

The AUTO MOBILE



TERMS EXPLAINED FOR NEW OPERATOR.

Like the lady going to a swell ball, the automobile has a "fan" to help keep it cool. In a motor car the fan is a rotary affair of several thin metal blades, generally carried by a horizontal shaft driven from the engine. It is arranged so as to create a blast of cool air which will help to lessen the excessive heat from the cylinders. On water cooled cars the fan is placed just behind the radiator and creates a draft through it. On air-cooled engines the fan is placed so as to maintain a draft of air around the engine cylinders.

The fan has a "belt" which, like a man's belt, performs an important function. The fan belt drives the fan. It is sometimes a flat leather or fabric belt running on flanged pulleys, or a leather covered metal link belt running in V-shaped grooved pulleys. This belt passes around a pulley upon the fan shaft and around another pulley upon the crank shaft, camshaft or auxiliary shaft of the motor. Some fans are driven by a train of gears. In this case a friction coupling is usually provided at some point in the drive to prevent too sudden starting of the fan when the motor starts.

Several "Cut Outs." The automobile has several "cut outs." For instance, there is the muffler cut-out, which is a valve opening into the outside air from the exhaust pipe of an internal combustion motor at a point between the muffler and the motor. When this cut out is open it permits the exhaust gases to escape directly into the air without passing through the muffler. The cut-out valve is usually operated by a pedal set in the foot board. The cut out, when open, makes so much noise and does so little good, it is not supplied by most manufacturers as standard equipment.

The "muffler" is a device for suppressing the noise made by the escape of the exhaust gases from an internal combustion motor. It permits these gases to expand gradually in confined spaces with resulting decrease in their pressure and temperature. Consequently they are finally emitted into the outside air at a pressure but little above atmospheric. The muffler is sometimes called a silencer.

"Ignition," itself is the setting on fire of the fuel charge in combustion space of a motor so that it will burn and exert a useful pressure on the power piston during its working stroke. An electric spark produced by

means of a spark plug is the means employed to get ignition. The "cross member" may be one of the passengers in an automobile. Usually, however, it is a transverse structural member which unites the side members of a frame and gives it form and rigidity.

"Freezing" is a term applied to what happens to the piston if the cylinder is not cooled. It is as liable to happen in summer as in winter. The piston, due to lack of lubrication, expands to such a point that it has much friction in the cylinder, and on account of the high temperature becomes fast, or is said to freeze.

The "Intake Manifold." The "intake manifold" is a pipe connected at one point, usually the center of its length, with the intake pipe. It comprises several branches, each of which makes a tight joint with the external end of the inlet port of one cylinder of an engine. It distributes the charge received through the intake pipe to the several cylinders and is designed so that the distribution to all cylinders is equalized as nearly as possible. The ends of the branches seat in ground joints or upon gaskets in the port openings.

The "inlet port" is a passage through the cylinder wall which connects the intake pipe from the carburetor with the combustion space of an internal combustion motor. The fuel charge is admitted through this passage. In a four-cycle engine the inlet valve controls this port.

The "inlet valve" controls the passage of the charge of gasoline through the inlet port from the intake pipe and carburetor. It is operated mechanically by a cam.

There are also a few of the terms which are commonly used by automobile mechanics. Most of them are as much Greek to the man who has had little experience with a car. But the owner of an automobile ought to learn this automobile language, so that he can speak to a service station expert as one having at least some little understanding, if not authority.

A knowledge of motor terms may save him a lot of energy, time, embarrassment and money. Get an encyclopedia of automobile words and study it in the garage in company with the automobile. When one gets to know the names of all its parts the car will seem like a new-found friend. And the acquaintance will be of mutual advantage.

QUEER DENIZERS OF AFRICA'S JUNGLES

DWARFS AND GIANTS IN CENTRAL DISTRICTS.

Hippo Horse is Apparently a Survivor of Prehistoric Ages.

