



Highway Improvement

TEST GOOD ROAD MATERIALS

Much Detailed Technical Information Secured in Experiments By Public Roads Bureau.

It is believed that the bureau of public roads, United States department of agriculture, through its testing division has done more than any other single agency in developing the intelligent use of bituminous road construction. For example, experiments conducted under various conditions by this bureau showed which of asphalt stone could be used in bituminous macadam and bituminous concrete at other roads having a hard base could be used to advantage in work construction, what quantities of bituminous give the best results when used as surface treatments, on a soft road, macadam and what kind of covering material and what quantities should be used in its case.

A large amount of detailed technical information regarding bituminous road construction generally has been secured by the bureau in the course of its experimental work. The results of this highway engineering experiment which would improve road traffic has been made known to the engineering profession, but the engineering division has developed its present engineering department.

In 1906 the passage of the federal road act created a new public highway construction in the United States. The act then in practice has developed the road of better quality than in any other country. The bureau



Bituminous Macadam Mixing Method

has sought to keep well to the front in the solution of the problems presented and is now conducting experiments and investigations of a few important character.

CARRYING PRODUCE TO CITY

Possibilities of Motortruck Only Touched as Yet—Improved Road Will Assist.

About 20 per cent of motortrucks in the United States are owned by farmers, according to well known factbook statistics, but about 80 per cent of all the motortruck work is done in the country. It is estimated that the expenditure in the United States for road surfaced highways during next year will be around \$200,000,000 compared with \$100,000,000 during this year. The possibilities of the truck for carrying produce and supplies between farms and cities is only touched as yet. The additional rights proposed will give added energy to motortruck transportation.

WORK GRADER OVER HIGHWAY

First Round Trip After Each Rain Should Be to Smooth Up Center and Remove Surplus.

The center of an earth road drives more quickly after a rain than do the sides. Therefore the first round trip after the rain has stopped should be on the center with the load set on the inside which will move the surplus dirt toward and out. This is the best method for the center road, where the traffic should travel and wishes to travel.

MUST USE PNEUMATIC TIRES

Norway Proposes Legislation to Prevent Damage to Improved Roads by Heavy Trucks.

Norway is the first country in the world to propose national legislation that will specify that trucks carrying two-tones loads must be equipped with pneumatic tires so as to prevent damage to roads and to cut down the excessive wear on highways requires due to the use of solid tires.

Good Roads Fix Prices.

Books in a large measure determine the character of agricultural activity, the markets in which products reach, which in turn fixes the prices of such products.

Plant Deserves Trial.

Biennial sweet clover is a pasture plant that deserves a trial in a small way on every farm.

Sheep Is Rightly Called to Play an Important Part in the Feeding of Sheep.

Desirable for Forage. The black and brown seeded soy beans are most desirable for forage. The yellow seeded for food and the production of oil and meal.

Prevent Potato Blight.

Prevent potato blight by spraying the vines with Bordeaux mixture (old) instead of lead to kill the potato bugs.

A Bug, like all other animals, now certain everywhere to give the best results.

Beautiful City of Petra.

The Rock City of Petra, situated at the southern end of the highlands of the Jordan river, is described in a National Geographic society bulletin as one of the strangest, most beautiful and most enchanting spots on earth. Petra is known as the "gate deposit" of caravans of route with previous wars to the and Sudan. At the dawn of human history Petra became the central point to which the caravans from the interior of Arabia, Per-

Five-Minute Chats About Our Presidents

By JAMES MORGAN

ULYSSES S. GRANT

1827—April 27, Hiram Ulysses Grant born at Point Pleasant, O.
1839—Enrolled at West Point Military Academy as Ulysses Simpson Grant.
1846—In the Mexican war.
1848—Aug. 22, married Julia Dent.
1854—Resigned from the army.
1861—Colonel of Twenty-first Illinois volunteer regiment of the army.
1865—August, brigadier general.
1865—April, fought battle of Shiloh.
1865—July 4, took Vicksburg.
1864—March, lieutenant general in command of the army. May, opened his campaign in the Wilderness in Virginia.
1865—April 9, received Lee's surrender at Appomattox Court House.
1869—March 4, inaugurated eighteenth president, aged 42.
1872—Grant re-elected.
The Credit Mobilier scandal exposed.
1876—February, "whisky ring" exposed.
March, Belknap, secretary of war, impeached.
1877—March 4, Grant retired from the presidency.

SLUGS AND ARROWS

1877—Grant left the White House, lived from public care for the first time in 15 years. His opponent was to visit his daughter, Mrs. Nelson, who had been widowed, who he was supposed to be the public welcome that greeted his arrival. He was "puzzled to find himself a personage," said Grant. He found that his individual friends were quick to see in his triumphs almost a chance to restore their own prestige at home and they would be content to let him enjoy a sort of the word which, perhaps, perhaps, perhaps in his honor. As he went to England from London to France, he passed and he was honored there.

