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Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as Athletics as a mental training, Army, 71st Regiment, Books and publications, new, Bread, aerated, Bridge, Brooklyn, new stations, etc.

TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. 988.

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Table listing contents of the supplement including I. AGRICULTURE, II. ANTHROPOLOGY, III. BIOGRAPHY, IV. CHEMISTRY, V. ENTOMOLOGY, VI. HORTICULTURE, VII. MECHANICAL ENGINEERING, VIII. MISCELLANEOUS, IX. NAVAL ENGINEERING, X. PHOTOGRAPHY, XI. PHYSICS, XII. PSYCHOLOGY, XIII. TECHNOLOGY.

A TORPEDO BOAT THAT RATES OVER THIRTY-THREE MILES PER HOUR.

The British Admiralty is adding a large fleet of fast torpedo boats to the navy, several of which, already completed, are faster than any boats in the world.

THE NEW BROOKLYN BRIDGE STATIONS.

The work of enlarging the terminal stations of the Brooklyn Bridge is being rapidly advanced, and something of their ultimate design is already apparent.

The platforms in the new stations will be much wider than the present ones, and tracks will be laid on each side of them. The trains will be run to and fro on both sides of these platforms, thus making it possible to load and unload two trains at a time.

The roadways on the bridge have been widened near the stations on both sides of the river to prepare for the new arrangement. The purpose is to spread the railroad tracks wider apart than they are at present.

A serious objection to the new system will be the increased danger of accident incurred in handling so many trains. The new system is, however, the most perfect one possible under the present conditions.

THE SMALL CALIBER BULLET IN THE EAST.

In our issue of November 10 we published an article entitled "Small Caliber Projectiles." Since the appearance of this article the world has learned of the terrible wounds produced by the small bullet in the war between China and Japan.

tion wrought by the new bullet is largely the result of the so called "explosive action." By this term we are to understand the injury produced by projectiles, which is out of proportion to the size of the projectile itself.

The captain of one of the American warships on the Asiatic station has written home of some very interesting things that he has seen. Describing a visit to the Japanese field hospital, near Nagasaki, he says:

"There I got a fair conception of the killing and wounding qualities of the new small bore rifle that all Europe is adopting. The Japanese infantry arm is the Murata, the invention of Gen. Murata, now chief of ordnance of Japan. The caliber of the gun is 0.315 and the bullet weighs 235 grains.

"I saw a Chinese officer who had been struck in the knee joint by one of these bullets, fired at a distance of about 1,000 yards. The thin steel envelope of the bullet had broken and the joint was simply a mass of finely comminuted bone splinters.

The caliber of the new United States magazine rifle is 0.30 and the bullet weighs 220 grains. When this bullet was first decided upon, there was considerable talk about the new bullet lessening the mortality in war. Many persons claimed that the new projectile would, in a large number of cases, simply put the soldier hors de combat, and some even went so far as to call it a "humanitarian" bullet.

A Model Tenement House.

Plans are being discussed by a number of philanthropic people in New York for providing healthful and comfortable tenement houses for the poor at reasonable rates of rent. It is proposed to build on a plot of ground in Brooklyn, 75 by 208 feet, a huge structure six stories high, to contain 408 rooms.

Steam as a Means of Defense.

A simple and effective method of repelling train robbers by discharging jets of steam upon the attacking party has recently been patented by William H. Reeve, an old tugboatman, of New York. The inventor has enlarged upon the plan long followed by railroad companies of attaching a steam jet to locomotives to scare cows and other animals from the track.

A further use of steam as a means of defense, the inventor claims, would be in protecting banks against thieves. Since banks are usually heated with steam, the attachment could readily be made.

A more ambitious plan, however, is to utilize steam in the defense of forts, armories or arsenals. Powerful jets of steam could be discharged at doors and windows of arsenals. Forts could be protected in a similar manner, and as long as the supply of steam held out, the inventor claims, they could not possibly be carried by assault.