Africa is the "mystery" continent. It is there that the most curious and unlikely animals and human beings may be found—from real giants, to two-footed monkey men, who live in tree-tops. From the "hippo," a species of antelope that climbs trees, to the hippo horse, half hippopotamus and half horse that is a survivor of a species of gigantic monster, the fossil remains of which are dug up in North America.

In central Africa, as in the great valley of the Amazon and the hinterlands of the Guianas up in the north-east of South America, there is in the dense roof of the lofty jungle overhead another world, unknown, unseen and forever far out of the reach of puny man, a world about which we know very little, for it is populated by a host of creatures that never come down to earth.

The African natives tell strange and gruesome stories about some of these living things. For instance, they declare there is an animal, something of the leopard kind but striped like a zebra, that cannot face the daylight, so used it to the twilight overhead. Selous, the great hunter and explorer, saw an apron made of its skin, which was wholly unlike any skin even he had ever seen. This animal is particularly fierce and agile, attacks the natives from behind and then, having bitten them at the back of the neck, sucks their brains out of the vessel does the blood of a rabbit.

Race of Tree Dwellers.

In the same part of unknown Africa a race of tree beings are said to exist, who live in the tops of the trees and are sheltered from enemies by the dense foliage. These folk, two-footed and claw hand, pass from tree to tree with the ease and activity of monkeys, and are of a particularly treacherous nature. Then there are dwarfs in central Africa which live like wild animals among the rocks and bushes. Thin, slender, ill-shaped legs and protruding bellies give them the true apelike appearance. They are singularly timid and fleet at the sight of strangers.

As mysterious is the race of gigantic natives in the unknown deserts north of Naso Nyiro and the Lorian Swamp, East Africa. This strange race is known by tradition to the natives now inhabiting the land west of the Juba in the north and the Tana in the south. Their name appears to be "the Maanthine," and tradition has it they are Christians and originally came from Abyssinia.

Until pestilence and native wars broke them they were said to have cultivated large areas, used irrigation to raise crops, owned camels and lived in great circular houses, the huge stones of which testify to their strength. Their hoes, it has been stated, were so large and strong that a local native of the present day could not lift one. Two of this giant race could not only kill an elephant with spears but eat it up afterward.

Just as the data regarding these giants cannot be denied, neither can data concerning the hippo horse be cast aside merely because they refer to what appears to be a survivor of prehistoric ages.

An Amazing Animal.

A short time ago the press was announcing that an explorer in Africa had been put to flight by a weird and formidable animal such as we come across in a nightmare or a dream. The fugitive stated his strange enemy must have had a body more than twenty feet long and of great girth, an upright trunk on its nose and with the fore parts of a horse and the hind parts of a cow.

An explorer, H. E. Lee, first encountered it, though the natives have always spoken of its existence. He was creeping into position for a shot at a hippopotamus when he saw in the background of the pool, slowly and meditatively chewing water weed, the strangest animal yet known. On its nose it carried two very sharp pointed horns or tusks, not curved but sticking up straight. The front of its head had all the appearance of a hippo, but the cheeks and ears and mouth were like those of a horse. It has a mane of red hair, and while its upper body was that of the hippo, yet the legs and feet were those of the horse. Its neck was not short and thick like a hippo's, but gracefully arched and decorated like that of the horse. Its legs were long and bushy, was covered with red hair.

Lee shot this amazing animal and found it measured over twenty-one feet in length, with a girth of eighteen feet. Skeletons of a creature of similar build have been unearthed in America.

The Way to Win.

Life is just a game to play; Play it! When you have a thing to say, Say it! Do not stammer "if" or "but." Courage takes the shortest cut. When your task is hard to do, Get your teeth and see it through!

Life is just a prize to get; Get it! If the stage is not well set, Set it! Men of mettle seldom find What they're looking for behind. Fate is passing down the street; Follow up with nimble feet!

Still Cackling. Are those eggs fresh? "Fresh, mum," replied the venacious dealer. "Why, the hens that laid them eggs ain't even missed 'em yet."

If you are fond of giving good advice, be twice as fond of taking it.



