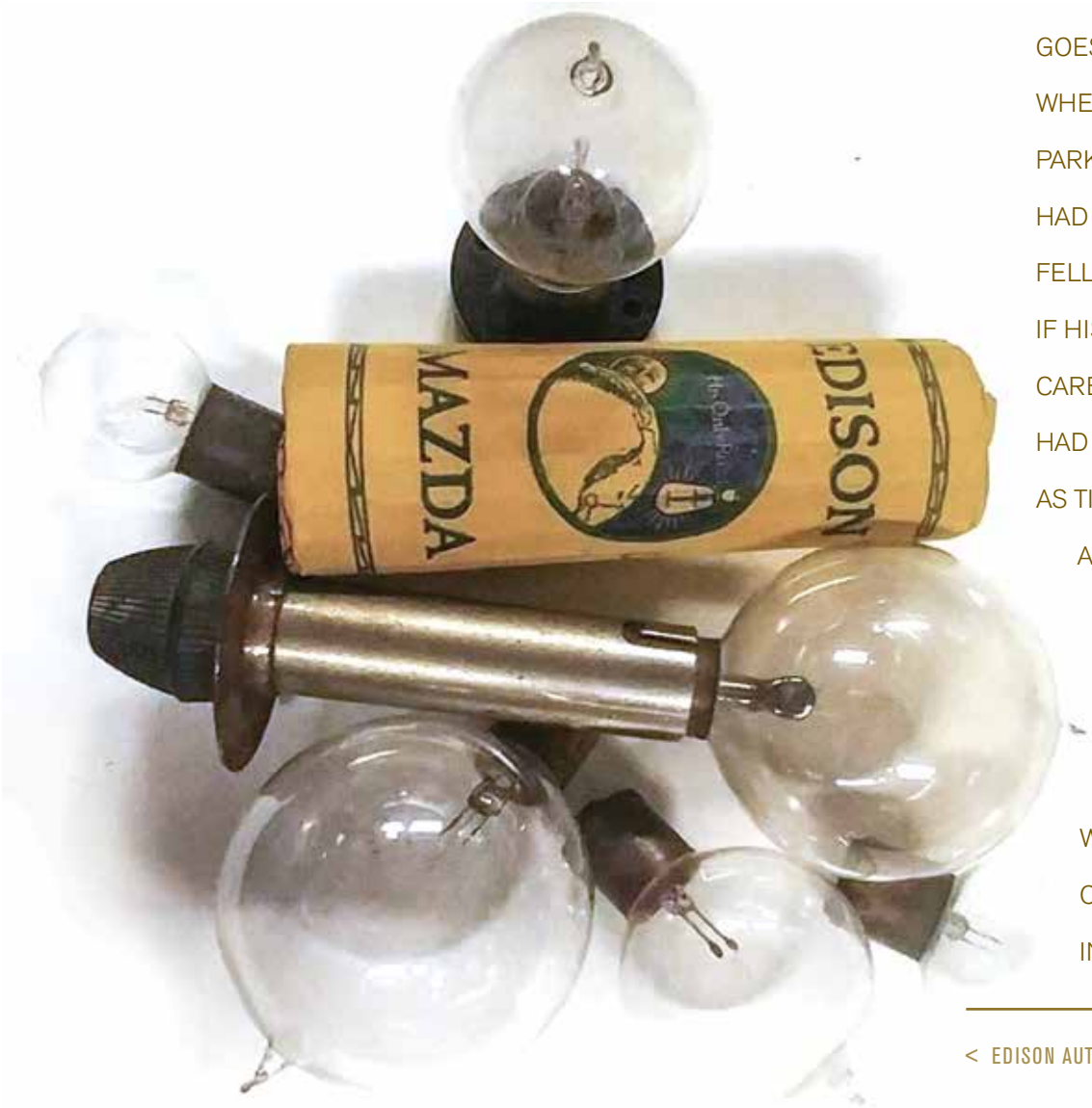
HIGH-TECH FEATURES CAME TO THE CLASSIC CAR FIRST

BY ROBERT L. "BOB" BURCHETT

CREDENTIALS: NOT WELL KNOWN, BUT OWNER OF NEARLY EVERY NON-CLASSIC CAR EVER MADE

WEALTHY FOLK ALWAYS OWNED THE HOUSE WITH GAS WHEN OTHERS WERE COOKING ON WOOD STOVES, THEY HAD GAS LIGHTING WHEN THE REST USED KEROSENE LAMPS, THEY BROUGHT IN ELECTRICITY WHEN THE NEIGHBORS WERE STILL LIGHTING GASLIGHTS AND SO THE STORY GOES, RIGHT OUT TO THE GARAGE WHERE THE NEW CAR WAS PARKED. IF THE GUY NEXT DOOR HAD AN OPEN TOP CAR THE RICH FELLOW HAD ROLL-UP WINDOWS, IF HIS NEIGHBOR HAD OIL OR CARBIDE LAMPS THE WELL OFF HAD EDISON ELECTRIC LIGHTS AND AS TIME WENT ALONG THE LATEST-AND-GREATEST GADGETRY AND INVENTIONS WERE ALWAYS PRESENT IN THE NICEST CARS AT THE ANNUAL AUTOMOBILE SHOWS WORLDWIDE. THIS IS THE STORY OF HOW TECHNOLOGY ARRIVED IN THE CLASSICS FIRST. >>>



< EDISON AUTO LAMPS

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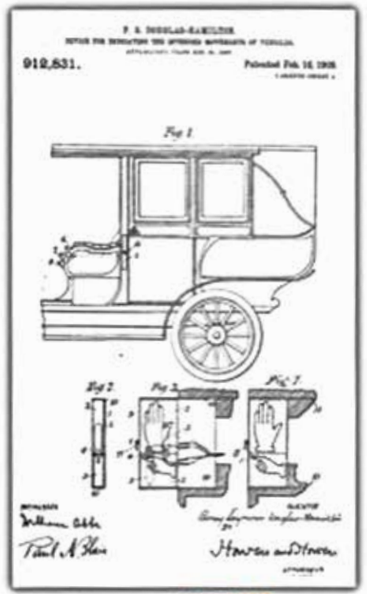
Case in point: by now most everyone knows about Willis Carrier inventing refrigeration in 1902 which dehumidified air and stopped food from spoiling, but it took Packard in 1939 to move the compressor to the engine compartment to make it commercially available in automobiles for the 1940 model year. Now you practically can't buy a car without it even in cold climates. Score a big one for the Classic car owner way ahead of the outsiders. Their Bishop and Babcock Weather Conditioner was a major hit that year at the Chicago Auto Show. The cooling coils (evaporator) located behind the back seat along with the fan moved the cool air to the passengers first.

An early attempt at **turn signals** was this 1909 effort by P.S. Douglas-Hamilton.



