The AUTOMOBILE

HELPFUL HINTS FOR MOTORISTS.

Shift Gears in Time.

When going up a hill a driver should not wait until the engine almost stalls before shifting to a lower gear. If the car will not make the hill easily on high gear, change to second speed before the engine labors and knocks. By so doing considerable engine bearing trouble will be avoided.

When Engine Goes Dead.

If the engine suddenly goes dead on the road there are two things to do first. One is to look in the gas tank and see if it is empty and then if it is not look around for a broken ignition circuit. These two factors are the commonest causes of trouble.

Proventing Overheating.

When it is necessary to employ the low gear for a considerable period it is possible to obviate the overheating that would ordinarily result by keeping the mixture in the leanest possible condition.

Slow Down on Turns.

It is on turns that the greatest strain is on the steering gear. When making them, especially sharp ones, it is well to have the car slowed down so it will be under instant control if any part carries away.

Keep Feet Off Clutch.

It is well to keep your feet off the clutch when not using it. Pressure on it will cause it to become loose and slip.

Battery Tips.

Economize on lights.

Never use a battery in a leaking condition.

Test the gravity of all cells with a hydrometer syringe.

Never allow the battery to become overheated in service.

Keep distilled water in battery so solution is about half an inch above the top of the plates.

Clean Exhaust.

The wise owner will each year clean the exhaust system thoroughly. This cleaning should include the exhaust manifold, pipe and muffler. The latter should be taken apart and the parts soaked in kerosene over night. The pipe and manifold may be cleaned by drawing through a pack of kerosene-soaked waste attached to a long wire.

Safety Suggestions.

1. Put yourself behind the other man's steering wheel.
2. Don't laugh at timid passengers. They're your guests. Make them comfortable.
3. Don't expect children to look out for themselves. The fact that it was the child's "fault" doesn't make death less terrible.
4. When a man in the wrong insists on the right-of-way, let him have it. You can't argue with a fool.
5. Get the hand-signal habit. It protects you as well as others.
6. When a man behind wants to pass, slow down and draw over. It's safer to have him speeding ahead of you than alongside you.
7. Don't dash by street cars as they are about to stop.
8. Don't try to pass the car ahead when another car is approaching from the opposite direction.
9. Slow down and keep on the right as you come to the crest of a hill.
10. Don't dispute the crossing with a railroad train. What's the hurry?
11. Think of the other road users when you have to splash through mud or water.
12. Remember that the pedestrian at the crossing has a right to cross.
13. Don't drive jerkily. It keeps the man behind you worried.
14. When your brakes aren't working the time to get them fixed is NOW.
15. If you forget the Rules of the Road you can safely fall back on the Golden Rule.

Week-End.

Neat walks and lawns and wirebound flowerbeds
Betray my friend's determined quest for beauty;
His trees are trimmed and taught to do their duty
As teachers train conceits of childish heads.

About the house in studied carelessness
Clean-painted arbors glare through climbing vines,
And clematis around the porch rail twines
In disciplined, obedient duress.

My own hillside is wild and overgrown;
A tangled path twists to the shack above;
And beauty is not bound upon a throne,
But is the vagabond that free hearts love.

This perfect order subtly lets me know
I must be circumspect a day or so.

—Devere Allen.

The Earth's Satellite.

There is visible in the night sky under favorable circumstances a faint light rounded in outline and situated always exactly opposite to the place of the sun. It is called the "gegenschein," and is one of the most inexplicable objects known to astronomers. It was Pickering who suggested this explanation of the gegenschein. It may be a "sort of cometary or meteoric satellite" attending the earth.

It is supposed to be composed of a cloud of meteors, situated about 1,000,000 miles from the earth and revolving around it in a period of just one year, so that the sun and the meteors are always on opposite sides of the earth. It is estimated that the size of this ghostly satellite may be nearly the same as that of the planet Jupiter, viz., about 86,000 miles in diameter.

Ruts and How to Get Into Them.

"When a man is running a one-man business he cannot harm anybody but himself and those dependent on him if he allows himself to get into a rut. But when an executive reaches this condition he will disrupt an entire organization. One sure way for the head of an organization to get into a rut is to become jealous and distrustful of his associates and subordinates. If he cannot trust them, he ought to fire them. If they are trustworthy he ought to give them absolute confidence. He ought to give them authority and responsibility, each over his own job.—Success.

A Sermon in Little.

There are days when you are tempted to throw up your job, days when you are sick at heart, when you see others doing such wonderful things in other directions, and you are sorely tempted to join them. Set such temptations aside. Just say to yourself: "This is my job at present, this is my duty—my work. I can't leave it. I shall do my level best to-day, and who knows what to-morrow will bring? I shall fill my task of to-day as fully and as completely as possible."

Safeguard.

