

The AUTOMOBILE



Your Car's Finish.

You may mistreat the engine frequently before it begins to complain, but the finish of the car can be mistreated once or twice—then there is little finish left to damage.

Lack of washing or not knowing how to wash a car will go further towards ruining the appearance than any other thing. The varnish of a new car is benefited and hardened by washing with clear cold water, but mud that is allowed to dry upon the body takes the oil from the varnish and leaves the finish mottled and streaky. Dirt is not the only enemy, for gases from the garage, and even the atmosphere of some districts, attack the finish of the car that is not frequently washed.

Begin by cleaning the top. Take a good stiff brush and remove the dust; then either sponge it or use a soft cloth with warm water and pure soap. A chamois kept especially for the purpose will tend to hasten the drying. The top must not be folded until it is thoroughly dry. The upholstery, if of cloth, is best cleaned by sponging with water containing a little salt and alcohol. If of leather, a woolen cloth dipped in clear water to which a few drops of ammonia has been added is best.

In cleaning the chassis be sure to remove the nozzle of the hose and flow the water over every part of the body. This will serve to wash off most of the dust and also loosen the mud. In cases where the car is very dirty it is best to do this and then let it stand for a few minutes before going over it again with the hose.

Then take a soft sponge and follow the hose over the body. If certain portions are greasy spotted these should be washed separately with pure water and castile soap—but except in this one instance soap of any kind should be avoided on the body.

You Carry Your Own Vulcanizer.

Every automobile carries an excellent steam vulcanizer.

This may be new to many motorists who fancied themselves on intimate terms with their machines.

The radiator, when full of hot, steaming water, is a very satisfactory vulcanizer for inner tubes, and has been used to advantage by ingenious motorists miles away from anywhere with a tube needing patching.

A little vulcanizing cement is smeared on the rubber patch and around the hole in the tube and then the two are put together, placed patch downward on the radiator and held firmly with the pressure of the hand until the rubber is cooked into a solid mass.

If no vulcanizing cement is at hand a little tube rubber dissolved in gasoline may be used as a substitute.

Truck Tips.

Kerosene as Tractor Fuel—When kerosene is used as fuel in the motor tractor it will be found necessary in many cases to change the oil in the crankcase after every twenty hours of running. This is because when it is not properly heated it mixes with the oil and destroys its lubricating qualities.

Mounting the Governor—In mounting the flexible drive shafts of the governor care must be taken that there are no bends in the shaft within two inches of either end. The shaft must never be bent into a circle of less than ten inches in diameter. The proper practice is to make all bends as long and easy as possible.

Weight and Truck Capacity—In selecting trucks the factors of weight and size of the products to be hauled must be carefully considered. A product that is bulky but light in weight calls for a comparatively light vehicle with large body capacity. On the other hand, the man who must haul heavy material that is compact in form will make a great mistake if he buys an ordinary light truck.

Trailer Costs—When trailers of any type are being used in connection with truck service it is to be strongly recommended that all cost and operating records covering the trailers be kept separately from those of the powered vehicle.

The Cylinder Head—The holding down nuts of the cylinder head should be tightened periodically if the cylinder head is taken off for any reason. In replacing, the part should be tightened up again by screwing down opposite nuts. Each nut should be turned a little, then its opposite should be screwed down somewhat, and so on, working around the cylinder head. If one nut is tightened all the way there is danger of springing the part.

Before Taking a Trip.

Look over the car before taking a tour. A little inspection now and then will never hurt any car, and it will go a long way in giving you a smooth running car and saving you a lot of bills.

Be sure to try out the brakes. Speed up with the accelerator and apply the foot brakes to see if the car comes evenly to a stop. Try this several times and try the emergency brakes. You might need them while on the road.

Test the fan at various times to see

if the belt is tight enough. If you find that the fan will slip with the slightest effort, the fan is all right.

Be sure to watch the ammeter. It tells the automobilist everything about the batteries. If the engine is stopped and the lights are put out, the ammeter should show zero. When it indicates a discharge there is a short circuit.

Never run up against the curb as it will throw the front wheels out of alignment and cause the front tires to wear out rapidly.

A knock is very often due to overheating and will be noticed upon going up a hill, but it is also likely to be noticed on a level road. It is always accompanied by steam from the radiator. It is very easy to remedy.

