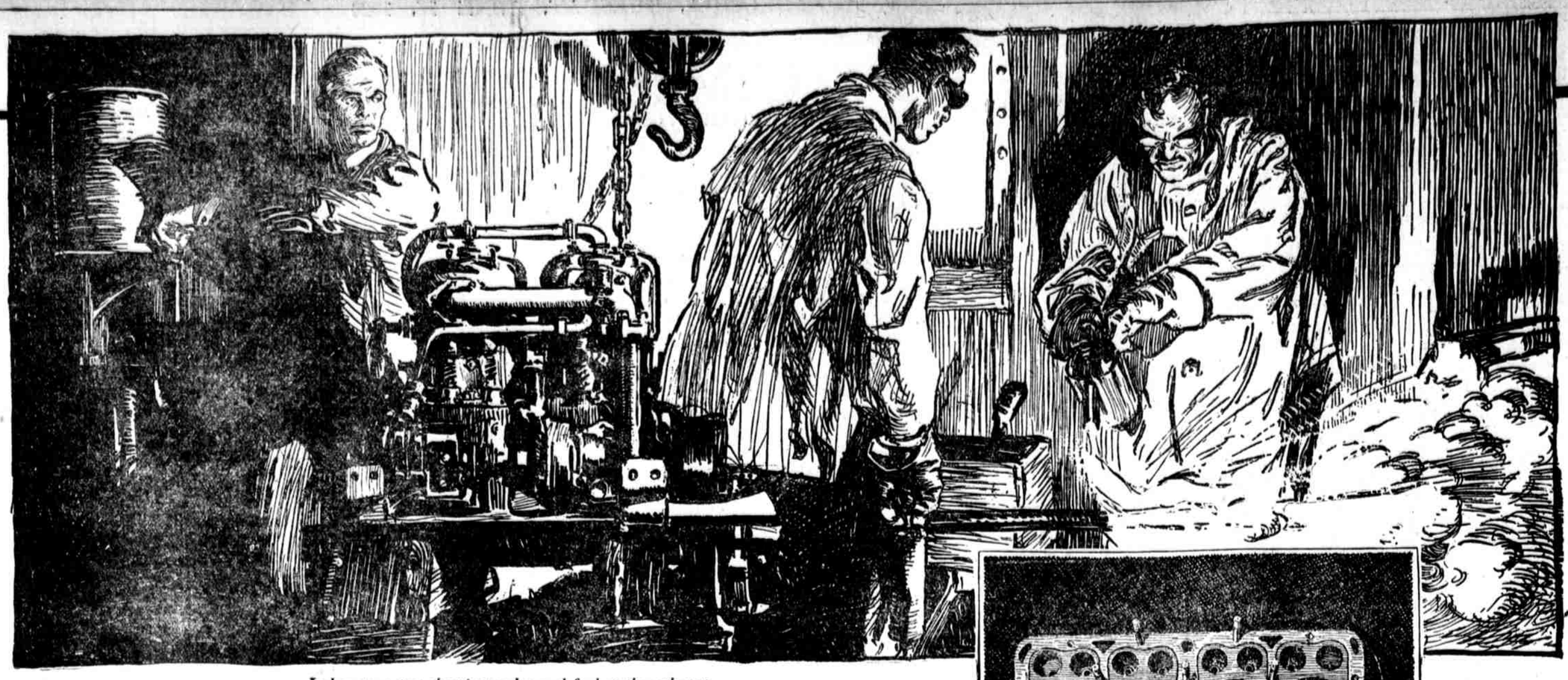
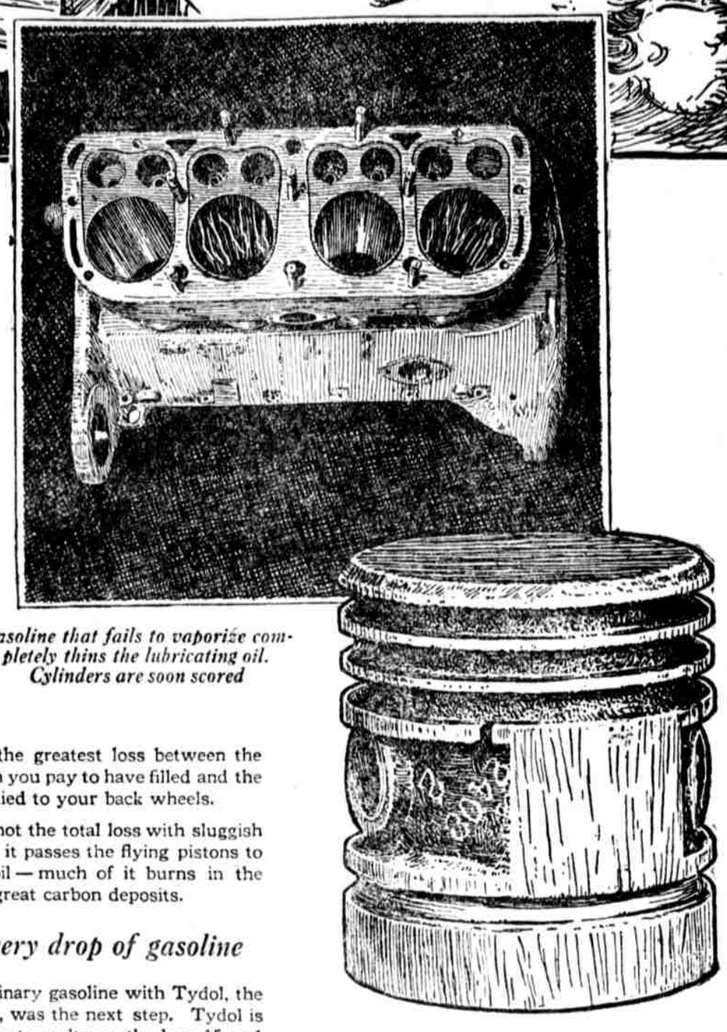


