

Charcoal Gas Is Fair Gasoline Substitute, Tests Show; Could Be Used on Farms

Advantages, Defects Revealed by 800-Mile Trial Journey in Car

The present scarcity of gasoline has turned attention to possible substitutes. One of the most practical is the gas generated from charcoal or wood by a high temperature burner. These devices, which are common in Europe, are rare in the United States, and if the wartime stringency in motor fuel had not developed, they would probably have remained curiosities. If gasoline becomes expensive and scarce in the postwar years, however, the gas generators will probably come into use, at least for some purposes, such as stationary engines and farm machinery.

The charcoal burned in the generator can be made from any kind of wood or dried plant fiber, such as pressed out sugar cane. Here is possible future market for farm products that are now wastes. All this, however, depends on the adequacy of our petroleum reserves. If gasoline is once again plentiful and cheap, there is little likelihood that the gas generator will be widely employed, for at its present stage, it does not give as satisfactory service as gasoline does.

To investigate the possibilities of using gas generators on their delivery cars, as well as to obtain material for an informative article, Newsweek magazine had one of its small station wagons fitted with a generator, and driven on an 800 mile test trip. The journey began in Kalamazoo, Mich., where the charcoal burning gas-producer, known commercially as the "Gasogene" was attached at the manufacturer's plant, and ended in New York city. The route traversed the Allegheny mountains, where steep grades forced the car to give its best possible performance. Milton Van Slyck, associate editor, supervised the experiment.

On the June morning when the trip was to start, Mr. Van Slyck poured 170 pounds of charcoal into the hopper of the gasogene. He then started the motor of the car with gasoline. Next he stepped around to the rear, opened the small fire door, and lit the burner with a twist of paper. The suction of the motor drew the flame right in and in a few seconds the fire was nearly white hot. In one minute fifteen seconds after he poured the charcoal they rolled out of the shop down the highway. Within a couple of minutes they turned off the gasoline completely. In about eight minutes, all told, the gasogene was delivering its full power, which is about 65 per cent of that obtained from gasoline.

This did not mean that the station wagon could go only 65 per cent of



The gasogene generates gas (principally carbon monoxide) by burning charcoal at high temperatures. The hopper holds 170 pounds. It is best to refuel it every 50 to 75 miles.

miles. Curiosity appeal was high. Motorists seeing the device as they approached from the rear would pull up and sometimes tail them for miles. In towns small crowds gathered to look and ask questions.

Though the fuel hopper holds 170 pounds, it was found best to refuel every 50 to 75 miles. Fresh fuel is put in through the hatch on top of the generator, a dusty, dirty, two-to-three-minute job. Usually at the same time, Mr. Van Slyck took a couple more minutes out to look at the security filter, a small screen which is the last cleaning stage.

Twenty Cents for 15 Miles.

They averaged close to 30 miles an hour for the 800 miles and burned 600 pounds of charcoal. Put into its gasoline equivalent (15 miles to the gallon) this stacked up to about 11 1/4 pounds which, at the rate of \$35 a ton for charcoal, meant nearly 20 cents for 15 miles, or within a penny or two of gasoline cost.

The whole system is entirely rational; there is nothing mysterious about it. The regular carburetor is used when the motor operates on gasoline. A carb-charger feeds gas into the cylinders in the gasogene operation.

The main difference is that the gasogene gas (principally carbon monoxide) must be manufactured in the generator before it can be burned; gasoline in the tank is ready for use. With a gasogene it is necessary to keep the engine turning over a little faster than usual in order to manufacture gas. If the engine is run too slowly on a hill, where power is needed, the fire may die down, reducing speed.

The fire requires relighting only after long intervals of parking. After only two or three hours of disuse the motor will start on gasogene direct. After three or four hours it is necessary to use a little

More than 1,000,000 passenger cars and trucks throughout the world use various forms of gas generators. Recently reports have come that the oil-famished Nazis are operating war machines, including training tanks on gasogenes. In this country the army and other government branches (Bureau of standards, Forest service of the department of agriculture, Tennessee Valley authority) have made or still are conducting exhaustive tests.

When the German submarine campaign threatened to cut the sea lanes to our fronts the army stepped up the gasogene experiments it had started three years ago. Seeking a satisfactory gasoline substitute, nearly every conceivable fuel was subjected to tests, even dried camel dung, which worked O.K.

Now, with shipping lanes opened, the army is not so interested. But it did find that the gasogene gas was a satisfactory substitute for gasoline under certain conditions, although it gave less power and the mechanism was harder to maintain. The possibility of using the gasogene when the Burma road is reopened is not yet definitely ruled out.