It quite often happens that after new piston rings have been put in for the purpose of preventing oil leaks, the condition continues. If that is the case, lap in the rings. If the cylinder is worn out of round it will be absolutely necessary to fit the ring to the proper shape, and lapping must be done.

Never under any circumstances use a cloth to wipe the dust off an automobile, as the dust forms itself into a fine grit. You rub the dust into the car instead of rubbing it off. The best thing to use is a feather or a hair duster.

Carry a fire extinguisher. You may have a fire on the road, where there is no fire department handy.

The New Man.

Take a look at the new man," said the coast guardman to the minister as he sought the warm shelter of the life-saving station. And indeed the new man was worth looking at—a quiet, clean-skinned giant, sitting with his back to the wall.

Outside, the wind, roaring savagely, dashed the loose sand against the windows. On such nights, when the thermometer was ten degrees below zero, the minister reflected, these men patrol the beach and watch the sea for wrecks. The new man, the minister knew, was equal to the work.

A little later the minister was astonished to hear the giant say, "You see, cap'n, I have never been on the ocean. What does a lobster look like?" That was an astonishing thing for him to ask! But the old captain expressed no astonishment; he merely took a pencil and some paper and began to draw while the new man watched him closely.

"A lobster," said the captain, "has a body like this and long claws that run out here."

"What did it mean? Going quickly into the boat room, the minister said to one of the guardsmen, "What does this mean? The new man says he never has been on the ocean, and he has just asked the captain what a lobster looks like."

"Oh," said the guardsman, smiling, "he was transferred from the Great Lakes and got here just this afternoon."

The skill in saving life that the new guard had acquired on the inland sea he was going to use on the ocean. Even though he knew nothing about the small facts of ocean life, he could still do his duty.

There is a lesson here. God calls on us as Christians to rescue men who are morally lost; but frequently we say that we cannot become Christians because there is a passage in the Bible that we cannot understand. What if the life-saver should refuse to go out to dying men on a vessel because he yet lacked knowledge of some simple thing about the sea? When the government ordered the new coast guardman to go to a seaport station he had gone. What he had learned to do on the ocean. Similarly, if a man can do the Great Lakes he could also do on toll and plan for his life, he can also watch, pray and work for the kingdom of God.

Killing "Skeeters."

A mosquito-breeding swamp is not only a source of neighborhood discomfort and danger but also an economic liability. Often it may be converted into a valuable asset by inexpensive draining.

The United States Public Health Service notes an illustrative case in the State of Georgia, where an experimental operation was recently performed upon a twenty-acre swamp. It was a mucky place, nearly all of it under water, with tree-stumps plentifully scattered.

The operation consisted of ditching with dynamite, a trench 1,500 feet long being blown with sticks of the explosive placed in holes two feet deep at intervals averaging one foot. Extra charges were used for stumps.

The resulting ditch averaged a width of seven and a half feet at the top and a depth of three and a half feet. Total cost, including labor and 1,000 pounds of dynamite, was \$270. When the job was finished there was a freely running stream through the ditch.

By this simple and rapid means the swamp was transformed into twenty acres of good land.

Lake Superior has an area of more than 31,000 square miles, and is the largest body of fresh water in the world.

HANDS ACROSS THE ATLANTIC OCEAN

UNION AMONG ENGLISH-SPEAKING PEOPLES.

An English Writer, Alfred B. Cooper, Discusses a Vitally Important Question.

The future of civilization, of an ordered, progressive, happy evolution of society, is in the keeping of the English-speaking peoples, writes Alfred B. Cooper, in a London magazine. Of these there are on the earth, at the present moment, something in the neighborhood of 200,000,000; and this number, if the precedents of the two half-centuries immediately past are followed, will have become something like 400,000,000 in 1971.

This huge aggregate of folk who "speak the tongue that Shakespeare spoke"—or something approximating thereto, at least—will not be confined to one corner of the earth like the congested populations of China and India, but will form six mighty nations, each powerful and populous, in several far-separated quarters of the globe.