Laboratory test showing unburned fuel at the exhaust

Gasoline you paid for wasted at the exhaust

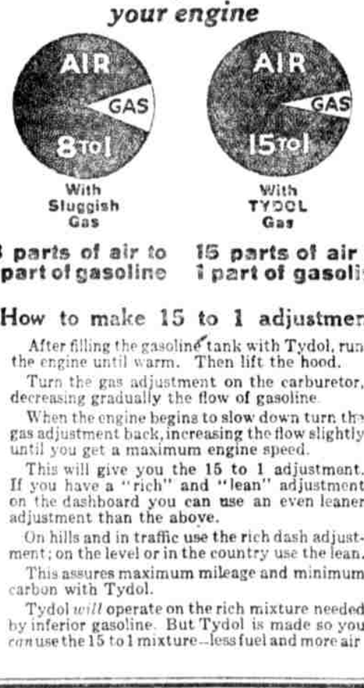
With ordinary fuel the exhaust gases of your motor contain enough unburned gasoline to be touched into flame



Gasoline that fails to vaporize completely thins the lubricating oil. Cylinders are soon scored

Like the cylinders shown above, the pistons score when oil is thinned by unvaporized gasoline

What really explodes in your engine



8 parts of air to 1 part of gasoline — **15 parts of air to 1 part of gasoline**

How to make 15 to 1 adjustment

After filling the gasoline tank with Tydol, run the engine until warm. Then lift the hood.

Turn the gas adjustment on the carburetor, decreasing gradually the flow of gasoline.

When the engine begins to slow down turn the gas adjustment back, increasing the flow slightly until you get a maximum engine speed.

This will give you the 15 to 1 adjustment. If you have a "rich" and "lean" adjustment on the dashboard you can use an even leaner adjustment than the above.

On hills and in traffic use the rich dash adjustment; on the level or in the country use the lean.

This assures maximum mileage and minimum carbon with Tydol.

