appeared in the June, 1970, issue of American Heritage. This is an honest but devastating appraisal of the effect which such mobility has had upon our lives and upon our land. However, as with most influential factors, it is not the automobile, per se, which has had such adverse side-effects, but rather the misuse of this technological advantage.

The over-abundance of motor vehicles, the number of which has increased more rapidly than our population, has been due to a lack of restrictions on their use. It should be obvious that in the not too distant future there will be some sort of legal restrictions placed upon the usage of motor vehicles. Such limitations may be economic in nature, with higher registration fees. Whatever the methods, it is probable that the use of automobiles will become a privilege rather than the presumed right it now is.

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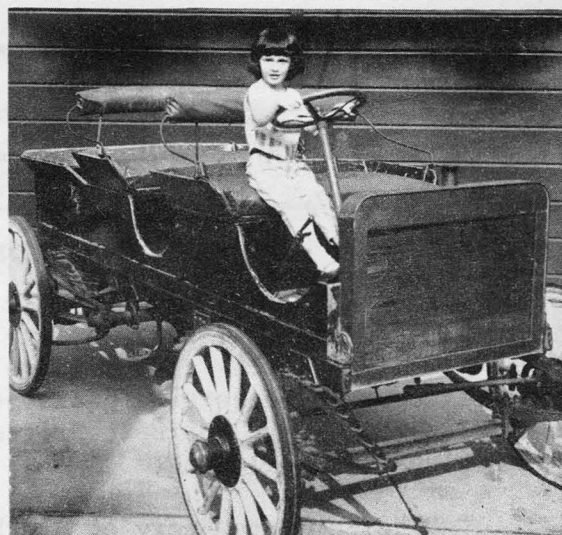
Change of Address: Menno Duerksen
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(Was 782 Homer St., Memphis)

More on the Galloway

With reference to Mr. A. M. Gregory's letter (SAH Newsletter #12, page 2), I enclose a photograph of a c. 1908 GALLOWAY which I owned a few years ago. The brass radiator script was missing but otherwise the car was original and quite complete. The hanging stirrup entry steps carry the same cross-type emblem as that shown on the radiator of the 1915 GALLOWAY light car illustrated in Newsletter #12. If Mr. Gregory will write to me I will attempt to assist him in obtaining specifications and other information that he may require.

H. T. C. Angel, 2754 Fairmont Avenue,
Dayton, Ohio 45419.



c. 1908 GALLOWAY
Rebecca Angel at the wheel

The Masterbilt Six

I was quite surprised to see my MASTERBILT 6 photos in the Newsletter (No. 14). I don't know why but I figured that was my little secret. I ran across, or actually stumbled onto, a bunch of non-auto factory prints back in the mid fifties. Among them were a large group from the Govro-Nelson Company, which, by the way, is a very active manufacturing firm in Detroit. In among the prints was one showing what looked like an automobile frame and other car items around it. It was off in a corner of the shop but looked like it could be something. I contacted the company and sure enough, it was an automobile. I talked to two different men who had been there at the time and they recalled it vividly and told me quite a little bit. About three years later I found old Hillmer, and here he had prints of the crazy effort.

I talked to him about it but he was very sketchy and I believe that he may have had a partner at this time, and the other man did the work. At any rate he couldn't tell me anything historical that I didn't find out from the company. Govro, by the way, seems to be a mutation of Govreau, the real name. The cars (there were three) were called the MASTERBILT 6 (without the "U") and were built by Govreau, "o" instead of "a", for this remote and very unidentifiable gentleman from Minneapolis. I always suspected that the gentleman from the north was Govreau himself, because he was a mechanical genius.

The cars were built in 1926-27 and they were air-cooled. Each cylinder was cast separately with a large shroud coming up from the front and encircling each cylinder. The fan was set low in front, with the force of the air coming from the tips of the blades instead of the fan as a whole. The car had a 124" wheelbase and mounted 600x32 tires. The frame was a deep drop type with 8" "C" type channel and huge cross members. The 2-door model was quite close coupled, more so than the art shows, and the 4-door was a seven passenger. The third one was a coupe, but I have never seen a picture of anything but the chassis of this one. If the body was ever mounted I'll never know, but I understood they were big Murray bodies used on some of the Marmons at the time.

In digging all that I could find I came to the conclusion that it was a serious effort, but I think it was really a sneak effort for Detroit. I say this because of the blank looks that came my way when anything other than Detroit was mentioned. The two gents that I conversed with have since passed away. At this time I can't tell you whether one of them was the senior Govreau or not. It doesn't seem like he was. They were both quite hard of hearing, which I found is quite a common fault with most of the foundry and shop men in the Detroit area.

I tried to trace the vehicles down and found that the sedan did exist until the WW II period, at least. The good citizens of Detroit were so scrap-conscious at the beginning of the war that it probably went the way of so many of the history makers around here.

Well, that about cleans out all the corners on this one, as far as my head is concerned. Next chapter I'll tell you about the BLODGETT and a few other near misses in Detroit. If this keeps up I won't have any more secrets. You've got the GOVE and the MASTERBILT now. Who knows what next?

Stanley K. Yost, 4443 Elmwood Avenue, Royal Oak, Michigan 48073.