V EARLY PATENT OF TURN SIGNALS.

^ SIMLER'S HANDMADE MULTI-FUNCTIONAL SIGNAL.

Braking Alert Lights or Stop Light(s) were not common at all in the early years; the lack of electricity to power them and kerosene (or carbide) wasn't able to be adapted, of course. Thomas Edison and Henry Ford were notorious pals and when Henry presented Tom with a Model T along with a mechanic to keep it running, Tom reciprocated with electric lighting, batteries and more. In the early 1920s the Philadelphia Storage Battery Company (aka; Philco) made good vehicle batteries and companies like Atwater Kent made ignition and other items plus switches that would permit sensing of the brake pedal movement so we were on the way to making something to warn the tailgater we were slamming on the binders.

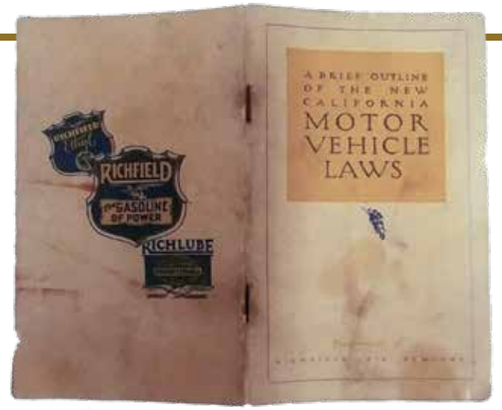
Now things started to move fast and Edgar Walz patented a turning signal consisting of a light with two arrows and a brake light in 1925. This was quickly followed by Oscar Simler in 1929 who patented a similar device.

Joseph Bell in the late '30s made it flash and finally it was Buick who made them a standard feature in 1939.

Trafficators were a cool invention common mostly in Europe and you didn't have to own an expensive car to have them; just be able to install the cables to pull them with or install the pneumatic lines to activate them, so you can imagine how few car owners wanted to go through that headache in the days before auto electricity.

The author's 1953 Mercedes-Benz 170Da was supposed to have them according to the wiring diagrams but the car got cute little British-made turn indicator lamps instead possibly while visiting the Coronation of Queen Elizabeth en route to America.