By night and day I weave for thee
A golden-gleaming net of prayer,
The shining mesh thou mayst not see,
But it surrounds thee everywhere,
God guard thy peaceful sleep by night,
Keep faith within thy heart alight
Through joy and sorrow—thus I pray.

—Mary Coles Carrington.

—and the worst is yet to come

Flying Kings and Queens

Royal aeroplanes are fast becoming the rage. Many of the monarchs of Europe and the East not only use flying machines to enable them to fulfil important engagements, but are acquiring private machines of special pattern and elaborate design which, in many cases, they pilot themselves.

The King of Spain set the fashion last autumn, when he acquired a French machine for his personal use. The King and Queen of the Belgians have long been known as enthusiastic aviators, and they used to fly backwards and forwards constantly to visit their children in England during the war.

The Queen of the Belgians has just accepted from the Aircraft Disposal Company a two-seater Bristol aeroplane for her own use, and intends to pilot it herself.

This is similar to the machine used by King Albert since 1920—except that instead of being finished in dark colors, it is decorated throughout in silver.

A wonderful machine has been built for the Thakur of Morvi, in Western India, which unites Oriental luxury with the latest achievements of Western science.

Never before has an aeroplane been so luxuriously furnished. Pictures and mirrors decorate the cabin, the floor is covered with the unrivalled carpets of the East, and the windows are draped with rich curtains. It sounds like a modern and improved version of the flying carpet in the "Arabian Nights."

The Indian Government is interested in the developmnt of aviation, and has obtained the assistance of the British Government in its plans. One hundred aeroplanes were sent out recently for distribution among the various States.

The Maharajah of Bharatpur, who is a noted sportsman, has taken up the new sport, and is devoting himself to his hobby in the most thorough-going manner.

A number of the Government aeroplanes have been assigned to him, and in his capital he has opened a flying-school capable of dealing with every branch of aviation.

How the World Makes Love

During the hearing of a recent breach of promise case the judge raised the question as to whether all courtships were not very much alike.

Now, although it cannot be denied that all courtships are a means to the same end, it cannot be maintained that the means are always the same. Indeed, no two couples are alike any more than there are two people exactly alike.

The courtship of the impetuous lover, who carries all before him in the ardor of his wooing, can scarcely be said to resemble that of the suitor who looks again and again before he leaps, and sometimes looks so long that he leaps only to find that another has taken the plunge ahead of him and carried off the prize.

Nor is there much in common between the courtship that is all adjectives and kisses and the up-to-date courtship of "pals" who discard the ordinary modes of love-making as "silly."

Again, what resemblanse is there between the courtship of many words and one which is a "song without words," like that of Barkis, the carrier, which consisted of the words, "Barkis is willing," repeated occasionally by proxy, as often as opportunity permitted?

Then, too, the varied circumstances in which courtships are conducted necessarily make for variety. In one section of the community they are frequently carried on at the back door. This, although it has its drawbacks, obviously possesses advantages over a courtship conducted from a second-floor window, as is the correct mode in Spain.

In Burma the maiden of a marriageable age places a lamp in the window at eight o'clock. This is the signal that she is ready to receive eligible bachelors, preferably several at a time. From eight until twelve o'clock is looked upon as the definite courting time, during which hours mother may only hover discreetly in the background.

In some parts of Japan, as soon as a young man has set eyes upon his ideal, he opens proceedings by fastening a branch of a certain shrub against the door of her parents' house. Should the young woman not wish to encourage his advances the branch is allowed to wither; but if she decides to accept him as her future husband she blackens her teeth as a sign that he may begin negotiations with her father.

When a youth in Afghanistan takes a fancy to a girl the method is still more simple. All he has to do is to cut off a lock of her hair. The rest of the proceeding merely consists in driving as hard a bargain as possible with the girl's father.

Morocco is one of the most stony-hearted countries in the world in this respect. The youths and maidens there fare badly indeed, for they are not even allowed to see each other before the wedding. Now and again a venurous youth will hide himself in the room when the young woman is coming to pay the customary state call upon his mother, but even this needs to be done with a considerable amount of caution.

The Eskimos are notorious for the arbitrary manner in which their courtships are conducted. After having decided upon a girl whose appearance pleases him, the young Eskimo pays a surprise visit to her house, puts her in a bag, and carries her away to his home.

Have You Found Your Niche?

You may be very sure, my young friend, that if you do not feel yourself growing in your work and your life broadening and deepening, if your task is not a perpetual tonic to you, you have not found your place. If your work is drudgery to you, if you are always longing for the lunch hour or the closing hour to release you from the work that bores you, you may be sure that you have not found your niche. Unless you go to your task with greater delight than you leave it, it belongs to some other man.—O. S. Marden.

Careless Feet.

