The Automobile

Automobile owners often wonder subricating quality somewhat impair-why their machines do not : un better ed. Second, on the suction stroke, an why their machines do not run better ed. Second, on the suction stroke, an efter they have been used two or excessive quantity of oil may be three years. Good care has been given drawn past the piston into the combinem, but something doesn't work just right. In many such cases the cylinders need to be reground.

When the automobile engine is built the inside of the cylinder is turned to a perfect circle. The piston which slides up and down in the cylinder is causes the engine to miss fire.

slides up and down in the cylinder is also turned in a perfect circle. The piston cannot be fitted to form an airtight joint because the temperature of the engine varies in accordance with the cylinder among the among the among the cylinder is causes the engine to miss fire.

There has been much thought put upon methods of overcoming these the engine to miss fire. the engine varies in accordance with the outside atmosphere and the amount of heat generated in the engine of the engine varies as the weather changes and also as more or less heat is generated in the engine to meet the description of the engine to meet the storage of the engine to engine the engine to engine the engine to the engine to meet the storage of the devices developed. But permanent recovery can be obtained through the employment of some of the devices developed. But permanent recovery can be obtained through the employment of some of the devices developed. But permanent recovery can be obtained through the employment of some of the devices developed. But permanent recovery can be obtained through the employment of some of the devices developed. But permanent recovery can be obtained through restoring the experiment of some of the devices developed. But permanent recovery can be obtained through restoring the employment of some of the devices developed. But permanent recovery can be obtained through restoring the employment of some of the devices developed. But permanent recovery can be obtained through restoring the employment of some of the devices developed. But permanent recovery can be obtained through restoring the employment of some of the devices developed. But permanent recovery can be obtained through restoring the employment of some of the devices developed. But permanent recovery can be obtained through the employment of some of the devices developed. mand for greater or lesser power.

Both the piston and the cylinder expand and contract with the varia-tions in temperature, but not to the is a rather deficate operation and refitted the cylinder perfectly at a certain temperature would expand enough to stick fast in the cylinder at enough to stick last in the cylindal done the arcther temperature. Perhaps at still those at factory. o loosely as to permit the gas to by making compression of the gas impossible.

forth in the cylinder and because of the construction of the engine the piston is forced with considerable pressure against the side of the cylinder.

As the manufacturers of passenger cars continue to develop the one model.

RESULT OF THRUST ON PISTON.

The pressure of the expanding gas which produces the power for operating the engine tends to force the piston straight out of the cylinder. But the resistance of the crankshaft which accorded to the piston by means of

place is affected by a number of factors, perhaps the most important being the perfection of the lubrication something that every owner of an Thou, whom sad sinners made their

the crank case the oil is diluted and its concerning this problem.

that heavy cold?"

A Hope.

Kew Gardens, London's famous hor-

ticultural park, covers 280 acres.

great bunches of poison-ivy.

GRINDING GIVES NEW LIFE TO OLD CYLINDERS.

storing the cylinder is to regrind it This is done by the use of emery or quires the service of a high grade me-chanic skilled in this line of work. When the proper grade of work is done the results are even superior to

WHEN REGRINDING IS NECESSARY. If the design of the engine is good To secure a gas-tight contact with and lubrication has been effective, ree cylinder wall the piston is provided with several flexible rings which expand outward and form a perfect contact with the cylinder wall. They have sufficient elasticity to keep this contact as the cylinder expands and contracts due to the changes in term. contracts due to the changes in temperature. When the engine is being operated the piston sides back and car as has been the case with the

cars continue to develop the idea rather than bringing out yearly

connected to the piston by means of traded in for new models are repurthe connecting rod causes the piston to be forced with considerable pressure against the side of the cylinder because, during the power stroke, the because, during the power stroke, the crank pin is traveling through an arc at one side of the centre of the piston instead of directly under it.

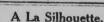
As a result of this side thrust on satisfaction obtained in the use of a What truth could dim Thy response to the piston of the latest much trouble could be avoided and greater satisfaction obtained in the use of a What truth could dim Thy response to the piston of this type by attacking the the piston there is a tendency to wear car of this type by attacking the away one side of the cylinder wall. source of practically all of the petty why must we hedge and screen and rapidity with which wear takes annoyances, namely, the worn cylin-

its true circular shape and be- of-practically all motor vehicles when oval. As the piston rings are regrinding can be done to advantage.

Ifficiently flexible to fill in the space, leaking is the natural rething leaking causes several ills.

This leaking causes several ills.