Army and other experiments, plus some Canadian research, produced reports of varying degrees of approval and disapproval. Some held the horsepower loss was too great, gasogenes were too dirty, and so on.

Numerous in Sweden.

Under the wartime gas shortage there are several thousand gasogenes now operating on wood, especially in countries such as Sweden where lumber is plentiful. Undoubtedly most will go back to gasoline after the war. Wood does not give as good a performance as charcoal; it is dirtier in its gas content and therefore more apt to foul an engine. Since coke or hard coal operate satisfactorily, in hard-coal regions where fuel is cheap, coal-burning gasogene trucks might be feasible. A group of farmers, too, might band together to make charcoal for use on their machinery and trucks. All in all, any widespread postwar use in the United States is unlikely and what there is probably will be local and mainly in agriculture, industry, and business—not private driving.

Gasogene's proponents point out that the history of the use of substitutes is replete with stories of improvements and lower costs, such as in synthetic nitrates, rubber and fibers. For this reason they anticipate further improvements. But because of the gasogene's limitations, the oil companies, though highly interested in watching experiments, do not expect any serious competition.

The results thus far in these tests confirm that the gasogene is a satisfactory substitute for gasoline where the standard fuel is unavailable or where transportation or other factors make its price prohibitive. The relationship between the cost of gasoline and the cost of the substitute fuel is the main factor which will control the gasogene's future. For instance, gasoline at 25 to 50 cents a gallon in remote sections of South America could make it feasible to use charcoal, which is plentiful and cheap, as it is a home product sold everywhere for cooking. In the United States gasogenes may be used in the lumber industry. With plenty of waste lumber—especially in the far north where transportation makes gasoline costs high, it might be feasible to turn waste into charcoal (a simple process requiring two or three days) or even burn the wood as it is.



This is the small station wagon equipped with a gasogene that made the 800 mile experimental run from Kalamazoo, Mich., to New York city. The trip was a rigorous test for the efficiency of gas fuel, for the route led over the steep grades of the Allegheny mountains.

the speed it would be capable of with gasoline. In speed tests, given time to work up momentum (about three times that ordinarily needed for gasoline), it reached 70 miles an hour for a brief run. There was no zip in pickup. On the hills the lack of horsepower showed up more, although they encountered none that could not be made in low. As a rule of thumb a hill on which a gasoline engine would balk a little in high required second speed with the gasogene; one that made a gasoline car use second, required low.

Shaking Down the Ashes. The cross-country run was made without mishap. One night a truck driver air-braked his big van to a stop and tore over with a fire extinguisher when they paused at the roadside to shake down the ashes (this was done twice in the 800

What It Costs.

The cost of the gasogene attachment varies: For this experimental unit was about \$700; on trucks with a simpler installation job the cost would be perhaps \$100 lower. In South America they are somewhat less. Mass production naturally would bring economies. At present gasogenes are not made in this country for unrestricted civilian use, though no priorities for the purchaser would be required if a manufacturer were able to get clearance on materials from the War Production board and on manpower from the War Manpower commission.

The gasogene outfit requires some attention that machines operating on gasoline do not, since the gasogene burns charcoal or other solid fuel. It is necessary to shake out the ashes perhaps once a week.

Then there are two filters that must be taken out and cleaned periodically. One is the radical-finned filter, (right). This was serviced once on the trip. The other is the security filter, (left). It was thought best to look at this every time they filled the charcoal hopper.

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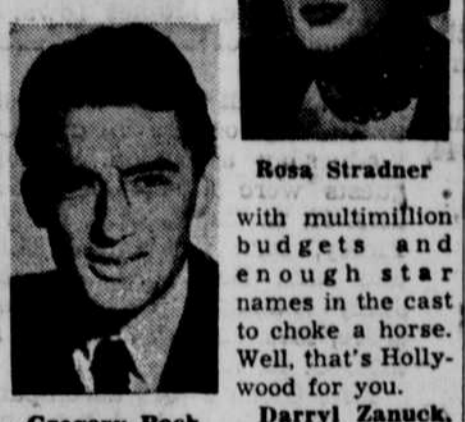
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Hedda Hopper: Looking at HOLLYWOOD

IF ANY Hollywood movie lays an egg this year it will surely be a golden one, 'cause our movie moguls have cooked up the most elaborate, ambitious, and expensive program in the history of this industry.

The period 1943-'44 is known as the Year of the Big Take in movie circles. Box office returns hit a new high, exceeding even producers' wildest nightmares.