The six nations of the English-speaking folk will be the British Isles, the United States of America, the Dominion of Canada, the Union of South Africa, the Commonwealth of Australia, and the Dominion of New Zealand, and half the population—possibly more than half—of this great congeries of kindred peoples will reside between the latitude of the Gulf of St. Lawrence and the latitude of the Mouth of the Mississippi, in that wonderful Republic we sometimes call "the States" and sometimes simply "America."

From One Motherland.

Now, it is a fact of first-class importance and vast significance that the last-named is the only member of the original firm which has dissolved partnership. Nearly 150 years ago now, Britain and her intensely loyal colonies in America differed, then quarrelled, then fought, then parted, and that political cleavage has continued to this day.

It is an interesting and not unprofitable speculation as to what might have happened, and what might not have happened in the world, had Britain never attempted the impossible task of coercing America, and had America grown up under the old flag, self-governed and independent in all but affectionate adherence to the cooperative solidarity of the Empire, like Australia or Canada today.

Nothing contributed to the final and complete triumph of the Allies in the late war so greatly as this solidarity exhibited by the far-flung and loosely attached members of the British Brotherhood of Nations. Even men like Botha and Smuts, who had fought against us a dozen years earlier, fought as valiantly on our side. Within a week of the declaration of war, every colony and dependency of Britain had declared its unflinching and unhesitating adherence to the old flag.

When the Empire Spoke.

It is too much to suppose that the 100,000,000 of the greatest colony of all, the colony founded by the "Pilgrims" in New England, and by Raleigh in Virginia, would have hesitated any longer than the Anzacs and the Canadians did? That would have meant the shortening of the war by three years at least—if there had been a war. But can anyone believe there could have been a war, had Britain and America been one nation of the most inventive, keenest-witted, most enterprising, most law-abiding people extant?

We might go farther and say that had Britain and America held together the Franco-Prussian War, the dragons' teeth sown in 1871, which produced the terrible harvest of devastation, misery, and unrest of these latter days, the tap-root of a noxious weed which threatens to ruin the fair garden of ordered progress, would never probably have happened.

Well, there is nothing quite so futile as crying over spilt milk. "What's done's done and can't be undone," is a true saying, which may be profoundly misunderstood. If it means to you and to me that the past cannot be improved upon, that the miasmic shadow of the past must blight the present, that the follies and mistakes of yesterday must make of today a failure and a "fizzle," then such a saying is hateful and baneful to the last degree.

If yesterday was wrong, may not today be right? If we have been tied to an ancient stumbling stone, for heaven's sake let us cut ourselves loose, that we may continue our journey to the fair land of amity, mutual respect, and kindly co-operation.

What ground have we for supposing that this Peace will be more lasting than any other? None at all, absolutely none; unless America and Britain say it shall be. That Britain is a peacefully inclined nation is proved by the fact that, possessed of a predominant Navy for a hundred years, mistress of all the seas, her outposts in every continent, her agents at every corner on the great world roads, she has never used her power aggressively. Rather has she used it to guard and police those very highways down which she might have sailed to world dominion.

The Unseen Barrier.

That America is peacefully minded is shown by the most amazing spec-

—and the worst is yet to come



tacle in the history of mankind upon the earth. There is an invisible line drawn across a continent with an invisible pen.

People speak of this as the boundary line between Canada and the United States. You might cross it in a thousand places and never know. It runs across river and mountain, and takes no heed of their strategic importance. A blade of grass divides two mighty countries, the one stretching to the northern pole, the other to the source of the Gulf Stream.

Not a gun, not a fort, not a wire entanglement even, for three thousand miles and more betwixt Pacific and Atlantic. Not a gunboat, not a submarine, not a floating mine in Superior, Erie, Ontario! That is the fruit of mutual trust, respect, and community of interests finding their best realization in peace, amity, and brotherhood.

This state of affairs is possible because it is based on good will, on a strong abhorrence of war and all that war means. Given hatred, and the highest mountains, the deepest rivers, the widest oceans even, cannot form an effective defensive boundary. Given love and good sense, a blade of grass or a chalk-mark suffices.

With the Same Ideals.

Cannot we have the same splendid scorn of defences betwixt the Mother Country and her big grown-up son, the U.S.A.? Why, the very bond of a common language and literature could not allow the two peoples ever really to part, whatever the quidnuncs and pessimists may say. From Atlantic to Pacific, America speaks the language Milton ennobled in his celestial epic, in which Bunyan told of life and death and immortality. Shakespeare is a common heritage; he belongs as much to America as to us.