The Coey Chassis - a Do-It-Yourself Car.

The attention of SAH members is directed to an ad in Q. David Bower's Early American Auto Advertisements, page 69, by the Coey Motor Company of Chicago. In this 1916 ad it says "Why not market a car under your own name?.....We can furnish you with the chassis, body in the rough, and fenders, and you can assemble your own car and put it out under your own name." Shades of PIEDMONT, NORWALK, et. al!! I wonder how many makes this was responsible for.

Then they picture their chassis - it is nothing spectacular; it has a short wheelbase, 4-cylinder engine, rounded radiator on top with smooth shoulders, semi-elliptic springs in front and cantilever springs in the rear. (Cantilever springs were rather rare in their day, but ROLLS-ROYCE used them for years). I don't have any more details on the chassis than this, but someone should look them up and publish them here - and one might just find a flock of different makes that originated at the Coey factory.

R. A. Wawrzyniak, 589 Broadway, Berlin, Wisconsin 54923

EDITOR'S COMMENTS: With reference to the above letter from Mr. Wawrzyniak, quite a number of companies were engaged in the manufacture of automobile chassis to be sold to small manufacturers who lacked the facilities for actual automobile production. In addition to Coey, the principal makers of chasses for this purpose were the Detroit Chassis Company, Detroit, Michigan, and the Pontiac Chassis Company of Pontiac, Michigan. Just how many makes were based on these ready-made chasses may never be known. It has been reported that the GEM, made in Grand Rapids, Mich., (1917-1919) was built on a chassis supplied by the Pontiac company.

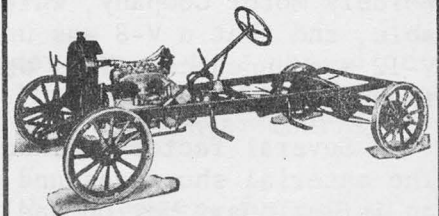
Other companies made chasses for trucks and fire engines. One of these, the E. R. Thomas Motor Co., of Buffalo, which quit the passenger car business in 1912 (but made cars on special order until 1919) offered a fire engine chassis as late as 1922.

This advertisement for the Pontiac Chassis Company was published in several editions of Automobile Trade Directory and Chilton's Automobile Directory in 1916.

Pontiac Chassis

Automobile Manufacturers

We will furnish you with complete chassis, minus body and tires, that will enable you to put out a high-class car at a price.



The Pontiac Standard Chassis is equipped with a 27 h.p. four-cylinder motor, with L-head engine and three-speed gear set in unit. Special chassis built to order in quantities.

All Parts Are of Standard Design

Manufacturers, save initial cost and experiments by buying a tried and true chassis that is guaranteed to give you satisfaction.

Write us immediately for specifications and prices.

PONTIAC CHASSIS COMPANY
PONTIAC, MICH.

For Some time I have been intrigued by the rash of multi-cylinder models which appeared in the years following the announcement of the Cadillac V-8, late in 1914. Of these automobiles, the cream seems to have been those which went to the 12 cylinder engine.

The following is a summary of information gleaned from auto journals of the period from 1915 to 1923. This was not an exhaustive search, so the data presented should not be considered as all-inclusive - and therefore no apology is required from the author for any missing information. References are given for some of the data in case someone cares to dig further. So far as dates are concerned, this has been maintained on a model-year basis in the tabulated data. In many cases models for the forthcoming year were announced as early as the preceding May.- *GMN*

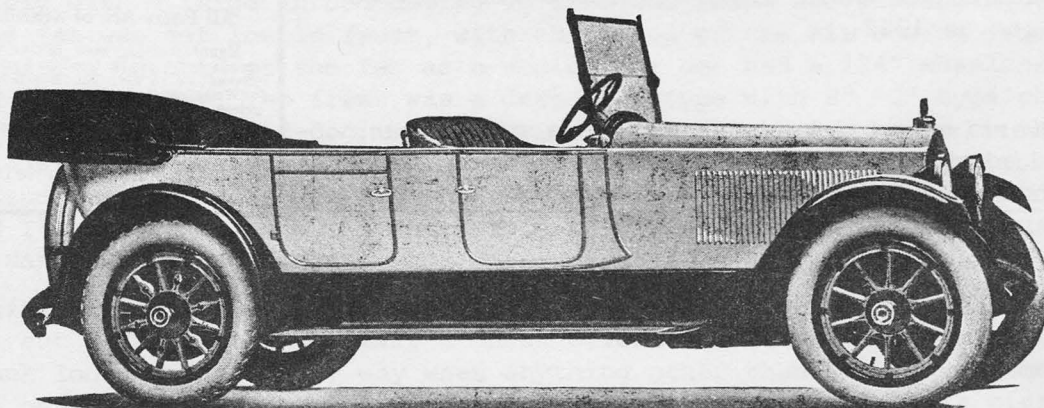
INTRODUCTION

Prior to the age of the classic car there was an era which pioneered the U. S. V-12 engine. This flourished for some seven years, and then withered to lie dormant for nearly ten years. The early 12-cylinder cars broke upon the market early in 1915, only months after the introduction of the CADILLAC V-8. Before 1914 there had been no U. S. cars of importance with more than six cylinders, with the possible exception of the abortive HEWITT V-8 of 1906, and the air-cooled MARMON V-8 of which a few were built in 1906 and 1907. In fact, most manufacturers were still producing 4-cylinder cars.