This leaking causes several ills. First, the gas which is being compressed passes by the piston, thus reducing the power generated by the engine, and as the gas condenses in where expert advice can be secured where expert advice can be secured where expert advice can be secured



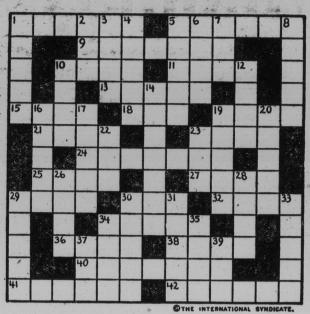
The oldest silhouettes that have day. een preserved date from Corinth in 700, but was known to be of much ear- my time? The name, however, was not applied to them until 1759, when ply.
one Etienne de Silhouette was French "But I haven't done anything.". left France in a state of great financial cial evils of war by rigid economy.

hions took the form of parsimony. Lace and ribbons were under the ban and coats without folds became the A Heavy Cold.

Smith (on the scales)—"Can't tell snuff boxes high and low used boxes why I should weigh more to-day than made from the plainest of woods. Instead of having great artists paint Jones-"Haven't you just caught their portraits they portrayed the features by drawing only the outlines in India ink. In that day all fashions were spoken of as "a la Silhouette," you manage it?" "Oh, yes," replied the patient. "I'm "Oh, yes," replied the patient. "I'm "Oh, yes," replied the patient. tures by drawing only the outlines in It is to be hoped that all these who but the picture is the only thing that throw rubbish by the wayside continue has since retained the name. their vandalism by carrying home

> More Grapefruit Wanted. British demand for American grape-

CROSS-WORD PNZZLE



SUGGESTIONS FOR SOLVING CROSS-WORD PUZZLES Start out by filling in the words of which you feel reasonably sure. These will give you a clue to other words crossing them, and they in turn to still others. A letter belongs in each white space, words starting at the numbered squares and running either horizontally or vertically or both.

HORIZONTAL -A rock that splits into slabs 5—Shaped 9—Particular account -Stringed Instrument 11—Future men 18—Small face or surface 15—Strong flavor 18—Viscous substance from pine Source of mineral 24-Filled with builet wounds 25—To administer nauseous sub-27-Existed 29-Nothing but 30-Pronoun 32-Files

34-One who forfelts 36-Spill 38-Ditch 40-Stoutness 41-Agonies

16—Apart 17—The common furze 19—More broad 22—Pastry 23—Immune 26—Spheres 28—Defeat 29-Deserve -Part of the ear 35-Mechanical repetition From the Sea Bottom.

Sea-Gull.

spread

south on high,

Unheeding voices blown about the sky

To Detect Fraud in Oxide.

Artificial oxide on imitation an

-Sally Bruce Kinsolving

VERTICAL

2—Glinging vine
3—Medieval slave
4—To discuss
5—Thread-like substance
6—Source
7—Indefinite quantity

14-Confections

8—Railway station
10—Granted for temporary use
12—To examine closely

parts.

automobile should make somewhat of own,

wear takes places the cylinder a study for there is a time in the life How could they reach Thee on a

-Mildred W. Stillman.

Conscientious. The plumber worked and the helper

stood looking on. This was his first "Say, he inquired, "do you charge for

"Certainly, you idiot," came the re- I know that of wild waters you were

And yet I, too, am kindred of all these; er, to fill in the hour, fiad | I mark your wings that are so lightly been looking long at the finished tob exhaustion and Silhouette insisted that the people remedy some of the finaned to the helper, he said witheringly; During this period all Parisian fas- "Here. if you've got to be so dared And are you by their veering impulse conscientious, blow that out!"

> Did He Need a Sea Voyage? Beating the winds back even as you fly A doctor was examining a man who had come to him for the first time. First east and west, then north and Like one on some aerial mission sent

him gravely. "You are in bad shape." he said. Losing uncertainty in divine content? "What you need is a sea voyage. Can

second mate on the Anna Marie, just in from Hong-kong.

tiques is now detected by means of an Flea and its Food. A young flea can go without food for mines.

body temperature.

still in a cold room. His body radiates some of its heat into the surround ing atmosphere, and were it not for the heat-regulating power of the skin his temperature would drop. But the nerves report the fact to the skin, and the small blood-vessels there begin to contract so that less blood is at the surface to be cooled. The nerves also report to the muscles, and they begin to tremble and shiver. This causes the production of more heat. the Peace, Slave and Mackenzie rivers.

If the pores of the skin are completely stopped up (as they were in a his-torical case of a child whose body was covered with gilt paint), the person will die within a short time, due to interference with the heat-regulation mechanism. Perspiration goes on continually, generally insensibly. One notes it particularly if he wears a rubber coat, or when heavy shoes or goloshes are worn, for he finds his clothing or his stockings wet or damp.