Mother—"Darling, you are never quiet a moment. Why do you race indoors and out and up and down stairs so?"

Five-year-old—"I just don't know, mamma, 'less it's 'cause my feet feel so light hearted."

Mystery of "Spontaneous Combustion."

Many of the mysteries of "spontaneous combustion" have been cleared up by the advance of science. There was a time when the fact that a heap of coal can take fire of its own accord, so to speak, was regarded as almost miraculous.

After many serious accidents of this kind had occurred, involving not infrequently the loss of vessels at sea, an explanation was suggested to the effect that the fire was caused by the oxidation of the pyrites of iron and sulphur, which are often found in coal, and which are popularly called in England "coal brasses." When the pyrites are exposed to moisture a rapid chemical change occurs in them, accompanied by the production of heat. But it was afterward shown that many coals liable to spontaneous ignition when collected in immense heaps possessed such slight traces of pyrites that their presence could not be regarded as the cause of the ignition.

A more careful study of the phenomenon, based upon a consideration of the nature and structure of the coal itself, led to the theory which prevails to-day. This is that the oxidation of the coal, and not of the pyrites, is the real source of the disastrous fires which occasionally break out in the holds of ships laden with coal and in the vast heaps contained in coal yards.

Coal possesses a surprising power of absorbing oxygen. Some kinds of coal will rapidly absorb two or three times their own volume of oxygen when exposed to the air. Bituminous coals in particular always contain a considerable amount of hydrogen, forming a volatile compound with the carbon.

When oxygen is absorbed from the air it begins to combine with both the carbon and the hydrogen, and this chemical action produces heat. The heat in turn quickens the chemical action, and if, in addition, the coal in which this action is going on is heaped together in a large mass, the heat quickly accumulates because it cannot readily escape, coal being a slow and poor conductor.

The smaller the pieces of coal the greater the danger, because a small piece has in proportion to its mass a larger surface area exposed to the air, and consequently to the absorption of oxygen, than a large piece, and when small pieces are heaped together they form a porous mass which may be thoroughly permeated by oxygen from the atmosphere.

The presence of moisture also accelerates the chemical action of the oxygen in the coal so that the temperature of wet coal rises faster than that of dry coal. In the process of loading ships with coal a serious danger is often invited by pouring the coal into the hold from a considerable height by means of chutes. The coal at the bottom thus gets broken smaller and smaller, until it is in a fit state for combustion to be set up.

No doubt the mysterious loss of many ships is to be explained by a spontaneous ignition of the coal that they carried.

Many an individual has failed because he was not a man before he was a merchant, or a lawyer, or a manufacturer, or a statesman—because character was not the dominating influence in his life. If you are not a man first—if there is not a man behind your book, behind your sermon, behind your law brief, or your business transaction—if you are not larger than the money you make, the world will expose and despise and discount your success; history will cover up your memory no matter how much money you have.

The Rapid Growth of Manitoba

Prairie With But Few Timbered Areas—Mineral Belt of Northern Section is Attracting Widespread Interest. Great Industrial Development—Resources Merely Preliminary—Domestication of Fur-Bearing Animals.

The province of Manitoba occupies a peculiar status in the Dominion of Canada. Generally included in that vast territory known broadly as "the West" it was the first settled area of that territory, the agricultural settlement of Lord Selkirk taking place in 1821, and in history and tradition it goes farther back than those provinces between it and the Pacific Coast. As originally created into a province, it comprised an area of only 13,500 square miles. This has been increased by adding territory to the north until it now occupies 253,720 square miles, and is in size of about the same extent as Saskatchewan and Alberta.

Its wonderful wheat product first brought it fame, making the name of Manitoba Hard known wherever milling wheat is in demand. This rapidly spread to other agricultural products and of recent years the province has made strides in mining, industry and other activities which have attracted widespread attention and promise her a future more brilliant than even the most sanguine previously held out for her.

According to the last census report, the province of Manitoba increased in population from 455,614 in 1911 to 613,008 in 1921, a growth for the decade equivalent to 34½ per cent. The trend of progress in any area may generally be seen in the manner people flock to it and this one concrete instance of growth may be taken as indicative of the monster strides Manitoba has been taking in every phase of her provincial activity. No proper estimate can be placed on her natural wealth for though those known are extensive and diversified they are continually being added to by fresh discoveries and developments.

First Development Agricultural.

The first permanent development of Manitoba was agricultural and farming has maintained its precedence over all other industries in spite of their sudden rise and rapid growth. The agricultural settlement being largely accomplished previous to the opening of the last decade, it could hardly be expected to exhibit more than the ordinary normal development of a settled area.