The literature of the one is the literature of the other. Whitman and Burns are the twin poets of triumphant democracy. Philadelphia and Manchester read the same poets, the same great essayists and historians, the same classic novelists. Their citizens can sit side by side at the same dinner-table, and talk as easily, and find as many subjects in common, as if they lived in the same street of the same town.

America's ideals of civilization are identical with our own. They are summed up in Wordsworth's great phrase, "Pure religion breathing household laws." America believes in the politics of the heart; Britain believes the same. There are hooligans on both sides of the herring-pond. They would make a hell of heaven if they could ever squeeze through the pearl gates. They would trench and fortify Mount Zion, and hew down the Tree of Life for a barricade.

If the great sane masses of Britain and America let these wreckers ruin the fair prospect of a permanent peace, for ever holding back the tides of war, like a mighty breakwater which the storm of an English-speaking quarrel can alone obliterate, then my hope for the world, and the great future of Democracy, withers and dies.

Picadilly's Origin.

"Tipperary," the marching song which had such a vogue in 1914, refers to Picadilly, London, England. One story is that the place was named after the Piccadilly Hall, where a certain kind of lace was in vogue during the reign of Queen Elizabeth was made. The lace was called piccadilly because of its spear points, a diminutive of pica, a pike or spear.

Picadilly was once famous for its gambling houses. In one of these, run by Watler, the prince regent's cook, Beau Brummel won \$75,000 in ten minutes and insisted upon giving one-half to Sheridan.

The eye is now said to give indications of a person's health, spots on the iris indicating the position of the injury, etc.

CANADIAN PIANOS AT ENDS OF EARTH

EXPORTS TO TROPICS SPECIALLY BUILT.

Australia, India, South America, China, Even the Congo, Buying Our Instruments.

Canadian pianos are to be found nowadays in odd corners of the earth. You might stumble on one in the overseer's house on a Ceylon plantation. You might hear the tinkle of one of them in the heart of the Australian bush or in the sweating reek of a night in Singapore.

You might trek across miles of Zululand and find there a rich bachelor planter regarding a high-grade Canadian instrument as a link between the sun-baked veldt and Devonshire lanes and London music halls.

You would find them in the Argentine and in the republic of Columbia, the Straits Settlements and British Guiana, Shanghai (lots of them) and the British West Indies and in England itself. You might even find one thumping out an old-time melody on the upper reaches of the Congo.

For if trade follows the flag, so indeed does the Canadian piano. Pianos made right in Toronto have gone to the strange places of the world already mentioned.

This exporting of Canadian pianos is an achievement of the war. England had her annual production of 100,000 instruments cut arbitrarily to one-third that number. Germany, which had been supplying big quantities to Australia and South America, was absolutely cut off. These countries wanted music, so they looked to Canada and the United States.

Dealers in the Antipodes, South America and the tropics communicated with Canadian firms and sent representatives here soon after the war was well started, with the result that pianos were soon on their way from Canada to far-flung points of the earth.

Here is a cable in the Zulu language received recently by a Toronto firm: Ecefej-Abajl piano umukisibeb blyry-rooky gjob-alkoc. Interpreted this means, "Have decided—adandon piano to insurance company. Cabling shortly for another."

Crescote Composition Used.

Pianos meant for the tropics differ materially, though not in appearance,

Baking With Electricity

While electricity in its various applications is fast invading nearly every industrial and domestic field, it is only recently that electric bake ovens for turning out Canada's bread in quantity were accepted by leading bakeries of the country, but while their acceptance was the ovens were installed more than made for initial reluctance.

In comparison with the gas oven, the electric oven is a marvel in compactness, for it is less than six feet in height and weighs barely 3000 pounds—a lightweight in modern bakery equipment. In operation, it is quite different from gas ovens, for it does away with a number of the more or less cumbersome accessories of the latter.