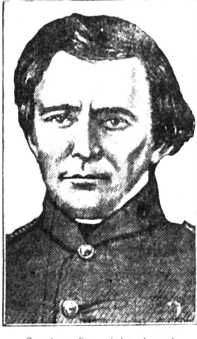
Grant, some three or three years' absence, he was widely yielded to the possibility of a new song his name being made available to regain power in the "Stalwart" faction of the Republican party. But the war had broken out and he had to be in the field in the Republican convention of 1880.

Leaving the White House, he was caught by a young Napoleon of France, who the whilodip of New York, and to become a partner in a Wall Street bank. But that kind of money he did not want. He had and most of all, his name.

After three years he was ruddy swarthy from his dream of wealth by the "young Napoleon" report that he go borrowing from William H. Vanderbilt to save the bank from crashing. He was home from a fall on an ice street when the truth was broken to him, but he must into the Fifth Avenue palace of the multi-millionaire and come out with \$100,000.

As he entered the bank, two days later he was met with the crushing news that the firm of Grant & Ward had gone down in a shambled failure. Hence afterward a clerk found the broken man still sitting at his desk in silent despair, his hand gripping forward, his hands gripping the arms of his chair.

Out of bad came good. Grant opened his "Personal Memoirs" with a frank admission that he consented to write that great narrative only because he was living on borrowed money when a publisher proposed the undertaking. As he pursued his theme he was gratified to discover an unexpected gift for unfolding a moving tale of his adventures and achievements in the field. He wrote on until he had finished a story inspiring in its directness and simplicity as his own nature. And the first sales of it brought his wife



Grant as Second Lieutenant.

side-tracker from the fighting line in the quartermaster department. That experience led him to be a contractor for supplying food to the army at the outbreak of the Civil war when the politicians refused to make him an officer.

The first time Grant came in sight of the enemy in the Civil war he frankly tells us that his heart jumped into his throat. "I had not the moral courage," he said, "to halt and consider what I had best do."

That is the whole story of how Grant got to Appomattox; he kept right on marching without a friend or a comrade, with only a long, unbroken trail of disappointments behind him, he never asked for promotion, an assignment of a favor, let this man's name rise to be general in chief.

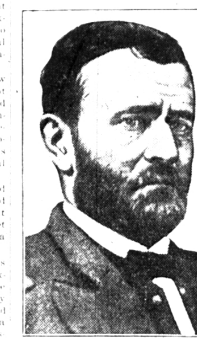
No competitor ever was higher souled than Grant at Appomattox. Sad and depressed, as he felt, he set out the result of a valiant foe, he felt as if that fellow in war were a neighbor in trouble.

When he became president it was Grant's misfortune to know no one except his associates in the war. The self-respecting among them kept away from him. But the soft-soaked and the empty followers crowded about a man who never forgot and never deserted a friend, not even when he came bearing a Greek gift and Senator Charles Sumner spoke scornfully of the administration as a "gift of terris."

The many scandals of the administration were mostly traceable to the blunders of Grant's children and courtiers in unworthy friends. "Black Friday" in Wall Street cost its shadow and his family a pile of gold.

The "whisky ring" involved the president's private secretary. A member of the cabinet was impeached for equal transactions, but by accepting his resignation Grant let him escape the conviction.

A liberal school of distinguished Republicans revolted against Grant's despotism as a second term, but they were mostly leaders without followers. The popular revolt did not come until the panic of 1873 had plunged the country into six years of hard times, and a tidal wave in the election of 1874 swept the Democrats into control of the house.



Ulysses S. Grant.

when he was "losing more money than all the earnings of his lifetime. One day, in the midst of his writing, he was writing a poem. He felt a shudder run down his spine. A deadly cancer had him in its clutch. With grim bearing, he fought it until he had completed the two volumes of his "Memoirs," although he was reduced to the necessity of whispering his dictation in the ear of a stenographer. Finally he was left speechless and had to write out the closing chapters on a pad in his lap.

At the coming of summer, he was taken up State to a cottage on Mt. McGregor. There he slowly welcomed, as he sat on the piazza, the visitors who came to see him, among them General Simon Dallas Buckner. To that illustrious at West Point and foremost at Fort Donelson, Grant gave his last message of blessing that his success had met North and South in a common sympathy.

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Man and India came laden with all the precious commodities of the East, and from which these commodities were distributed through Egypt, Palestine and Syria, and the countries bordering on the Mediterranean.

Many Will Not Believe It. A Boston investor says that women are the best accountants. This is true on the face after all the experience they have had in accounting for themselves the last morning—St. Louis Globe-Democrat.

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4. The stock is free from personal tax in Michigan.

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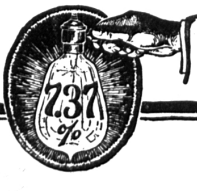
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