Yet a substantial increase in acreage and production has taken place in this period. Wheat in 1910 occupied 2,760,371 acres and produced 34,125,949 bushels; in 1921 39,053,980 bushels were produced from 2,226,376 acres. There were 416,016 acres devoted to barley in 1910 producing a crop of 6,506,634 bushels; last year, 19,681,645 bushels were produced from 1,043,144 acres. In the same period the acreage devoted to flax increased from 34,684 to 61,689 and the production from 176,675 to 544,675 bushels. The 1910 crop of potatoes was 2,865,839 bushels; in 1921 it was 5,858,212 bushels.

Manitoba is a prairie province there being but few timbered areas and the few hill districts which contain quantities of standing timber have been set aside as Dominion forest reserves. Whilst there is very little utilization of this timber as a commercial enterprise, timber tracts are of great value locally to settlers who find multifarious uses for the product of the reserves. There is however a small commercial business which in 1912 produced 39,535,000 F.B.M. of lumber worth $545,356; 100,000 shingles worth $200; and 1,418,000 lath valued at $2,360. In 1919 the corresponding production was 54,246,000 feet of lumber worth $962,416; 60,000 shingles worth $120 and 3,235,000 lath worth $9,707.

Extensive Inland Water.

Manitoba contains an area of 19,894 square miles in inland lakes, three being of gigantic size, Lake Winnipeg, 9,457 square miles, Lake Winnipegosis 2,086 square miles and Lake Manitoba 9,457 square miles. All of these abound in edible fish including the whitefish, pickerel, trout, pike, tullibee, perch, and sturgeon. Both winter and summer fishing is carried on and though it is only within the past couple of years that any attempt has been made to engage in this pursuit on a commercial basis, a most gratifying success has been met with and Manitoba fish are now to be encountered in all the large centres of the American continent.

In 1909 the value of the fish caught in the province was $600,396; by 1913 this had risen to $1,103,885; and in 1920 the annual catch aggregated a value of $1,249,607. Merely the minutest of beginning has been made on the commercialization of Manitoba's inland waters which is capable of developing into an industry of large proportions.

The centre of greatest attraction in Manitoba at the present time, is the mineral belt of her northern area where preliminary prospecting and developing have disclosed illimitable possibilities in a variety of mineral resources. Work in this field is of too recent origin (merely initial development), to have yet shown appreciable results and it is only in the years to come that the exploitation of this area will effect a revolution in the mineral statistics of the province.

A very healthy progress in the mineral industry has however been exhibited in the past twenty years and whereas the production in 1900 was worth $216,830, it was valued at $2,928,316 in 1910, and at $3,900,207 in 1920.

Progress in agriculture always has its reflection in an expansion in manufacturing industry and this is shown in a marked degree in the case of Manitoba where industrial development in the past twenty years has been most startling. Increasing industrial establishment has taken place to meet the needs of greater settlement whilst Manitoba has gone a great way towards supplying the needs of the prairies to the west of her.

Another provincial resource which takes a lower though important place in provincial revenue is fur. The northern tracts of the prairie province each year yield to trappers many valuable pelts of high grade and value. In the season 1920-21 these amounted to 499,313 skins which had a value of $1,046,000.

An increasing interest is also being taken in the domestication of live fur-bearers and it has been estimated that beaver farming in the province can alone be promoted to a source of revenue yielding $500,000 annually. The province now has its own fur sales held periodically at Winnipeg at each of which peltry to the value of approximately half a million dollars changes hands.

Manitoba contains a great diversity of natural resources the development of many of which is merely in the preliminary stages. When it is considered that agricultural settlement, industrial establishment and exploitation of all kinds have at present only been accomplished over a relatively small portion of the province, it must readily be conceded that a great future awaits it when men and capital in greater number and volume can bring about more adequate and justified development.

Wild Iris.

I wandered down an azure afternoon
When skies were cloudless, though the far hill ways
Were hung as with an amethystine haze;
Warm were the winds, the whole world seemed atune
To all the golden melodies of June,
And earth, no longer barren, joyed to raise
Her verdant arms aloft as though in praise,
Seeking the Infinite giver of the boon.

I paused at last where swept a little stream
Gently before me, my fond fancy caught
By flowers up-springing from the bank thereof,
Wild iris! graceful, fragile as a dream;
And gazing on its slender spires I thought
I looked into the blue eyes of my love.

—Elizabeth Scollard.

Sonnet.

I have grown sick with pity; I would go
Out on the open hills, and breathe, and be
One with the beechen shadows, or some slow
Bright river winding peacefully to sea.
I would have nothing heavier to hold
Than a young cricket's fragile drowsy tune,
And grasses, weighted down with summer gold,
And the long silence of the afternoon.

There are so many hearts that break and bleed;
Mine, too, grows faint; it can no longer bring
Any warm pain to meet another's need,
Or any sorrow for their suffering.
I would put all the burden down; and walk
Wide fields, and laugh, and hear the bluejays talk.