^ ORIGINAL SET OF TRICO RETROFIT-TYPE TRAFFICATORS IN THE AUTHOR'S MUSEUM PROUDLY SAY 'BRITISH MADE.'



^ 1930 DMV BOOK HAS ONLY 12 PAGES.

Patterned after the Royal Bavarian Railway signal arms from the 1890s, they claim first auto use in 1902 but had to wait until 1908 for Barrachini in Rome to add electric lighting to them. Volkswagen and many other cars also had them and they were the butt of jokes in Hollywood escapades knocking pedestrians off of sidewalks and the like but fell into disfavor with the gendarmerie over not being all that visible and were often supplemented with other signals to be allowed just to keep them on the car as "original equipment."

The fact that by 1928 only 11 states had **vehicle code requirements for stop lights** made these somewhat slow to be adopted but the venerable hand-signals persist to this day regardless of the weather. Who knew they would still be mandatory on driving tests 90 years later? Cars have evolved but the DMV apparently never did.

Buick was the first U.S. automaker to offer factory-installed flashing turn signals. Introduced in 1939 as a safety feature, the new-fangled gadget was advertised as the "Flash-Way Directional Signal" operated from a switch on the new "Handi-shift" column-mounted shifter. The flashing signals only operated on the rear lights.

Power door locks which are so ubiquitous today that we don't even think about them started early on in Detroit with the Scripps-Booth Car Company in 1914 as standard equipment. They were electrically activated "door latches" and in *Motor Age Magazine* November 1914 they reported the coupe, roadster and cabriolet came with them. There was a button on the outside of the car to push since you no longer needed door handles to activate the lock since it was done with a magnetic latch. Quite a remarkable advancement for that period of time.

They don't elaborate on how you get in with a dead battery and while they stopped use of them pretty quickly, that left the opportunity door open to Packard to reintroduce them to the luxury car market in 1956.

Since all that stuff previously discussed became standard equipment at some point in time, what was left to be the exclusive property of the poor rich dude who paid way more for his ride so he could have something they didn't? Right on queue in comes the **Motor Dictograph** to save the day! Thomas Edison had his device called the Dictaphone which was an office machine used to record and playback speech via wax cylinders so to escape pesky patent issues. Kelly Munroe Turner named his the Dictograph but it wasn't originally slated for the automobile; it too was for the office—as an intercom system. To make it work he had to also invent a sensitive microphone (he called a Metrophone) and that led to its use in his Acousticon branded hearing aids, microphones for radios, broadcasting and more also under the "Turner" brand. Edison's microphone was a lousy acoustic horn affair.

In 1907 Turner patented his **Detective Dictograph** listening device essentially built of the Acousticon components and in 1910 it was successfully used by the Burns Detective Agency to secure high-profile convictions of graft and other nefarious activities with the information obtained by the machine being declared admissible in >>>

> DETECTIVE DICTOGRAPH CIRCA 1908 FOUND IN A CANADIAN HOME IN THE ATTIC WIRED INTO THE LIVING ROOM!

V KELLY TURNER POSES WITH HIS OFFICE DICTOGRAPH WHICH YOU CAN SEE IN THE AUTHOR'S MUSEUM. NOTE THE HORN SPEAKER.

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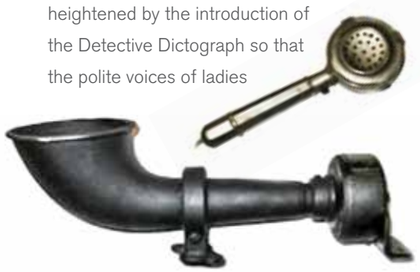
court as evidence. This seems to be the first use of electronic surveillance, also known as bugging or a wiretap.

By this time Turner was so well known that Dr. Lee DeForest used his Metrophones to broadcast opera by radio and the Dictograph Company received much publicity over this so in the 1920s Turner was truly in the catbird seat to make his products merge into the automotive world with the invention of the Motor Dictograph.

^ (TOP L -R) '38 METROPHONE IN HAND; '38 PACKARD METROPHONE; '38 PACKARD DICTOGRAPH SPEAKER.

PHOTOS COURTESY OF DAVE & DIANNE REIDY AND THEIR 1938 PACKARD LIMOUSINE ONCE OWNED BY ADA E. WRIGLEY (OF CHEWING GUM FAME) WITH THE MOTOR DICTOGRAPH

The Metrophone sensitivity had been heightened by the introduction of the Detective Dictograph so that the polite voices of ladies



in the back seat could be distinctly heard by the driver, the vehicles had the requisite battery voltage (6 volts) to power the system and now only the horn speaker corresponding mounting brackets had to be invented to accommodate the various vehicle installations.

