

By James M. Thresher—The Washington Post

Albert Csonka is patient and optimistic despite inaction of government.

New Carburetor Stalls Inventor Can't Get U.S. Assistance

By Phil McCombs

Washington Post Staff Writer

A man named Albert Csonka has invented a better carburetor that federal officials say could potentially save millions of gallons of gasoline in this energy-hungry nation.

Csonka, however, has run into frustrating bureaucratic roadblocks in getting assistance funds from a federal program created specifically by Congress to encourage non-nuclear energy research by tapping the vast incentive resources of individual Americans like Csonka.

His frustrations were such that they prompted the following candid self-criticism from one government official involved. "The government is not, literally, set up to deal directly with individuals as we deal with Boeing, or Douglas or someone with a Washington of-

fice," said Richard K. Sutz, director of the Energy Research and Development Administration's inventor program. "A guy from Boeing can come in twice a day. They know the words to use. It's a matter of grantsmanship."

"ERDA is not set up to deal with small people," he said.

Csonka says that the big auto manufacturers haven't been helpful either, although Ford and Chrysler at least say they're interested.

Csonka's tale has a classic appeal—the small individual with a bright idea working alone against great odds. The story also provides glimpses into an area of federal energy policy that may or may not be working as well as it might.

Csonka has been lucky in several respects. Of 4,278 inventions

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submitted to the National Bureau of Standards (NBS) Energy-Related Invention Evaluation Program since its inception in early 1975. Csonka's is one of only 22 that NBS has forwarded to the U.S. Energy Research and Development Administration for possible funding.

And the 77-year-old former Hungarian refugee has won, with his brilliance and considerable old-world charm, several supporters within the bureaucracy itself.

Sutz, who is in a position to approve funds for Csonka, described Csonka as "a winner" who with continued luck and pluck may emerge as "a major carburetor manufacturer" in the U.S.

ERDA has not yet decided to fund Csonka's project, however. The agency has asked the inventor for management and marketing plans to indicate how the new carburetors would reach the public.

The energy-related invention program was established under the Federal Non-nuclear Energy Research and Development Act of 1974—a comprehensive national program coordinated by ERDA.

If an invention passes muster with the NBS technical evaluators, ERDA can turn it down as economically unfeasible, or choose to fund it or aid the inventor in some other way such as by providing management or marketing advice.

Csonka, who has been working with his 79-year-old brother on a shoestring budget at home in Buffalo, N.Y., and in a college laboratory, applied for federal aid more than a year and a half ago.

Sutz conceded that Csonka's submission "just got lost" in the ERDA offices and has "taken more time than it should have."

Sutz, formerly an inventor himself and who has been in government only a year, said he is wrestling with the huge ERDA bureaucracy to speed things up.

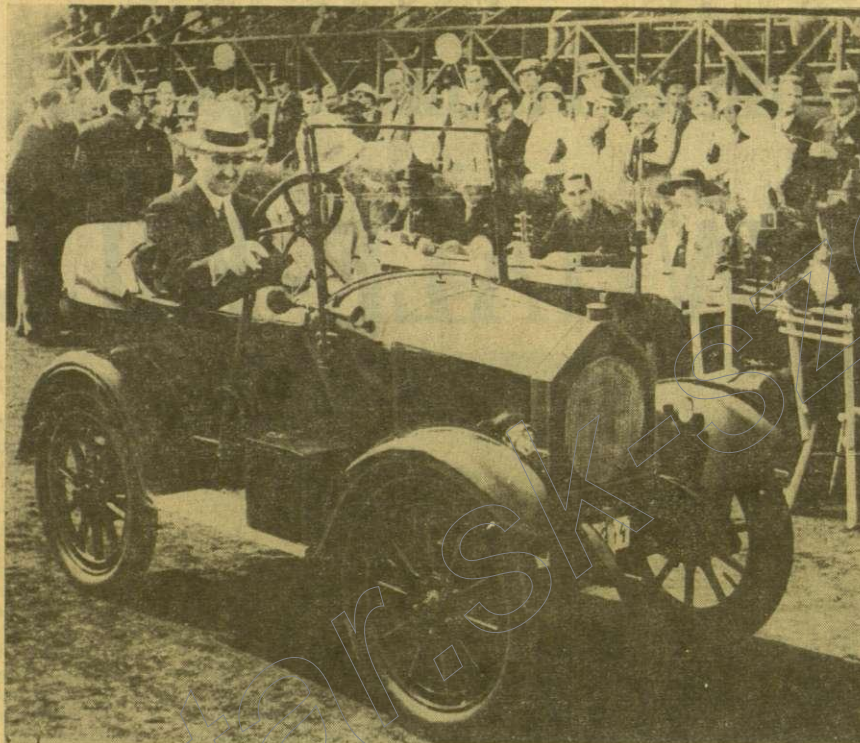
Sutz said he has come under pressure from Congress to eliminate the delays for small inventors who are applying to ERDA and that all of this pressure has produced "a hell of a bureaucratic learning curve. We're improving, but not really as fast as the inventors or I would like."