If there ever was a time when movie men could get away with a slap-dash product, now is that time. But, true to the counter-clockwise method of working, for which they take so much ribbing, the boys are planning films



Gregory Peck

anything by halves, wiped all B pictures off the slate and came up with two super-films—"Wilson" and "The Keys of the Kingdom"—which top anything before attempted in size, outlay, and big-name casts. "The Keys of the Kingdom" is the logical Academy award rival to "Wilson," since it is in black and white and the latter in technicolor, which makes both films eligible for the Oscar. "The Keys" also has an all-star cast, although Gregory Peck and Rosa Stradner, who play the most important roles, have each had but one previous Hollywood film experience. But they've both had fine theatrical training.

In Lighter Vein

With these two films as a sample, and the B's thrown into the discard, Twentieth's staff of producers has had some reorganizing to do, but quick. The upshot is a program leaning heavily on musicals—extravagant musicals that will rival the biggest attractions on Broadway.

Metro-Goldwyn-Mayer has much the same idea. It's going to be a struggle in this era of super-productions to see whether William Perlberg's musical can outdo Jack Cummings' "Little Bit of Heaven." Or whether "The Ziegfeld Follies," into which Arthur Freed has thrown the two top dancing men of the world today—Fred Astaire and Gene Kelly—plus Fanny Brice, Jimmy Durante, Judy Garland, John Hodiak, Lena Horne, James Melton, Marion Bell, Victor Moore, Mickey Rooney, and Red Skelton, can make a bigger noise than Perlberg's "State Fair," for which Richard Rodgers and Oscar Hammerstein have written music which Twentieth claims will out-Oklahoma "Oklahoma."

Say It With Music

Ira Gershwin and Kurt Weill are responsible for the tunes in "Where Do We Go from Here," Morrie Ryskind's story of a 4-F. Agnes De Mille, C. B.'s talented niece, will do the dance routines. Metro has an answer to this in "Music for Millions," in which Jose Iturbi and Margarita O'Brien are drawing cards. With Larry Adler's harmonica, Jimmy Durante and Hugh Herbert for laughs, how can it lose? Warners have "Hollywood Canteen," also "Rhapsody in Blue," the story of George Gershwin's life. George Jessel is music-minded, too. His "Kitten on the Keys" calls for a hunk of stars. Includes Dick Haymes, Perry Como, and both Benny Goodman and Jimmy Dorsey.

That Lubitsch Touch

Ernst Lubitsch's main concern centers about "Czarina," the satirical comedy which will be Tallulah Bankhead's next. Charles Coburn has been signed to play the chancellor; also Vincent Price has a big part. "Dragonwyck," the story of the Dutch patoons, is another Lubitsch epic for Gene Tierney and Gregory Peck. Bette Davis ripens "The Corn Is Green." And the set-up for "Roughly Speaking" includes Roz Russell and Jack Carson. The Ingrid Bergman-Gary Cooper special, "Saragoga Trunk," will soon be seen, and "The Conspirators," with Hedy Lamarr and Paul Henreid, can't fail to please the eye.

Yes, producers would seem to be fighting hard for those long, long lines of patrons that bulge the walls of every movie house in the land.

Step in Right Direction

Al Pearce believes talented amateurs who're entertaining our troops in the camp shows will be stars of tomorrow. So Pearce has made arrangements with his boss, Herb Yates of Republic, to give six of them an opportunity in "Strictly for Laughs," which gets under way in September. "This Is the Army" is doing such a morale building job for men at the front that the government's thinking of sending it to South Pacific bases.

Star Dust

STAGE SCREEN RADIO BY VIRGINIA VALE

Released by Western Newspaper Union.

AFTER Laraine Day had worked up the hard way—playing heroine in Westerns, and "Nurse Mary Lamont" in the Doc Kildares, RKO set to work to glamorize her; she was to play the richest girl in the world in "Bride by Mistake," with Alan Marshal. So the hairdressers and make-up men went to work, and the clothes designers whipped up some very daring costumes. Then the photographers got busy, so that the newspapers could print pictures showing the public what a beautiful



LARAIN DAY

girl had been hidden by those nurse's uniforms. When Laraine took the photos home, her mother took one look, and remarked "I hope, dear, that you had a lady photographer!"

If a guest star clicks, give him a contract—that's the policy of "The Chamber Music Society of Lower Basin Street," with the signing of Johnnie Johnston for a nine-week run as the latest demonstration of the practice. The movie baritone appeared for a single guest performance on July 16, and was promptly signed for nine more. Practically the same thing happened to Victor Borge.