The electric oven consists of an insulated cover having the form of a greatly enlarged washing machine. Inside are a revolving rack and a number of over heaters. It is supplied with a thermostat and an electric motor, which together regulate the amount of heat in the oven and revolve the baking rack. This equipment is, perhaps, the simplest of electric heating appliances, and yet it is one of the most effective.

from those found in Ontario living-rooms. First of all the wood must be made proof against white ants. This is achieved by using crescote composition to varnish all surfaces. Otherwise in a short time the ants and similar insects would eat them until they were skeleton shells. A man in Zanzibar once had an ordinary piano shipped to him. In two months it fell in pieces, literally eaten by ants.

Moist heat is another enemy which would be fatal to the ordinary piano. So that the bridges on the sounding-board, usually just glued, are secured with bolts as well. Every tropical piano must have a complete all-over metal frame screwed with bolts and nuts through the plank (where the tuning pins are placed) to an iron bar along the back. The case must be of solid mahogany, teak or similar wood and not simply some softer wood with a veneer finish. All this because the glue would melt; the veneer would peel off and the other parts come asunder. Brass fittings must be used throughout because iron would rust so easily.

In addition the piano must be proof against the incursions of rodents, with a wire gauze back. Otherwise the rats and mice would play havoc with the bridge straps.

All the action parts, which in Canada are simply glued, for the tropics have to be stitched on as well. Ivory cannot be used in the keys; they are covered with celluloid in one piece and pinned at both ends. All the wires must be electro-plated.

In the case of player-pianos rubber tubing cannot be used, for the rubber quickly crumbles away. Metal tubing must be substituted.

Packed in Zinc-lined Cases.

In short-dated shipments such as to England or Europe the instrument, wrapped in oil paper, is packed in a case of which the joints have been fixed with waterproof glue. But for the long-distance trips to the tropics the pianos are packed in zinc-lined cases soldered together. This not only counteracts the salt air at sea and the dampness but cares for the pianos in their many transshipments. Many a piano travels by mule team miles over the South African veldt or up country through the Australian bush.

Many letters have been received locally to say how high the standing is at present in these far-off countries of the Canadian piano. It appears to have been able to find favor against all comers. At present there is depression in Australia and New Zealand, which is hindering the market. The rate of exchange also to some degree militates against them.

So far as the future export of Canadian pianos is concerned, according to the manager of a well-known firm, the policy will continue to be an aggressive one. Trade will be sought and connections formed for putting the Canadian instrument into all sorts of strange countries overseas. But the higher exchange stays, he declares, the more it favors Germany coming back. And Germany, with her lower wages and cost of production, is preparing again to flood the world with cheap pianos. Even in England, where the Canadian piano obtained a solid footing during the war, the German article is beginning to reappear.

But it is expected that a certain amount of the English trade will be held in spite of this. The chance of retaining the oriental, tropical and empire trade generally is much greater.

Is Space Endless?

Einstein's theory that space may not be of infinite extent seems to have obtained indorsement by many eminent physicists.

Nevertheless it would not appear that if this idea be accepted, the cosmos is to be regarded as alarmingly shrunk. For Einstein's own opinion is that a ray of light travelling 186,000 miles a second would require a billion years to make a complete circuit of its outer limits.

The British Parliament has enacted a "rat act," which provides that anyone harboring a rat or a mouse may be fined from five to twenty pounds. There have been few prosecutions so far, since the authorities do not wish to enforce the law rigidly until the people become familiar with it.

The reel or rack within the baking chamber supports eight shelves, eleven inches wide and seventy-two inches long. Each shelf can hold seventeen pans, so that the capacity of the oven is 136 loaves. Due to the high heat which can be constantly maintained in the oven, the loaves are baked in an average of thirty-six minutes. As the oven can be loaded with a minimum of delay the capacity for the full hour averages 260 loaves. This average is only for certain size loaves, being those confined in a pan 4 1/2 by 9 1/2 inches. As the size of the pan increases the number of loaves and hourly average decreases according to the size of the loaves. The shelves are perforated and as they revolve stir the heated air in the oven to a certain extent, every load thus receiving the same amount of heat.

Baking with the electric oven is automatic, for the amount of heat is controlled by a thermostat. This is usually set at a temperature of 450 degrees for bread baking, and is maintained without varying from the time the oven heats up until the baking is over. It is another feature in which electricity is supreme owing to its extreme flexibility.