DOWN AND OUT.

A down-and-outer, sadly pleading for rags and victuals he was needing, came to my door to-day; I staked him with a new suspender, and fed him henfruit fresh and tender, and sent him on his way. Before he started forth to wander I gave him seven cents to squander in any way he chose; I said I thought a storm was brewing, and he agreed with me, while chewing eggs and goods like those. When I was younger I'd have jawed him, my virtue would have overawed him, and spoiled his humble meal; but now I'm old I know that kindness is often ruined by the blindness of those who preach and spiel. I might have said, "Oh, Weary Willie, how idiotic, vain and silly the course you've followed long. You would not be in such a pickle if you had salted dime and nickel when you were young and strong!" But when a man is starved and broken, the moral lecture loudly spoken but turns his blood to bile; when he is amply fed and rested, his meal of hard boiled eggs digested, he'll hear you with a smile. And so I fed this Dusty Davie, and filled him up with eggs and gravy, and gave him seven cents; and when he left he burst out singing, where, on arriving, he was bringing the new curves in laments.

In a Little Country Town

When the Powers That Be were busily attending to my case, Picking out my disposition, and equipment for Life's race, They put back the Love of Cities in its lofty pigeonhole, And they handed me a common, undiluted, small-town soul.

For I love a country village with a maple-shaded street, Where you hear a word of friendliness from everyone you meet, Where you find a human interest in your everyday affairs, And it warms the exiled heart of you, to know somebody cares!

Oh, you hear the City boasting that it "lets a man alone," But the small town treats you better, where you know as you are known;

If there's nothing like its malice when a scandal lifts its head, Yet there's nothing like its kindness when you're watching your dead.

And it's like a larger family, in its easy praise and blame, Where they know your fads and foibles but they love you just the same; They may score you for your errors but they help you when you're down,

For hearts beat close together, in a little country town. —Elizabeth Heath Olmstead.

Birds at Evening.

When the rocks fly homeward and the gulls are following high, And the grey feet of the silence with a silver dream are shod, I mind me of the little wings abroad in every sky, Who seek their sleep of God.

When the dove is hidden and the dew is white on the corn, And the dark bee in the heather, and the shepherd with the sheep, I mind me of the little wings in the elm-cak and the thorn, Who take of Him their sleep.

When the brier closes, and the iris flower is furled, And over the edge of the evening the martin knows her nest, I mind me of the little hearts abroad in all the world, Who find in Him their rest. —Marjorie L. C. Pickthall.

Oil and Air-Cooled Motors Developed in England.

As a result of tests made during the war at the aircraft factory at Farnborough, Eng., it was demonstrated that in air-cooled internal-combustion engines as much as 40 to 47 per cent. of the cooling was, under certain conditions, done by the crankcase. The result has been the design of a so-called oil-cooled engine, in which the crankcase has been greatly enlarged so as to almost completely envelop the cylinders.

The man who is fearless can go through three times as much trouble as a coward. There is no excess in success, for success is made up of just enough of the right kind of things. Culture is a great thing for people and crops. The more you use the better crops and people you grow.

Poems on Window Panes

The recent discovery of a window, long blocked up by dust and other things, which bore on it surprisingly fine verses, dedicated to many celebrated women of past days, has increased public interest in famous literature and messages which were first scribbled by their noted authors on windows in similar fashion, says an English writer.

It was while a guest at the Red Lion Hotel, Henley, that William Shenstone, the great tramp poet of two centuries ago, felt himself impelled to leave on record his keen appreciation of the excellent treatment he had received there. As he had no pen, paper, or pencil handy, he managed to write his verses of tribute on the window of his room. And there was found, for the first time, that splendid and now world-famous verse:

"Who'er has travelled life's dull round, Where'er his stages may have been, May sigh to think he still has found The warmest welcome at an inn."

But even this neat poem of Shenstone's is not the most popular and notable one which has been thus scribbled on a window. A young lady, who was a great invalid, lying on a couch beneath the window of her well-furnished room, and nursing on the hard fate which kept her from getting about and enjoying life as most of her youthful friends did, was one afternoon inclined to repine.