In the spring of 1915 several 12-cylinder models were announced, the first of which were PACKARD and NATIONAL, which were launched simultaneously, and the rare ENGER, which appeared shortly thereafter. The parallel development of these relatively complex engines must have been surrounded with some secrecy, unusual at the time. These developments had later parallels in the development of the V-16s, a history of which appeared in Automobile Quarterly (vol. 7, No. 2).

The Weidely 12-cylinder engine was probably in development by George Weidely at the old PREMIER plant before the initial failure of PREMIER. The secrecy surrounding this work can be judged by the announcement which followed the formation of the Weidely Motor Company, which claimed that four- and six-cylinder engines were available, and that a V-8 was under development. Less than six months later the Weidely V-12 was announced. This was an extremely short lead time if indeed the V-12 was not then "in the works".

Several factors worked against the wide acceptance of the 12-cylinder automobile. The material shortages and production interruptions of World War I were followed by an inflationary period and then a recession. The smaller cars came to the foreground, leaving the expensive twelves a diminishing share of the market, which by 1932 had vanished.



PACKARD TWIN-SIX, THIRD SERIES, 1919.

AMBASSADOR - Yellow Cab Manufacturing Co., Chicago, Ill.

There seems to be doubt that this car was ever produced with a V-12 engine, although a prototype with a Weidely V-12 was shown at the Chicago Auto Salon in January, 1921. A later press release from this manufacturer mentions a Continental 12-cylinder power plant - an engine otherwise unknown. Keith Marvin, who should know, says that neither the AMBASSADOR nor the related SHAW had 12-cylinder engines.

AUSTIN - Austin Automobile Company, Grand Rapids, Michigan.
V-12: 1917-1921

The AUSTIN was always a massive automobile, and the V-12 was on a wheelbase of 142 inches. AUSTIN used the Weidely engine in the "Highway Twelve", as the model was designated. A two-speed rear axle gave this car an effective six forward speeds, with a final drive ratio of 3.75 or 5.25, according to the rear axle selector.

YEAR	PRICE			
1917	6 pass. touring	\$3750	Limousine	\$5250
	4 pass. roadster	3750	7 pass. touring	3750
	Sedan	4950	Coupe	4550
1918	6 pass. touring	3750	4 pass. roadster	3750
	Sedan	4950	2 pass. roadster	3750
	1919	6 pass. touring	4250	

Published serial numbers are: 1917-18, C-1003 to C-2860.
1919-20, C-2862 to C-2864

Based upon consecutive numbers, it would seem reasonable the the production of the AUSTIN Highway Twelve cars was 1861, plus what number may have been built in its last model year.

DAVIS - George W. Davis Motor Car Co., Richmond, Indiana

In 1915 this company announced that it would produce a 12-cylinder automobile, but there is no evidence that such a car was ever put on the market.

Ref: HA Jn 23, 15 (838); HA S15, 15 (284)

ENGER - Enger Motor Car Co., Cincinnati, Ohio.
V-12: 1915-1917

The ENGER was quite different from any other 12-cylinder car of this period or subsequent time. It was the smallest, with a wheelbase of 116 inches, and weighed but 2685 pounds. It was also the least expensive at \$1095 for the 5-passenger touring model.

The "Twin-Ignition Twelve" used an engine designed by F. J. Enger, founder of the company. Bore and stroke were 2 11/16 x 3 1/2 inches, giving a displacement of 238.3 cubic inches. It was designed so that one of the banks of six cylinders could be "cut out". This was effected by a lever on the steering column which simultaneously stopped the ignition to the right-hand block, opened the pertinent valves and shut the right-hand intake manifold. When up to speed, this car could be, in effect, converted from a twelve to a small six. This idea was not original with ENGER, for it had been used as early as 1909 in the experimental V-12 built by George Schebler, of carburetor fame. (Ref: tA Mr 25, 15 (532-533) .

F. J. Enger committed suicide in January, 1917, which doomed this enterprise. The company property was auctioned in July, 1917.

1916	5 pass. touring	\$1095	(Later \$1295)
1917	5 pass. touring	1295	

Ferro Machine and Foundry Company, Cleveland, Ohio.

This engine manufacturer announced the availability of a V-12 engine in 1915. It was based on the Ferro V-8 designed by Alanson P. Brush. Bore and stroke were 2 7/8 x 4 1/2 inches, giving a displacement of 350.5 cubic inches. This engine was never used in a production car, although the Ferro V-8 was used in the JACKSON and others. Ref: tA N 11, 15 (895)

H.A.L. (or H-A-L; HAL) (1) H. A. Lozier Co., 1916.
(2) H. A. L. Motor Car Co., Cleveland, Ohio, 1917-
V-12; 1916-1918

The H.A.L. V-12 was first shown at the New York Auto Show in January, 1916, although this model had been announced in the previous June. It used a Weidely engine, and the 1917 description claimed this engine developed 87 HP at about 3000 RPM, and 70 HP at 2000 RPM.