Csonka, full of energy, came to Washington last week to confer with officials and see if he couldn't push his invention along a bit.

"For six months, our papers were lying in the file," he said with a smile. "Eight copies, six pounds of papers. No one took it in their hands! I don't want to blame anybody. I just want to say to ERDA and to Mr. Schlesinger and Mr. Carter, 'Gentlemen, you have lost half a year! By now we should have a carburetor that can be put on the car.'"

Csonka is no stranger to carburetors, the part of an engine that mixes gasoline with air and then sends the mixture into the cylinders for combustion.

His father, a university mechanical engineer, invented one of the world's first carburetors in Budapest in 1891 and went on to become one of the



Albert Csonka shown at wheel of automobile manufactured by his father, also a carburetor inventor.

leading pioneers of the Hungarian engine and automobile industries.

Albert Csonka went into business in 1925 with his father and brother John. They set up a small machine shop in the basement of their apartment building in Budapest, which less than two decades later—as Albert Csonka tells it—had blossomed into a major engine and tool factory employing more than 1,000 persons.

The senior Csonka died in 1939 and when the company was nationalized in 1948 the two brothers fled Hungary on foot and without their families. Later they learned that officials had come to their homes to arrest them the day after they left, Albert Csonka said.

The Csonka brothers spent four years in Austria and finally immigrated to Buffalo where their wives and families joined them in the late 1950s.

Csonka said his net worth was \$5 million when he fled his homeland. Since then he has worked as a mechanical design engineer for various U.S. companies until retiring in 1973. He was 73 at the time.

"It's a good age," he said. "You are ripe now. We said to each other, 'We have to make it better, the carburetor.' We said, 'This was our father's idea, the carburetor. Let's make a better carburetor!'"

So they set to work. Csonka is living on a small retirement income and \$309.50 in Social Security plus what his wife, a former opera singer, can earn giving piano lessons.

The brothers borrowed a few thousand dollars from friends and developed their new "micro-carburetor." As Albert Csonka explains it, they were able to make a revolutionary carburetor because they had the "spark of an idea" just as their father had had nearly 90 years ago. The father's idea came from casual daily observation of a flower stand girl on a streetcorner in Budapest who kept her flowers fresh by spraying them with a hand-held atomizer.

The atomizer's principle—a rush of air over a pool of liquid that picks up particles of liquid and sprays them out as a fog—is the same as that of the carburetor invented by the senior Csonka and other inventors and that

is in use in most vehicles today, according to published descriptions.

In most carburetors, there is a rushing air current into which a stream of gasoline is introduced. The gas is thus atomized into tiny droplets mixed with the air.

Csonka's new "micro-carburetor" differs in that the rush of air is much faster—nearly the speed of sound—and instead of one gasoline stream the gasoline is fed into the air stream through 720 tiny holes.

The result, according to the NBS evaluation, "insures optimum fuel vaporization and evaporation. Consequently the air fuel mixture resulting is extremely uniform and the fuel is fully vaporized throughout the intake manifold and delivered uniformly to all cylinders."

The gasoline is burned more efficiently and less is spewed out in the form of undesirable emissions, according to the report.