Later on it read like a Hollywood movie poster: a Motor Dictograph was introduced in the 1920s in the U.S. for communication between a limousine driver and his passengers. The company claimed proudly that it was "standard equipment in practically every well-known American production of high-grade chauffeur-driven motor cars, including Pierce-Arrow, Packard, Cadillac, Hudson, Winton, ..." etc. The Metrophone faceplate was, of course, plated in silver.

The speaker (reminiscent of an auto horn!) hiding under the dash. By the mid-1930s, the speaker/horn had advanced but the Metrophone had not.

The report goes on to say; "The Motor Dictograph is a system for closed-cabin driver/passenger communication and was first displayed in the 1917 Salon and Shows". It comprises a carbon microphone wired into the passenger cabin and a horn speaker which is mounted near the driver seat.

Robin is holding the silver-plated Metrophone (*right*) tucked into a special pouch in the upholstery located at the armrest side, the speaker horn upholstered into the drivers seat. Finally it all makes sense why Turner had the essential components to build the office product into the car.

Now that you can talk from the back to the front, what about music? In 1928 the Galvin Brothers formed a company just to give motorcars broadcast music since by that time it was being transmitted in many major cities. This was in response to classy folks taking their wind-up phonographs and records on outings, but we wanted more. They preferred to name the company "Radiola" but that was taken so they chose **Motorola**.

These radios were called the Golden Voice and they sold well at $130 as a retrofit and could be installed in any car of the day; the radio went well under the dash down on the firewall and there was a "control head" dialed by a speedometer cable to set the volume and change channels. Auburn and Plymouth seem to be tied for first place to install the **PhilcoTransitone** radio in their cars but only Plymouth included it at no extra charge and there were others quickly making them too, including Bosch, Majestic and Crosley with their "Roamio".

Early car radio installers hid the ugly antenna wires sewn into the soft top on fixed-roof types with solid bows while convertible cars mounted them under the running boards on Classics. If you didn't have a decent Classic your car could end

PHOTOS COURTESY GENERAL LYONS CAR MUSEUM.

^ PHILCO TRANSITONE, CIRCA 1932;
> BARN-FIND 1932 MOTOROLA, "88" INITIALED INSIDE BY JOE E. GALVIN.

up looking like this when crazy radio installers (who didn't own the car) ran rampant.

AM radio was king of the U.S. road in the 1930s, '40s and '50s but that didn't stop Blaupunkt from introducing the first **AM/FM dual-band radio** in 1952 followed closely by Becker with the Mexico in 1953. These were available in the German high-end cars as you can well imagine notably Mercedes-Benz for U.S. export only.

The FM broadcast band in the U.S. was originally set at 42-50 MC in 1940 but saw it's frequency band given to the 'State Police' and no one wanted to make FM radios until the FCC stabilized it at 88-108 MC in 1945. TV channel 1 also lived in this spectrum until April 1949 and now you know why TV channels always start at 2!

Americans had to wait quite a while for our AM-only radios to catch up so to fill in the blank in 1957 Ford partnered with Gonset and offered an FM Tuner (or 'converter') that was mounted under the dashboard and installers routed the antenna through it to reach the AM radio. Tuning the AM radio to 640 KC you could then hear the output from the FM tuner and listen to those new FM stations. The Thunderbird factory brochure shows that Ford offered the auxiliary tuner as a dealer-installed item and we have one in ours. While early cars had a tall pull-up antenna; later on they shrunk it to 31 inches favoring the exact quarter-wavelength of 100 MC FM paying little attention to the 1 MC AM band left in the long-wave shadows. Truly "short wave" listening!

Another item Ford offered in 1957, but apparently only to the Thunderbird owners, was a **Remington Auto-Home DC/AC electric shaver** and this too had to be dealer-installed as it was not (yet) a cigarette lighter plug-in device. Talk about distracted driving; this was 50 years before we were talking on handheld cell phones!

I have often wondered why anyone would buy a TransVertor (6 or 12 volt DC converter to AC) just to run your razor when you could pay a lot more money to have the dealer install the two wires to the vehicle DC power!