YEAR	MODEL	WB	PRICES
1916	21	135	7 passenger touring, \$2100
1917	21A	135	7 passenger touring, 2385 (weight 3975 lbs.)
1918	25 (?)	135	7 passenger touring 3600

Ref: tA J1 1, 15 (11); tA Ag 10, 16 (230-232)

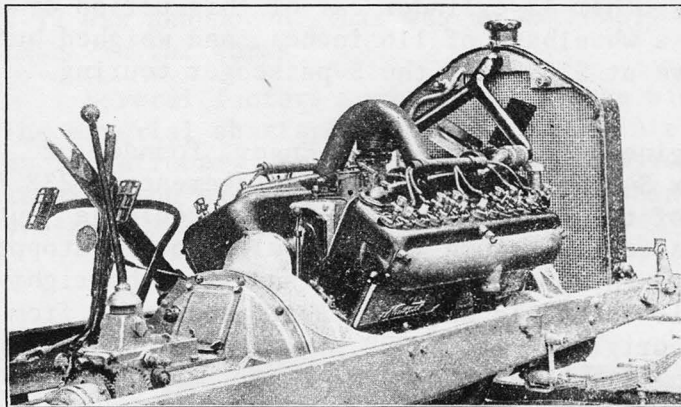
HARDING - Harding Motor Car Company, Cleveland, Ohio.

The HARDING was first announced in January, 1916, and was on the market for less than 18 months. The only model produced was a 5-passenger touring model with a wheel-base of 132 inches. The company was formed by F. I. Harding, a former treasurer of the Peerless Motor Car Company.

The HARDING L-head engine, of unknown manufacture, had a bore and stroke of 2.75 x 5.0 inches, or a displacement of 356.4 cubic inches. While these dimensions are identical to those of the engine used in the HAYNES, there is no known connection between these two makes.

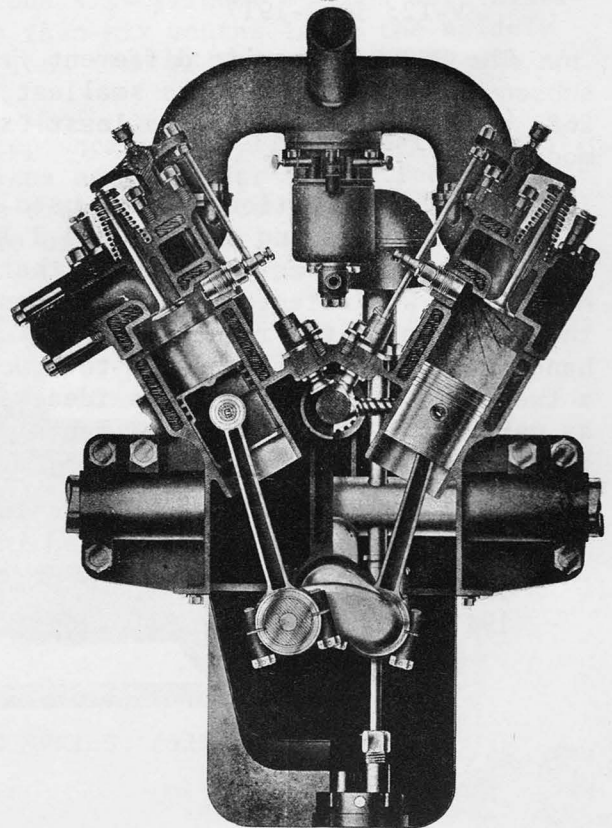
The engine in the HARDING was made of two 6-cylinder blocks, and had a 24-lobe camshaft. The crankshaft was drilled for pressure lubrication and oil was carried to the wrist pins through tubing attached to the **outside** of the connecting rods.

Ref: HA F 15, 16 (161)



Above - The engine of the NATIONAL V-12

Right - Cross-section of the ENGER V-12 engine, which could be operated on six or twelve of its cylinders

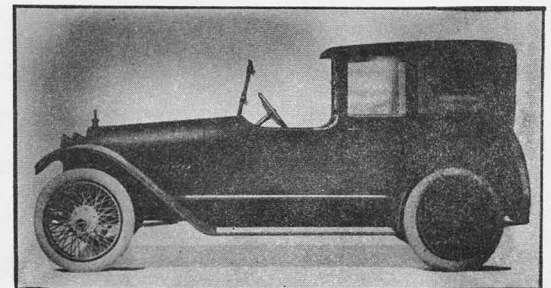


HAYNES - Haynes Automobile Company, Kokomo, Indiana.
V-12: 1916-1923

Initial models of the HAYNES V-12 were shown at the New York Auto Show in January of 1916, but actual production does not seem to have begun until at least August. The company designed and built its own engine, which had a bore and stroke of 2.75 x 5.0 inches for a displacement of 365.3 cubic inches. The HAYNES V-12 was called the Light Twelve.

Serial numbers indicate that only 646 units were produced in the model years 1917-1921, but despite this less than spectacular success the V-12 was available through the 1923 model year.