In laymen's terms, as Csonka explained it, ordinary carburetors atomize the gasoline into big drops and little drops and some cylinders re-

ceive a lean mix and some a rich mix—all leading to wasteful operation. In his micro-carburetor, all cylinders receive a "perfectly uniform fog" of the air-gasoline mixture, he said.

In laboratory tests in Buffalo on a Buick engine, Csonka reported gasoline savings of 20 per cent or more.

The NBS evaluation, which leaned in part on the opinion of Professor David Naegeli of Princeton's Aerospace Propulsion Laboratories, concluded that the micro-carburetor "should in principle provide (20 per cent) better fuel economy and reduce emissions." Dr. Naegeli wrote that in his opinion, "the micro-carburetor is an excellent device as it stands."

Sidney Weiser, the NBS staff man who evaluated the invention—although without conducting any direct tests on it—estimated an annual savings of 151 million gallons of gasoline should the micro-carburetor be installed on 1 per cent of the 107 million cars in the U.S. An additional 1.2 billion gallons would be saved, he estimated, if the carburetors were installed on the 8.5 million new cars made each year.

The micro-carburetor would cost \$100, Weiser estimated.

Csonka said he approached major car manufacturers and was told by General Motors that "they were not interested in outside carburetors . . . They don't want to pay royalties." He said that Chrysler and Ford are "interested but they want to have it built and tested" before making any decisions.

GM spokesman Frank Farano said the company, which manufactures its own carburetors in Rochester, N.Y., reviewed Csonka's material and decided "We had no need to purchase any rights . . . We had no use for any development work on it. I really can't say if we've done the same thing ourselves."

Chrysler spokesman Richard Muller said his company reviewed Csonka's material and has requested further test data. "Of course the corporation is interested in the design but would like to see some operational test data," he said.

Ford spokeswoman Barbara Mansfield said Ford officials have been talking with Csonka and "have told him that his carburetor may infringe on the Dresserator carburetor"—another type of carburetor. NBS officials discount that possibility, however.

Csonka said he has applied for a patent on his micro-carburetor but has not yet received it.

Sutz said the time required for NBS to test any invention is now down to six months and his own ERDA office, which makes final decisions on which inventions to fund, can make up its mind in 45 days.

Inventions are still being submitted to the NBS at the rate of 10 or 15 a day, officials said, and they range from haphazard ideas scribbled on brown paper bags to highly sophisticated and carefully thought-out innovations, like Csonka's carburetor.

So far, the ERDA officials said, they

have provided \$40,000 to a physicist who is developing a more efficient way of converting the sun's rays into electricity. Beyond that, they have given "management consultant help" to four other inventors and rejected two outright among the 22 inventions recommended to them by NBS.

Of the remaining inventions, four—including Csonka's—"look very positive," and the others are still being evaluated, officials said.

The 22 recommended inventions range from a "diesel engine conversion system for gasoline engines" to a "hydraulically powered waste disposal device." A good proportion of all inventions submitted have to do with automobiles, officials said.

Sutz said he believes his bureaucratic problems will be conquered and that the program will pay off for taxpayers at a rate of 6 to 1. "All I need is one more year and to pull out a couple of winners . . . that will pay for the whole program," he said.

While ERDA still hasn't made up its mind on Csonka and his carburetor, Sutz said there is "no question" that Csonka is a sound inventor and that his carburetor is "a winner."

Whether that will be translated into big money for Csonka and a vast energy saving for the American people may largely depend on fate.

"If he [Csonka] maintains that entrepreneurial disease, as I call it, and really works and pushes," said Sutz, "and on the condition that someone else isn't working on a parallel or identical system, Csonka has a damn good chance of becoming a major carburetor manufacturer . . ."

Sutz added the provision that nothing will be certain either, until a road-test proves that the carburetor will save 20 per cent of fuel consumption in actual driving as it did in laboratory tests.

Csonka said his next step will be to make a micro-carburetor that can be used on a road-test car. He said this will take six months, even working 10-hour days seven days a week as he does.

"Of course we are not so young anymore," he added with a smile.

Csonka Albert

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