Moving on, Packard scored a big coup in 1940 when they offered combination electric/hydraulic window lifts on the 180 and that was furiously followed by Ford to install them in 1941 on the Lincoln Custom and 7-passenger limousine models only. Cadillac ran to catch up with the driver-passenger electric divider window but not on the side-windows on the Model 75. The race was on for the Classic car companies to outdo each other.

Mercedes Benz (and others) also offered short-wave multi-band and transmitting type of radios plus various dealer-installed dictating machines as options shown in brochures and ballyhoo but few seem to exist to show them off however the ultimate techno-gadget of all time still has to be the **mobile phone**. (IMHO)

In 1946 the Bell System and Motorola teamed up to make the first one and it took up half the trunk of the car with a separate receiver, transmitter and selector decoder >>>

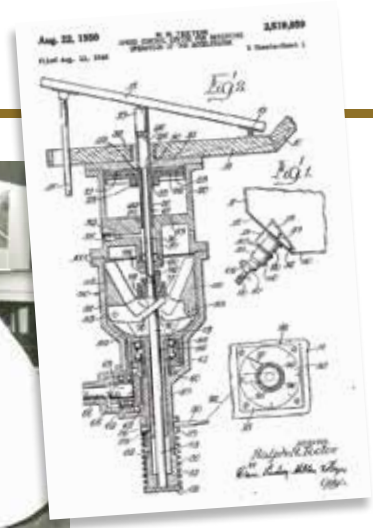
> PACKARD DELUXE RADIO & SPEAKER, COURTESY DAVE & DIANE REIDY, 1938 PACKARD TWELVE LIMOUSINE.

to make your bell "ring" when called by the operator. Those "decoder-under-glass" as we called them prevailed into the 1970s when the author was proudly installing them into the cars of those rich guys who didn't mind if I drilled huge holes in their cars so they could sport the insanely large antennas we stuck on them. "The bigger the better" I was told by the likes of Marlon Brando… "let 'em know I have one" he said and was rewarded with great signal and clear, static-free calls.

^ THE AUTHOR HAS A SET OF THESE TRUNK-EATING MONSTERS; COME SEE THEM IN PERSON!

Being in the radio communications world since 1964 I have installed many of them into cars, but never seen one actually built in by the factory into cars until late models like the Mercedes-Benz SL600 having a power antenna designed for **AM/FM/cell phone** provided us with a way to hook up your own phone to the car. This is most likely due to the fact that by the time they were small enough to put into most every car we had multiple formats and carriers so one phone would not serve everyone. This was unlike the radios of the 1930s which being on the stable 540-1700 KC (or KHz if you prefer) frequency band didn't move around or vary the format so the AM car radio you have in your 1931 car will still work on the AM broadcast band that exists in the same form today.

Photos courtesy of The Smithsonian



^ RALPH TURNER AND HIS FAMOUS PATENTED "SPEED O STAT".

As technology and disposable income increased the manufacturers ran to outdo each other with many features but few compare in value and safety to the anti-skid or as we commonly know it; **anti-lock brakes** (aka ABS).

Hagerty tells us that aircraft in the 1940s really had it first but it was adapted to the automotive world in 1966 to fit on the Jensen Type FF of which only 320 were built and being right-hand drive never exported to the U.S. Not having front-wheel disc brakes made it hard for the early year U.S. cars to do four-wheel ABS so the first real commercial use of it seems to be Ford in the Thunderbird and Lincoln Continental Mark III in late 1969 and Chrysler Imperial in 1971 was full four-wheel ABS. The Sure-Trak Anti-skid system built by Kelsey-Hayes was electronically controlled and actually ahead of Bosch in 1978 for Euro-delivery only despite their protests.

Most all cars and aircraft now have electronic speed or 'cruise control' but a sightless inventor in 1950 named Ralph Teetor patented the first **'SpeedoStat' accelerator** set/governor system and pioneered the entire industry stretching all the way to autopilots in planes. In 1958 Chrysler was the first to adopt it for their luxury models followed by GM soon thereafter. Teetor saw it as a fuel-saving device and during the 1973 OPEC oil-embargo it proved to be invaluable (and famous) by saving 167,000 barrels of overpriced foreign oil per DAY.

Naturally there are lots of other gadgets but have you had enough of this? Yeah, me too, so if you really want to see some of them 'up close & personal like' then please consider visiting our Museum in Torrance, California where many of the items in this article are on display. Call Bob at 310-534-4456 to arrange for a private visit or tour.

Robert L. "Bob" Burchett whose only serious claim to fame is a really distant relationship to Bill Burchett and I bet you know him too, but don't try and further your career by knowing him; it never helped me out either!