But after some quiet thought she determined to make the best of her fate. It was whilst in this frame of mind that a sudden desire to put some thoughts into verse came to her. Harriet Auber, the young lady in question, had neither paper nor pen-

Science Follows Radio Messages.

When a broadcasting station sends out by wireless phone the voice of a famous operatic singer, only a tiny fraction of a second is needed for those golden notes to reach the ears of listeners 100 miles away. But what, thereafter, becomes of the ether waves that carry them?

They keep on going, traveling with the speed of light—86,000 miles a second. In eight minutes they reach the sun. In twenty-seven minutes they arrive at Jupiter, and, if there were people on that giant planet provided with the requisite receiving instruments, they would hear the singer's voice with a distinctness undiminished. But the electro-magnetic waves do not stop at Jupiter, nor at the outermost confines of the solar system. Their journey has as yet only begun, and they will continue on until, perhaps one hundred million years hence, they reach the farthest star that is visible to our telescopes.

And thence on, forever, through the infinity of space. The voice of the singer has traced an ineradicable record on the invisible ether. It is immortal.

The Genial Don.

The average person, as well as the average attorney-general, is blind to his own faults. An American woman, a leader of the S. P. C. A., was soliciting subscriptions for the animals' cause in Madrid. "Will you subscribe, sir?" she asked a Spanish grandee. "I'll do better than that, madam," said the grandee graciously. "I'll get up a bull-fight for your society's benefit."

On some farms apparently the chief thing to do is to put the tile into fertile

INCREASING INSECTIVOROUS BIRDS

Competitions Among Boys Have Produced Many Fine Samples and Have Intensified Interest.

By H. Lloyd

It has been proved that valuable bird life can easily be increased in any vicinity by studying the needs of the birds. The average bird population in the eastern part of the continent is slightly more than one bird per acre. This can be increased to several pairs per acre. Probably the best way is to provide hole nesting species with bird houses. There are not over a dozen kinds of insectivorous birds which will nest in bird houses. However, by attracting these birds which provide instruction and entertainment, one is further repaid by the material service they render in keeping garden crops free from injurious insect pests. The Dominion Parks Branch, of the Department of the Interior, has been encouraging the building of bird houses as part of its work in connection with the preservation and protection of valuable bird life. Early this year the honorary game officers of the branch were asked to organize bird house competitions among the boys and girls in their neighborhoods. Some of these competitions have been productive of much good among the children, and a score or more of them have been organized by honorary officers.

In cities where manual training is taught in the schools, the teachers have directed the efforts of the boys in providing suitable homes for their feathered friends. It is estimated that more than two thousand bird houses have been built in Ottawa alone this spring.

A Successful Competition. For the second time a prominent Ottawa business house offered valuable prizes for the best bird houses built by boys under sixteen years of age. Approximately two hundred houses were entered in this competition and some of these were gems, combining utility, artistic design, and excellent workmanship. It is felt that the boys who have taken part in a competition of this kind, who have studied the particular requirements of the species of bird for which their bird houses were designed, and have built the houses themselves, will be inclined to protect the birds that they meet in their rambles afield and not to destroy them wantonly.

Usually the boys like to put up the bird houses, and to watch the feathered occupants build their nest, feed the young birds, and finally see them fly away safely, to return another spring. In the cities, however, some of the boys have not suitable places to erect the houses they have built; these should be placed in parks, or other suitable places adjoining the city. Other boys have found that the sale of a prize-winning bird house brought a good figure.

Bird houses are not generally on sale in Canada, and some of our disabled veterans might find this work congenial and profitable, provided that the bird houses were built from suitable designs.

Special Requirements of Species.

Each species of hole-nesting bird has its little whims about the style of house it likes and its location. The size of the entrance hole is a feature to be considered in designing a bird house for any one kind of bird. All this is simplified for the beginner in the publication Bird Houses and Their Occupants, which has been widely distributed by the Dominion Parks Branch. The requirements for each of the different species of birds that will nest in bird houses are given in this pamphlet, which may be had free so long as the supply lasts.