Tydol *will* operate on the rich mixture needed by inferior gasoline. But Tydol is made so you *can* use the 15 to 1 mixture—less fuel and more air

AN automobile on the test stand—two masked figures—an experimenter carefully checking engine performance—fire extinguishers and sand on hand—the tank filled with ordinary gasoline—then the engine was started.

Engineers wearing asbestos gloves applied a plumber's blow torch to the gases now rushing out the exhaust pipe—

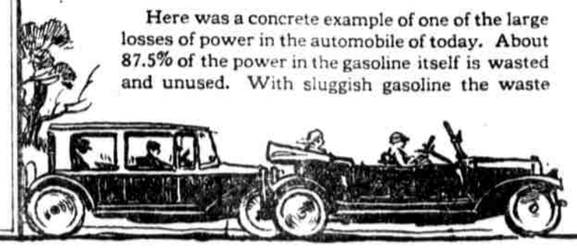
Balls of flame shot across the room! The exhaust gas contained unburned gasoline in large quantities. The horsepower contained in each flame was a total waste. Here was the proof!

Ordinary sluggish gasoline could not vaporize fast enough to produce full engine power. If you yourself use low-grade gas the same experiment could be performed on your car with proper precautions at any time.

Every possible carburetor adjustment was tried. It was proved that in ordinary service, with present carbureting devices, sluggish gasoline cannot be burned efficiently.

Here was a concrete example of one of the large losses of power in the automobile of today. About 87.5% of the power in the gasoline itself is wasted and unused. With sluggish gasoline the waste at the exhaust is the greatest loss between the gasoline tank which you pay to have filled and the driving power applied to your back wheels.

And yet this is not the total loss with sluggish gasoline. Much of it passes the flying pistons to contaminate the oil—much of it burns in the cylinders to form great carbon deposits.



Utilizing every drop of gasoline

To compare ordinary gasoline with Tydol, the Economy Gasoline, was the next step. Tydol is made to give the best results on the lean 15 to 1 carburetor adjustment.

With the same engine, carburetor and experimenters, Tydol was put through this test. The 15 to 1 mixture was used.

Now, even with a cold engine there was no waste gasoline to ignite. *It was impossible to light the exhaust gases.* With Tydol, complete, instantaneous explosions in the cylinders drive your engine without such waste. *Tydol vaporizes fast.*

Gasoline that burns clean prevents engine trouble

Every drop of Tydol explodes with a lightning flash against the piston heads. This is the reason Tydol pulls you over the hills, lets you crawl slowly through traffic and gives you instant pick-up. This is the reason that on the lean 15 to 1 mixture Tydol gives you both power and economy. Carbon is reduced to a minimum. Engine trouble from contamination is practically eliminated. Tydol *will* operate on the rich mixture required by ordinary gasoline, but for trouble-proof running use the 15 to 1 mixture and Tydol.

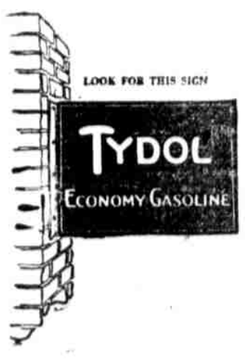
Fill up with Tydol. See how much better your engine runs, how much more mileage you get to the gallon. Even where Tydol costs slightly more than ordinary gasoline it is always an economy.

Look for the orange and black Tydol sign today.

TIDE WATER OIL
Sales Corporation
49th & Gray's Avenue
West Philadelphia, Pa.
Bell Telephone—Woodland 125
Keystone Telephone—West 256

VEEDOL, *the lubricant that resists heat, prevents the rapid formation of sediment in your oil and minimizes friction and wear. 90% of engine troubles are due to inferior oils. Veedol prevents these troubles. Have the old oil cleaned out of your crankcase and fill it with Veedol. Sold by reliable dealers everywhere.*

Tydol is not blended. It is produced from straight petroleum oil and is 100% gasoline.