YEAR	MODEL	WB	PRICES
1916	40	121	5 pass. touring, \$2095
	41	127	7 pass. touring, 2225
1917	40	121	5 pass. touring, 2085
	41	127	7 pass. touring, 2185
1918	44	121	4 pass. roadster, 2185
			5 pass. touring, 2095
			7 pass. touring, 2785
			4 pass. roadster, 2785
1919	46	127	Coupe, 3335
			Conv. Sedan, 3385
1920	46	127	Town Car, 3985
			7 pass. touring, ----
1921	48	132	7 pass. touring, 3450
			5 pass. touring, 3635
1922	48	132	7 pass. touring, 3635
			2 pass. roadster, 4200
			7 pass. touring, 3635
			4 pass. touring, 3635
			2 pass. speedster 4200
			5 pass. brougham, 4650
			7 pass. sedan, 4950
1923	48	132	7 pass. suburban, 4950
			- - - - -



1918 HAYNES Light 12
Town Car

Serial numbers: 1917, 21000-21335; 1918, 21336-21383; 1919-20, 21385-21650.

HEINE-VELOX - Heine-Velox Engineering Comapny, San Francisco, Calif.
V-12: 1921

The HEINE-VELOX was a monster on a wheelbase of 148 inches. The engine was a modified Weidely unit. Certainly very few of these could have been built. One example survives in Harrah's collection. Ref: AI Ja 27, 21 (170).

KISSEL - Kissel Motor Car Company, Hartford, Wisconsin.
V-12: 1917-1918.

The KISSEL Double-Six was announced in January, 1917. This model used the stand-ard Weidley V-12 engine. All models were on a 128 inch wheelbase. Prices for 1917 were: 7 pass. touring, \$2250; Sedan, \$2650. For 1918 the prices were: 7 pass. touring, \$2250, Sedan, \$2800; 4 pass. roadster, \$2250; Convertible Sedan, \$2650.
Ref: tA Mr 22, 17 (601-602).

MEYER - A. J. Meyer Corporation, Chicago, Ill.
V-12: 1919.

The MEYER, a very obscure brand of automobile, was priced at about \$7000 for a 5-passenger touring model. Technical details are lacking, and neither engine size or manufacturer has been found.

NATIONAL - National Motor Car and Vehicle Co., Indianapolis, Ind.
V-12: 191501920

The NATIONAL "Highway Twelve" shared first place with PACKARD in the V-12 field, as the two models were announced simultaneously in May, 1915.

The NATIONAL used an engine of its own design, which, for 1915-16 had a bore and stroke of 2.75 x 4.75 inches for a displacement of 339 cubic inches. This engine differed from its contemporaries in the use of blade and fork connecting rods in contrast to the usual side-by-side configuration. For 1917-1918 the engine bore was increased to 2 7/8 inches, which raised the displacement to 370 cubic inches.

Some of the characteristics of the 1917-18 engine were: Pistons, cast iron, 3.325 inches long, with four rings. Connecting Rods, drop-forged steel, 10 5/8 inches long. Compression ratio, 5.0/1. Maximum horsepower, 82 @ 3000 RPM. Maximum torque, 215 ft/lb @ 800 RPM.

YEAR	MODEL	WB	PRICE
1915	--	128	7 pass. touring, \$1990
1916	--	128	7 pass. touring, 2150 (after July, 1916)
1917	AK	128	7 pass. touring, 2150
1918	AK	128	7 pass. touring, 2595
			4 pass. Sport phaeton, \$2595
			Touring sedan 2420
			4 pass. roadster, 2595
			Coupe, 3245
			6 pass. touring, 3750
1919	AK	128	- - - - -
1920	AK	128	- - - - -

The AACA Register lists one NATIONAL V-12, a 1917 5 passenger touring car.

PACKARD - Packard Motor Car Company, Detroit, Michigan-
V-12: 1915-1923

PACKARD was the most successful of the early V-12s and shared with NATIONAL first place for announcement of such an automobile, in May, 1915. About 8000 PACKARD Twin-Sixes were made in the first model year, several times more than all other competitors combined.

During its life the Twin-Six was continually improved, although the engine remained one with 3 inch bore and 5 inch stroke. This gave a displacement of 424.1 cubic inches.

Twenty-four of these PACKARDS are listed in the 1968 AACA Register.

MODEL YEAR	MODEL	WB	PRICES
1916	1-25	126½	7 pass. touring \$2600
			3 pass. coupe 3550
			6 pass. limousine 4000
			6 pass. landaulet 4050
			Brougham 4050
	1-35	135	7 pass. touring 2950
			6 pass. brougham 4350
			7 pass. limousine 4400
			Landau 4450
			Imperial Limousine 4600
1917	2-25	126	7 pass. touring 3050
			2 pass. runabout 3050
			Salon Phaeton 3050
			Coupe 4150
			Town Car 4500

MODEL YEAR	MODEL	WB	PRICES	
1917	2-35	135	7 pass. Touring	3500
			Salon phaeton	3500
			Phaeton	3500
			7 pass. salon	3500
			Town car	4950
1918	3-25	128	7 pass. touring	3700
			7 pass. salon	3700
			6 pass. phaeton	3700
			6 pass. salon phaeton	3700
			Brougham	5300
			Limousine	5250
1918	3-35	136	Berline Imperial Limousine	5850
			7 pass. touring	4100
			7 pass. salon	4100
			4 pass. runabout	3700
			Coupe	5050
			Limousine	5650
1919	3-25	---	Berline Imperial Limousine (?)	
	3-35	---	7 pass. touring	4800
1920	3-35	---	7 pass. touring	5150
	3-25	128	7 pass. touring	----
1920	3-35	136	7 pass. touring	----
	Twin Six	136	-----	
1921	Twin Six	136	7 pass. touring	4850
			5 pass. touring	4850
			2 pass. roadster	4850
			Coupe	6600
1922	Twin Six	136	Sedan	6800

1923	Twin Six	---	-----	

Final drive ratio was 4.36 for 1916-1920.