Keeping Clean and Fit.

bath to lessen the boddly heat. A which they travel, it is essential that warm or hot bath will often soothe a the roadbed be kept up to maximum Some surprising things come out of the sea, for it is rich not only in fishes, feverish, nervous person.

person weary with effort. A cold bath of conditions of the roaded or cold sponge often brings eleep to a the property of the sea, for it is rich not only in fishes, feverish, nervous person. The smaller the body the greater re-

North African coast. Now some poor the insensible perspiration; futher more, we do not bathe him at a temperature much below that of his body.

Was lying twenty fathoms under the draughts, which very readily evaporate the insensible perspiration; futher more, we do not bathe him at a temperature much below that of his body.

Delicate persons who make little exwas lying twenty fathoms under the sea.

Experts say it is a charming figure of a boy, and belongs to the best period of Greek art 2,300 years ago. It resembles the work of the school of the sembles the work of the school of the school of the sembles the work of the school great Praxiteles, and is practically perfect. Probably it is a relic of a ship-body, and thus strives to be clean and Railwa

wreck, or was flung overboard in a fit. Bird of no other life than skies and the dried residue of perspiration, other



Photographing the Stars. The faintest stars visible to the

SECRETS OF THE **HUMAN SKIN** Most persons bathe from habit or for

the comfort or pleasure they get from it, and comparatively few know the relationship that exists between bathing and personal health, said Dr. Matthias Nicoll in a recent address. The skin, in relation to being a pro

tective covering, is the great heat-regulating organ of the body. When in health the temperature of the human body remains practically the same in heat or cold, in summer or in winter, whether a person wears no clothes or sews himself into many garments. The skin through its pores and the many little vessels and nerves with which it supplied automatically takes care of the body temperature.

A Network of Nerves.

A person runs, or is out in the hot Heat of the body follows. network of little nerves reports the fact to the skin. Its mesh of capillary blood vessels dilates, water oozes out evaporation of the water cools the blood at the surface, and it returns to the interior to stabilize the general At another time the same person sits

sea,
As I now watch you soaring overhead, tion might merely rub himself dry.

Answer to last week's puzzle:



as the twenty-first magnitude.

Route of Lord Byng governor-general's trip northward from Peace River Crossing culminated with his arrival at Aklavik in

the delta of the Mackenzie river near Beaufort Sea, a subdivision of the Atic Ocean. In all, Lord Byng will have traveled about 2,000 miles over west-ern Canada's great inland waterways.

Natural Resources Bulletin.

The above map shows his route along

The Natural Resources Intelligence Service of the Dept. of the Interior. at Ottawa says:-

One wonders as he travels along the railway, what becomes of all the old railway ties that the section gangs are constantly taking out and replacing with new ones. Occasionally a fire is seen, when these old ties are So we bathe (1) to remove the residue of this insensible perspiration; (2) to keep the pores open; and (3) to produce a definite environment temperature for our comfort—a hot bath proper condition, because, with the hody or a cold heavy trains and the high speed with eavy trains and the high speed with

ply of ties is one of the problems with which the railways have to deal, and Remarkable treasures have been latively is its radiating surface. So we it is a very serious onc. Rigid speci-Remarkable treasures have been dredged from the bed of the Bay of Naples, and only a few months ago a diver sighted a drowned city off the draughts, which very readily evaporate millions of ties used annually is considered, and that each tie has its proportion of the load to carry, the necessity for this inspection is apparent.

Railway ties vary in length from t.

8 to 9 feet, with a thickness of from There is no general rule for bathing.
6 to 7 inches and a width on top of ociety, however, demands that its from 7 to 10 inches, while they vary Society, however, demands that its from 7 to 10 inches, while they vary sense of smell shall not be offended by in grade according to the purpose for which they are to be used. wise the person dripping with perspira-tion might merely rub himself dry. bottom and sides, while others are sawed or hewed on top and botton

> During recent years the Canadian tive treatment of their ties, creosote being largely used. There are a num-ber of plants situated throughout Canada for this purpose, many millions being thus treated annually. is claimed that the life of the ties is doubled by this preservative treatment. This is a big factor in the cost of upkeep of the railway lines, as the prices now being paid for ties are a heavy charge against operation. dengthening of the life of the ties, furthermore, reduces the cost of changing them in the roadbed, and will also reduce the supply of old ties available for firewood.

In Northern Florida there are some naked eye are of the fifth magnitude, places where water, travelling underelectro-chemical process developed at while with the largest telescope photo- ground from higher levels, spouts out the Columbia University school of graphs may be made of stars as faint with sufficient energy to drive turbogenerators.

MUTT AND JEFF-By Bud Fisher.