DEALERS:—

SOUTH OF MARKET STREET

BAY STATE GARAGE	1917 S. Bancroft St.
BROADWAY GARAGE	Dickson & Juniper Sts.
NEW CONTINENTAL GARAGE	125 Carpenter St.
MOYAMENSING GARAGE	310 Reed St.
[illegible] GARAGE	867 Reed St.
[illegible]WORTH GARAGE	1511 S. Broad St.
GRAND GARAGE	2153 S. Eighth St.
[illegible] M. E. GARAGE	1127 Locust St.
[illegible]OBILE SUPPLY CO.	1502 De Lancey St.
[illegible]NERAL SERVICE MOTOR CO.	1127 Locust St.
[illegible]SHIE GIVE GARAGE	1150 S. Broad St.
THORNTON-FULLER CO.	24th & South Sts.
HAND'S GARAGE	414 South 20th St.

WEST PHILADELPHIA

[illegible] 50TH ST. GARAGE	49th & Woodland Ave.
[illegible]NOR GARAGE	56th & Baring Sts.
CARTHAM GARAGE	134 S. 52d St.
307 MORIAH GARAGE	4428 Paschall Ave.
WARRINGTON GARAGE	5015 Warrington Ave.
FISCHER AUTO REPAIR	53d & White Ave.
HALLOCK GARAGE	3722 Irving St.
WEST PHILADELPHIA GARAGE	4528 Aubum St.
WILSON'S GARAGE	50th & Greenway Ave.
HIGHWAY REPAIR CO.	120 N. 63d St.
DARBY GARAGE	Darby Pk. & Quarry, Darby
DARBY AUTOMOBILE CO.	9 Main St., Darby
KOHLER GARAGE	1139 S. 58th St.
O'NEILL GARAGE	5020 Woodland Ave.
STUFFET & DRAKE	124 S. Chestnut St.
KNORR & BUCKLEY	7 S. 48th St.
BALA GARAGE	Bala, Penna.
GLEN O. MARTIN	65th & Media Ave.
CHARLES MALONEY	5407 Thompson St.
POWELTON GARAGE	4060 Powelton St.

FRANKFORD

FRANCE BROTHERS	4744 Frankford Ave.
J. H. BRADLEY CO.	4805 Frankford Ave.
NORTH EAST GARAGE	Wakeling & Mulberry
AVENUE GARAGE	3012 Frankford Ave.
S. & S. MOTOR SERVICE	4458 Griscom St.
W. F. KERR AUTO CO.	1800 Frankford Ave.
JOHN SCOTT CO.	American & Diamond Sts.
D. STAHL SONS	4839 Rising Sun Ave.
NORMAN H. HANNAH	3159 Kensington Ave.
ROBINSON & FINKELSTEIN	4605 N. 5th St.

EAST OF BROAD—NORTH OF MARKET

ERIE GARAGE	121 W. Erie Ave.
WYOMING GARAGE	4747 N. Broad St.
EBERT'S GARAGE	2425 N. Broad St.
POCHER'S GARAGE	2233 N. 10th St.
F. G. SIMMONS	2946 N. 8th St.
PHILA. ELEC. & MECH. CO.	614 Brown St.
BLOCKSOM MOTOR CO.	1362 Ridge Ave.
H. CROZIER	5535 N. 5th St.
DAVIES REPAIR SHOP	10th & Tioga Sts.
J. HEINEL & SONS	4340 N. 7th St.
FISCHER & CO.	1041 N. 12th St.
GUTHRIE BROS.	Howard & Thompson Sts.
KEIFFER BROTHERS	1912 N. 5th St.
PARK AVENUE AUTO STATION	2214 N. Park Ave.
SOMERVILLE GARAGE	5th & Somerville Ave.
SPEEDWELL MOTOR CO.	1335 Frankford Ave.
D. STAHL'S SON	4839 Rising Sun Ave.
VENANGO GARAGE	3522 N. Camac St.
TIOGA GARAGE	3481 N. Broad St.
TIOGA AUTOMOBILE CO.	Broad & Tioga Sts.