Andre Kostelanetz and Lily Pons, touring the Persian Gulf war theater, extended their trip for four weeks, to visit the Italian-North African area. Eleanor Steber and Percy Faith's orchestra continue to hold down their CBS Sunday time.

They credit Hedy Lamarr with this. Seems her husband, John Loder, playing in "The British Strangler," was to strangle the Lord Mayor of London in a snowstorm. Only the factory supplying movie snow broke down. But when Loder came home and told his wife about it, she suggested that the limestone meal which she feeds the family chickens to make the egg shells hard would make perfect movie snow—which it did!

Ethel Barrymore, settled in Hollywood to work in "None But the Lonely Heart," sort of startled the community by being an ardent listener to the radio's "Information Please" and "Quiz Kids"; heard them on the radio in her dressing room, where she lived, and beat the quizees to the right answers nine times out of ten. Of course, no one can stump her on the league standings of the ball clubs, ever.

Paper salvagers now have a song to sing. Henry Sylvern, of Mutual's "Screen Test," has composed a theme song for the juvenile cellar searchers, entitled "Paper Commandos." It will be taught to youngsters through the medium of recordings.

One of the young actors in Metro's "Dragon Seed," played a character out of his own experience. He's Wei Hsueh, who plays a Chinese student leader in an uprising against the Japs—as a college student in Peiping in 1925 he played that role many times.

The British Broadcasting Corporation's industrial music project, "Music While You Work," has celebrated its fourth anniversary with its 3,615th program. Eight thousand factories, employing 4,500,000 workers, now take "Music While You Work"; an average of 1,000 people a year join the course, which is being eagerly watched by leading industrialists in the United States.

Ellen Drew had quite a day a while ago. First came word that her overseas husband, the former screen-writer, Cy Bartlett, had been promoted from major to lieutenant colonel. Then she was signed by RKO for top gal in Boris Karloff's "The Isle of the Dead."

ODDS AND ENDS—When it was announced that "Road to Utopia" would be the last of the "Road" pictures, more than 75,000 letters of protest poured into the studio. . . . Walter Huston returns to Warner's for his first picture since "Mission to Moscow"; he'll have a comedy role in "Pillar to Post." . . . Lively role Sara Paddon has in "Her Heart in Her Throat"—she walks through two brief scenes without speaking, then becomes a corpse. . . . Reginald Owen literally lost his hair in "Kitty," in which he plays opposite Paulette Goddard—required to play a completely bald man, he had his head shaved.

SEWING CIRCLE PATTERNS

Frock for the Fastidious Matron

Jiffy Play Set Is Simple to Make



1968 34-40

For the Fastidious

A GRACIOUS, slim-lined and pretty frock for afternoon wear! It's particularly attractive for the matron and older woman as the well-cut front panel treatment of the skirt gives you that trim look through torso and hips which is so desirable in this type of frock.

Barbara Bell Pattern No. 1968 is designed for sizes 34, 36, 38, 40, 42, 44, 46 and 48. Size 36, short sleeves, requires 3 1/2 yards of 39-inch material.

ASK ME ANOTHER? A General Quiz

The Questions

1. What is Cleopatra's Needle?
2. What "First Lady of the Land" was born in England?
3. According to the King James version, what is the last book of the Old Testament?
4. For what is a gimlet used?
5. What is Comedian Fred Allen's real name?
6. What American was called "The Great Commoner"?

The Answers

1. An obelisk.
2. Mrs. John Quincy Adams, born in London, of an American father.
3. Malachi.
4. To bore a hole.
5. John F. Sullivan.
6. Henry Clay.

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ATHLETE'S FOOT NEWS

80.6% of sufferers showed CLINICAL IMPROVEMENT after only 10-day treatment with SORETONE

Foster D. Snell, Inc., well-known consulting chemists, have just completed a test with a group of men and women suffering from Athlete's Foot. These people were told to use Soretone. At the end of only a ten-day test period, their feet were examined in two ways: 1. Scrapings were taken from the feet and examined by the bacteriologist. 2. Each subject was examined by a physician. We quote from the report: "After the use of Soretone according to the directions on the label for a period of only ten days, 80.6% of the cases showed clinical improvement of an infection which is most stubborn to control." Improvements were shown in the symptoms of Athlete's Foot—the itching, burning, redness, etc. The report says: "In our opinion Soretone is of very definite benefit in the treatment of this disease, which is commonly known as 'Athlete's Foot'."

So if Athlete's Foot troubles you, don't temporize with this nasty, devilish, stubborn infection. Get SORETONE! McKesson & Robbins, Inc., Bridgeport, Connecticut.