Where God Knew Him Best.

A distinguished Canadian woman was matron in charge of a large army hospital at Ramsgate during the war. Among the patients was a huge Scotchman who for the fourth time at the hospital and who now had a dozen wounds to be healed. When he was carried in he seemed likely to live only for a few hours, but almost miraculously, it seemed, he recovered from the operations.

When he was well enough to be discharged from the hospital the matron found him making ready to return to the front. She was much astonished, for she knew that he would never again have his normal strength. "What in the world are you doing?" she inquired. "You surely do not mean to return to the front when you can be discharged for the asking?"

"Yes, matron, I'm goin' back," the soldier replied. "I'm goin' back to join the boys; there's still some fightin' to be done over there." "But you should not return," the matron insisted; "you are not strong enough, and besides you have already done more than your bit. Our country does not expect greater service than you have given. Go home to your friends and be content; you need this chance to grow well and strong again. Wounded and sent to the hospital four times should be enough for any man!"

A flush crept over the pale face of the big fellow. "Matron," he said, "straightening, 'matron, I haven't told you the real reason why I'm goin' back to the front. It was over there that I found God; an' matron, I want to go back because I feel that God knows me better over there at the front than He does anywhere else."

To such words as those the kindly matron could make no answer, and the big soldier returned to the front. Three weeks later he was killed in action on the battle front where he had found God and where he believed that God knew him best.

"Do we ever stop to ask ourselves, 'Where would God know us best?'"

Letting the Cat Out of the Bag. Decorate the luncheon table with pussy-willows and pink tulips. For favors pass around tiny pink satin bags. When opened each bag will be found to contain a card on which a gray "pussy" has been glued, her tail, head and whiskers being made with a few strokes of a pen.

Under the pussy appear the names of the engaged couple, and in the lower corner of the card the words—"the cat's out of the bag!"

Among certain African tribes brides can be purchased on the installment system. When hemstitching linen it is a good idea to use the thread which has been pulled out of the linen. This is especially wise if the fabric is colored.

BOYS AND PIGS

It is not our purpose here to make a comparison between boys and pigs, or to endeavor to show any relation between them, although one is sometimes led to think that there is a resemblance between the appetites of the youngsters of both the human and porker kind.

No, our purpose is to call to your attention the fact that since the boys' interest in pigs has evolved from pulling its tail to hear it squeak, to the raising of prize-winning porkers, we have had better pigs and also better boys. Somehow the influence of one upon another has been entirely beneficial.

There is no doubt but what the boys' club work has been responsible for this. It has done more than anything else to instill in the boy a real love for the farm and an awakening to its possibilities. It has also developed in the boys the spirit of sportsmanship in competition, and furthermore it has developed leadership and initiative in the rural youth that would not have been developed in any other way. And still there is another thing that it has done. Through co-operation the boy and the pig, or the calf, have shown that there were some things about farming that he did not know.

Let's just hope that the supply of boys and pigs keeps up so that this good work can go on with increased power.

Making Them Comfortable.

"Why, gracious, pa," said the only daughter, "what in the world are those queer arrangements you have placed in the porch?"

The old gentleman rubbed his gouty foot and softly chuckled. "Net much dearie," he replied. "You see I noticed how long it takes for you and that young man to say good-night, so I fitted up an electric heater to keep your feet from getting cold and a portable alarm clock to inform you of the breakfast hour."

Statistics About Pins. Until the outbreak of the war no less than 90,000,000 pins were manufactured daily. The largest pin factory of the world is in Birmingham. It produces 8,000,000 pins in a single day. As the consumption of pins is not so enormously large there would soon result a great superabundance of them were not 12 per cent. demonstrably lost. The remainder get worn out by use. It has been calculated that pins lost in one day represent a value of \$4,500.

Swatting time is here for flies and roosters. Roosters have served their usefulness; flies never had any.