The Packard Story by Robert E. Turnquist lists production figures for these early PACKARD twelves which show that for the production years 1915-1924 a total of 35046 were manufactured.

PATHFINDER - The Pathfinder Company, Indianapolis, Indiana
V-12; 1916-1917

The PATHFINDER, using the Weidely engine, was available early in 1916, but does not seem to have been very successful during its life of two model years. Available information is sparse.

YEAR	MODEL	WB	PRICES	
1916	---	---	3 pass. roadster	2900
1917	2B	130	7 pass. touring	2750
	2C	130	4 pass. roadster	2900
	3C	135	-----	

Final drive ratio for 1917 was 4.33.

The 1954 AACA-VMCCA Register lists one PATHFINDER, 1917, Model 2C 2 passenger roadster, serial number 8440. Serial Numbers, per Brigham's list, show for 1917: 8001 to 17505.

SINGER - Singer Motor Company, Mount Vernon, New York.

V-12: 1920.

This, the Series 20, was the last gasp of the once-great PALMER-SINGER, and used the Weidely engine. This engine was claimed to have produced 90 HP at 3000 rpm. the SINGER had a wheelbase of 138 inches. Tire size was 33 x 5.

This model was announced in January, 1920. The company was bankrupt by November of the same year, which makes it unlikely that more than a handful of these could have been built. The catalog lists:

2 pass. roadster	\$6500	7 pass. Victoria top	\$6750
4 pass. touring	6500	7 pass. limousine	8600
7 pass. touring	6500	5 pass. brougham	8800
Chassis	4500		

Final drive ratio was 3.77. Available serial numbers are given as 20101 & up.

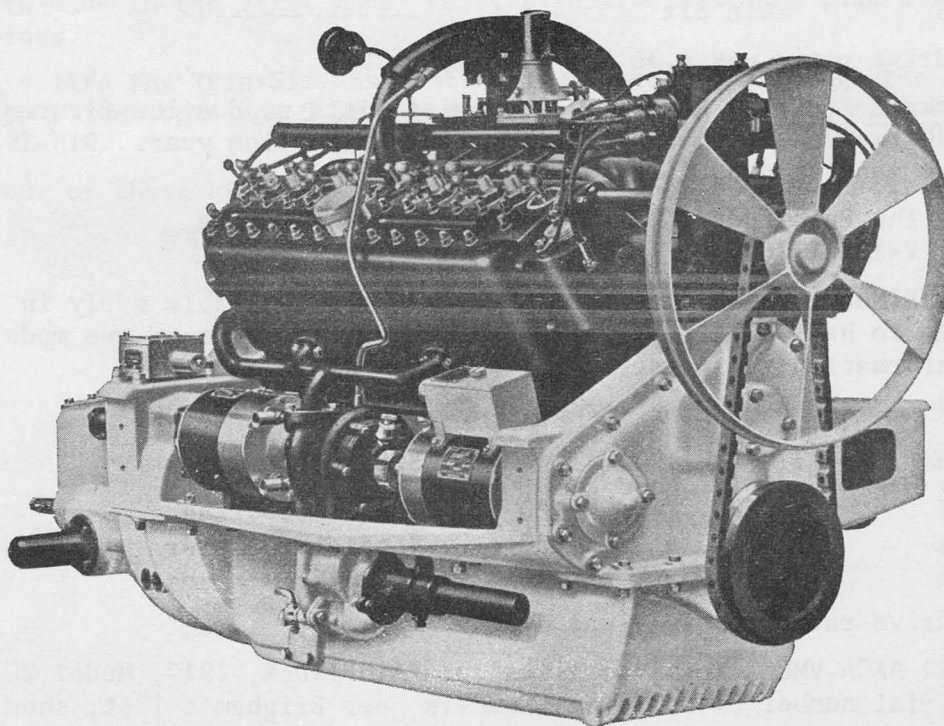
The Weidely V-12 Engine - Weidely Motor Company, Indianapolis, Indiana.

After PACKARD, the Weidely was the most influential 12-cylinder engine of this period. It was eventually used in six different makes of cars. This engine was designed by George Weidely, and was announced in the press for August 19, 1915. As this date was but three months after the PACKARD and NATIONAL V-12s struck the market, it is apparent that several engines were being developed simultaneously.

The 1915 engine, with a bore of 2.875 inches and a stroke of 5 inches, used aluminum alloy pistons, later changed to iron. This was a massive engine of 389.5 cubic inches displacement. It weighed 750 pounds minus carburetor and ignition system. Its dimensions were 24½ inches wide, 33 5/16 inches high and 60 inches long. Its output was given as 75 hp at 2000 rpm. The compression ratio was only 3.6/1.