EAST OF BROAD—NORTH OF MARKET—Continued

PALMER SQUARE GARAGE	1712 Frankford Ave.
SACHS & FABER CO.	2008 N. Front St.
GIBB'S GARAGE	1807 N. Broad St.
BERGER'S GARAGE	7th & Spring Garden Sts.
F. H. MARKMAN	2311 N. 7th St.
DAUPHIN GARAGE	1131 Dauphin St.
SUPERIOR REPAIR SHOP	1506 Mervine St.
JEFFERSON MOTOR CO.	919 N. Broad St.
DUREY MOTOR CO.	Broad & Race Sts.
FRANKLIN MOTOR CO.	911 N. Broad St.
TRIANGLE GARAGE	3345 York Road

WEST OF BROAD—NORTH OF MARKET

RELAY THE SPEEDOMETER MAN	510 N. Broad St.
KRAUSE BROTHERS	2032 N. 16th St.
KRONMILLER'S GARAGE	2308 N. 29th St.
COLONIAL GARAGE	1647-49 Hunting Park Ave.
POLLOCK'S GARAGE	1412 Fairmount Ave.
BOULEVARD GARAGE—Halsfield, G.	Broad & N. E. Boulevard
KEER'S GARAGE	3952 N. Broad St.
ARNOLD GARAGE	3727 N. Fulton Ave.
ROBERT BEATTY	York Road & Ontario St.
BELLEVUE GARAGE	2007 West Bellevue
EDGELOW-WILLEY GARAGE	804 N. Broad St.
STRIDGE GARAGE	3960 N. Broad St.
HENDRICK'S HDW. CO.	17th & Venango Sts.
A. HERMAN'S GARAGE	28th & Cabot Sts.
NEW ERA GARAGE	3332 N. Broad St.
RAYNES GARAGE	2431 W. Gordon St.
ALBUS AUTO SERVICE	4922 N. Carlisle St.
PARK GARAGE	2520 Wallace St.
J. G. TROESCHER	1766 Venango St.

WEST OF BROAD—NORTH OF MARKET—Continued

REO REPAIR COMPANY	2241 N. 27th St.
J. C. SNYDER & SON	2304 N. 28th St.
UNCLE SAM MOTOR COMPANY	2529 N. Broad St.
O. F. ZURN CO.	2736 N. Broad St.
WOLF GARAGE	1536 N. Gratz St.
UNIQUE GARAGE	701 N. 18th St.
HUMMEL CO.	909 N. 29th St.
MARLOW GARAGE	3418 Sydenham St.
DAVID McGARVEY	427 Queen Lane, Gtn.
AUTO SERVICE STATION	1728 Cherry St.
MAXWELL-CHALMERS MOTOR CO.	216 N. Broad St.
STEEL-CADILLAC MOTOR CO.	142 N. Broad St.
APPERSON MOTOR SERVICE CO.	224 & Race Sts.
PHILA. NASH MOTOR CO.	342 N. Broad St.
NORTH PENN GARAGE	20th & Dauphin Sts.
WESTMORELAND GARAGE	2043 Westmoreland St.
ST. MARTIN'S GARAGE	Navahoe & Lincoln Drive

MANAYUNK

FLEMING BROTHERS	5134 Ridge Ave.
BANHAM GARAGE	4430 Main Ave.
COOPER & LEVERING	6178 Ridge Ave.
ROXBOROUGH GARAGE	4417 Mitchell St.
CITY LINE GARAGE	Ridge Ave. & City Line

GERMANTOWN

ALLEN LANE GARAGE	20 W. Allen Lane
COLONIAL GARAGE	24-26 E. Mt. Airy Ave.
JACOBS BROTHERS	5400 Morris St.
MONUMENT GARAGE	24 E. Church Lane
CHARLES P. GABLE	6839 Germantown Ave.
D. McGARVEY	427 Queen Lane
GEO. F. KERNAN	E. Wil. Grove & Stenton Av.