This engine had an exceptionally clean appearance, devoid of exposed parts, and quite in keeping with the efforts of engine builders for the classic period.

The engineer behind this engine, George Weidely, had been largely responsible for the success of the PREMIER automobile of Indianapolis. Weidely would be eminently suited for some biographical research.



PACKARD Twin-Six power plant. Of all of the V-12s, this is the most famous.

America No Stranger to the Twelve

Schebler's Car, 7 Years Old, Also Can Be Six

WITH fours, sixes and eights occupying the attention of the motoring public at the present time, it may come as a surprise to some to know that for the last 7 years George Schebler, inventor of the carburetor bearing his name, has been driving a twelve over the country roads of Indiana. But such is the case and the odometer shows that the car already has covered something like 30,000 miles.

It is a most remarkable twelve at that, it being of the V type, with the valves in the head and with the cylinders set at 45 degrees. That is not uncommon practice, but Mr. Schebler, who directed the construction of the big motor, which was built by Philip Schmoll, of the company's engineering staff, has made it ambidexterous, if one can apply this term to a motor car engine, by being able to run it either as a six or a twelve. He can use either set of six cylinders, or he can use the entire dozen, depending on the character of the road over which the car is running.

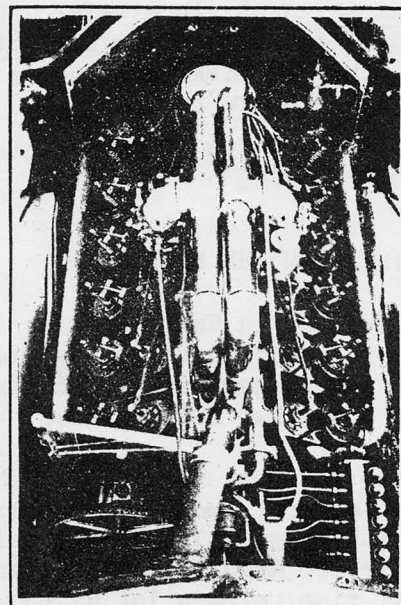
Two Carbureters

Accomplishment of this is simple. Two carbureters — Scheblers, of course — are used, and these may be controlled independently or together. Mr. Schebler employs six cylinders when the roads are good and no difficulties are met with, and twelve when a sand pit is encountered or the car required to pull through deep mud.

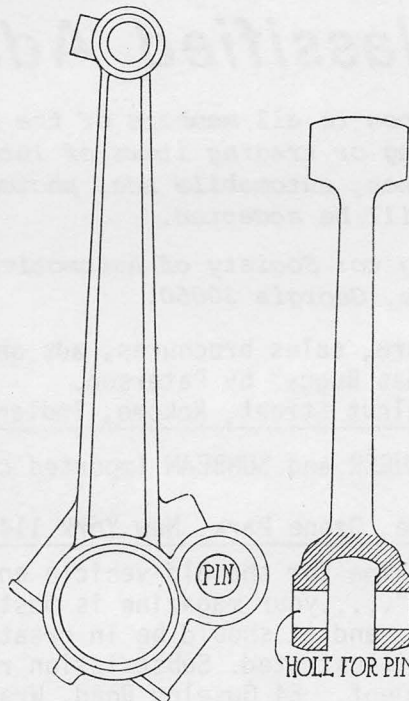
In these days when the eight-cylinder motor is attracting a great deal of attention, some of the mechanical details of the Schebler twelve should command the consideration of the motor enthusiasts. This will be especially true in the matter of connecting-rod design since the engine is of the V type. In our present eights two types of rods are used, the yoked and the side-by-side. The Schebler twelve uses neither. Instead, one long rod is employed and a shorter one attached to it on the bearing cap, by means of a steel pin as shown in the illustration herewith. This means that the large rod is almost the same as the conventional type only on one side and slightly near the I-beam section there is provision for coupling a forked

rod by means of a steel pin, which forms the bearing for the small rod. The present motor uses rods made of bronze, the larger $9\frac{1}{8}$ inches long and the smaller $7\frac{1}{2}$ inches.

The crankshaft is not startling in design, being similar to that of a six-cylinder shaft using seven main bearings. These are 2 inches long and 1.75 inch in diameter. The crank-pin bearings, plain like the main ones, are 1.5 inch in diameter and $2\frac{1}{2}$ inches long. This shaft is set between the cylinder blocks and directly above it is a cam shaft with twenty-four cams, each operating a roller push rod directly. These pushrods are extended angularly to operate rocker arms. However, between the valve tappet and the valve stem is a finger, such as is used on a few valve-in-the-head motors, to allow the valve stem to take a



TOP VIEW OF SCHEBLER TWELVE-CYLINDER ENGINE, SHOWING DOUBLE INTAKES AND OVERHEAD VALVES



UNUSUAL CONSTRUCTION OF CONNECTING RODS, ONE OF A PAIR BEARING ON CRANKSHAFT AND THE OTHER YOKED TO PIN ON FIRST

direct thrust instead of one at an angle.

During the early stages of the development of this motor 45-degree valves were used. This is the conventional type. But because of excessive valve trouble due to warpage, the designer turned to flat-seated valves and while a little valve trouble was encountered for a while, it has been slight recently.

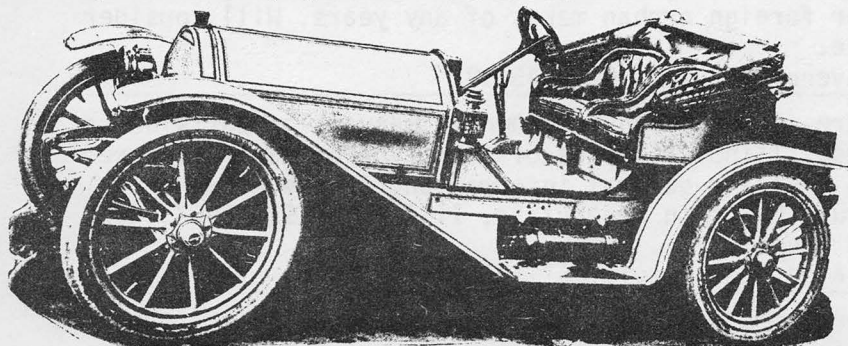
Road Speed Not Known

The Schebler twelve has a bore and stroke of $3\frac{1}{4}$ by 5 and up to this time no dynamometer test has been made of its power output. On the road exceptional power and speed is shown and according to Mr. Schmoll, no one has had the courage to keep both throttles wide open for any length of time.

Ignition of this motor is by a Mea magneto of the six-cylinder type fitted with a Schebler-made twelve-contact distributor. The armature, of course, is operated at three times the crankshaft speed.

There is nothing unusual in the timing, it being just like a six-cylinder motor firing 1, 4, 3, 6, 2, 5. But a cylinder on the left side fires and this is followed by an explosion from one on the right just as explosions are balanced in an eight.

There is a slight deviation from common practice in the oiling system. A large plunger pump operated from an auxiliary shaft forces oil through pipes, to the main bearings and directly to the cylinder wall which is drilled for the purpose. This hole is drilled low enough so that it never is uncovered by the piston. Besides the force feed, splash is used for the rod bearings, etc., there being six troughs the overflow from which falls to a sump from which it is again picked up by the pump and recirculated.



GEORGE SCHEBLER'S 7-YEAR-OLD TWELVE-CYLINDER ROADSTER

Among Our Authors

WILLIAM R. TUTHILL, DAYTONA BEACH, FLORIDA: *EARLY WHEELING* column in *ILLUSTRATED SPEEDWAY NEWS* since 1938; *SCRAP BOOK of SPEED* column in *SOUTHERN MOTO RACING* since 1964; feature writer for *Motor CYCLIST* magazine since 1930. Contributor to dozens of other publications over a period of forty years, including a weekly motor column in the old *NEW YORK SUN*.

Author of *SPEED ON SAND*, story of racing and record breaking on Daytona Beach from 1902 to 1960.

NOTES FROM THE EDITOR:

To Members in England — The embargo on mail at this end has been lifted and your No. 14 copies have been mailed. We tried to mail them but post offices here would not accept anything for England until the strike was over and the tremendous backlog there had been cleared.

Authors Column — From Issue No. 10 until this issue there had been no listing for the section, *Among Our Authors*. Any member whose works have not been included in that section, please send information on books, articles, etc. for future newsletters. Even if you have had previous listings but have new work published since that time, please let us know.

Classified Ads

This classified ad section is open to all members of the Society of Automotive Historians at no charge, for buying, selling or trading items of interest to automotive historians, such as catalogs, books, magazines, automobile ads, photographs, etc. No ads for cars, parts or restoration services will be accepted.

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LITERATURE WANTED: Any literature, sales brochures, ads on the MUTUAL Truck built in Sullivan, Indiana. Also book "Gas Buggy" by Paterson.
WALLACE S. HUFFMAN, 409 East Walnut Street, Kokomo, Indiana 46901

WANTED: Anything on HILLMAN, SINGER and SUNBEAM imported cars, 1946 to 1971. Photocopies acceptable.
JAN EYERMAN, 87-16 Sutter Avenue, Ozone Park, New York 11417

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WANTED: AUTOMOBILE SALES CATALOGS. Private collector expanding his present collection wishes to purchase quantity of catalogs/brochures/folders picturing the cars of pre-1935 U.S. automobiles or foreign orphan makes of any years. Will consider any quantity. Describe and price.
H. T. C. ANGEL, 2754 Fairmont Avenue, Dayton, Ohio 45419.

LITERATURE WANTED: Any literature, sales brochures, owners manuals or parts books on HUG trucks, built in Highland, Illinois. Copies of this type of material (pre 1925) would be acceptable. Also want any general information, or the above type printed material on the DUTY truck built in Greenville, Illinois, 1920-1923. Does anyone know of a remaining DUTY truck?
CHUCK RHOADS, 107 S. Jefferson Ave., Collinsville, Illinois 62234

WANTED: Photos, write-ups, advertisements etc., that might be used in a forthcoming book on racing driver Ralph Mulford, and his association with Lozier, Knox, Mason, Mercedes, Duesenberg, Peugeot, Hudson or Monroe/Frontenac racing cars.
CHARLES BETTS, 2105 Stackhouse Drive, Yardley, Pennsylvania 19067.
