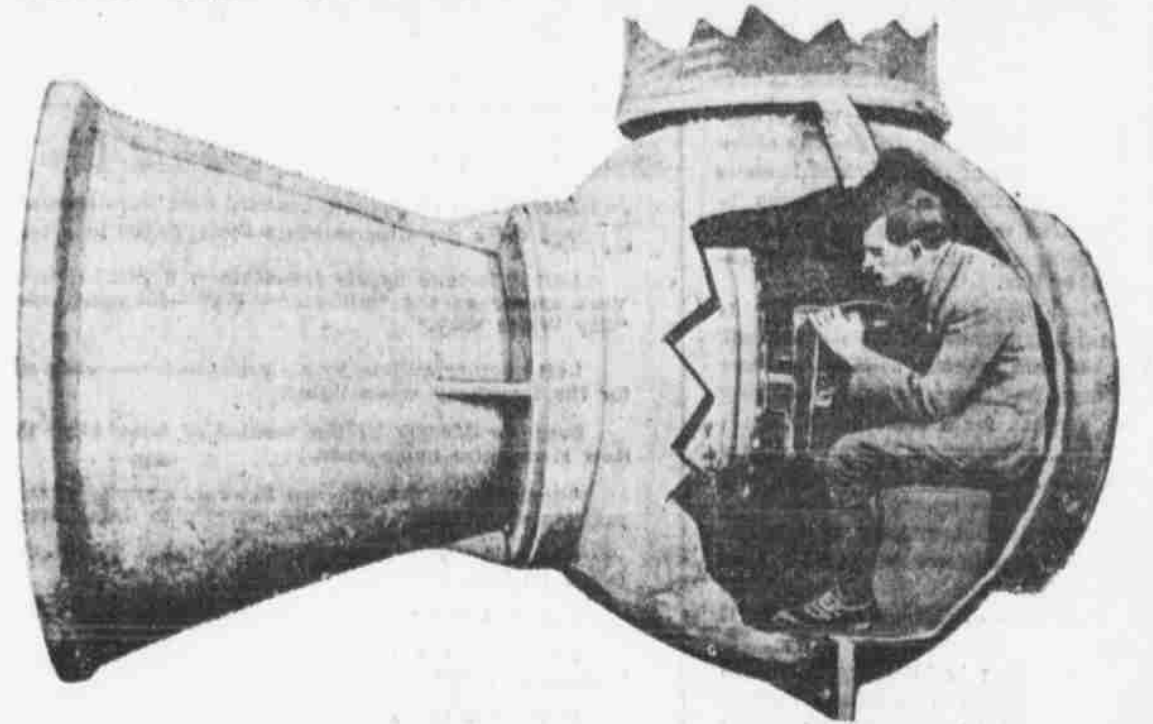


## Taking Moving Pictures UNDER THE SEA!



The Camera Operator in the Great Horn That Is Lowered Into the Ocean Depths.



The Most Remarkable Photograph Ever Taken—A Man Fighting a Shark Under the Ocean Off Nassau.

### The Most Baffling Mysteries of the Oceans Now to Be Laid Bare by a New Astonishing Advance of Science

THE recent announcement that submarine ore fields may perhaps be located by the use of wireless apparatus assumes additional interest because of the fact that submarine moving pictures have now been made possible.

The dangers which beset submarine workers will be greatly lessened when they are better understood, and the submarine moving picture will doubtless reveal many of the mysteries which "the dark, unfathomed caves of ocean bear."

Except from the lips of divers who have descended on the edges of the coast to a puny depth of a hundred feet we are in ignorance of what lies beneath the waves. Divers, with the limited field of observation accorded them by the crude appliances of their trade, have been able to tell us but little of the nature of things in that vast area beneath the waters, which embraces three-fourths of the earth's surface. By the weight of a lump of lead on the end of an inamiable wire we have sounded the depths and learned that there are places where the ocean's bottom spreads full five miles beneath the surface. From samples of soil hauled up by mechanical means, we know, in a small way, the character of this bottom.

But experiments just concluded on the ocean's bottom in the Bahama Islands have given us far more instructive data than that.

For hours at a time men have sat in comfort within six inches of the bottom and fifty or sixty feet beneath the surface. There they have smoked and talked and breathed as naturally as though they were upon the shore. And they looked with ever-widening eyes at the wonders and beauties of subaqueous forests, the countless thousands of brightly colored tropical fish, the panorama afforded by the lace-like length of a coral reef, with hosts of brilliantly hued fish swimming in and out of its pearl caverns, and the skeletons of once proud ships, with backbones and ribs exposed, as they rested where they struck and disappeared from human ken generations ago.

What these men saw beneath the sea they photographed, and some of the wonderful pictures they secured are reproduced on this page.

While it is true that the greatest depth achieved in these experiments is not greater than that frequently

An Under-Water Moving Picture, Showing a Horse Being Lowered Through the Depths to Attract Sharks, While the Shark-Fighter, Knife in Mouth, Swims Beside It.

reached by divers, it was clearly demonstrated that the means for deeper trips into the unknown waters has been found, and that the time is not far distant when it will be easy to go down several hundred feet. The apparatus used in the experiments was subjected to a thorough submarine test and structural analysis at the Norfolk navy yard by officers of the navy, who reported that it would be perfectly safe, in its present form of construction, at a depth of 800 feet. To make it strong enough to go even deeper is simply a mechanical detail.

Several years ago Captain C. Williamson, of Norfolk, began working to perfect an invention that would take the place of the ordinary diving suit. It was his idea that some means should be developed by which a man could go down into the water unhampered by weights and ropes and compressed air and water pressure. His experiments extended over a long time, but finally he was successful and the Government granted him a basis patent.

Broadly considered, his apparatus is in three parts: (1), floating vessel of any suitable design; (2), submersible terminal operating chamber, in which work or observations can be carried on at the bottom of the water, and (3), a collapsible, flexible tube of metal, connecting the floating vessel and the submersible chamber.

The main feature of the invention is the tube. It is made of steel in sections of varying lengths. Each section is composed of an upper and lower flange, and these are connected by a set of steel hinges, so arranged as to open and shut along radial lines to the axis of the tube, but at all times to fit against each other so closely as to be water-tight. Some of the sections have only one set of hinges, and when collapsed the longer sections rest upon each other. In the longer sections there are several sets of hinges joined to each other between the upper and lower flanges. When collapsed they stand about

three feet high; they are eight feet long when extended. The sections can be fitted to each other readily, and by this means the length of the tube is regulated. Because of the collapsible nature of the sections it is possible to submerge the tube. Any one who has tried to push a large bucket bottom downward into the water will realize what a difficult thing it is to do. With the collapsible tube each section just a lit-



The Bait Rising with Sharks Attacking It—An Under-Water Photograph.

tle more than displaces its own weight in water at the surface when extended. Therefore, it will sink. But deeper down the pressure of the water overcomes this greater displacement. Then the tube automatically collapses, section by section, from the bottom upward, and as each section closes its weight remains the same, but its volume of displacement grows less. By this means the continual adding on of sections at the surface forces down the sections below. To the bottom section is fitted the operating chamber.

1863, in 1864, Winter of 1867, in 1869, Summer of 1870 and Winter of 1871, Fall of 1874, Winter of 1879-80, Summers of 1882 and 1884, Fall of 1886, in 1888, Fall of 1890, Summer of 1894, or Fall of 1898. Jupiter sits benignly over their destinies, and of a solar eclipse is prolonged to some months, according to time of young ladies will have matrimonial opportunities.

A depressed, obstructive condition obtains for those born between the 17th and 23d of March or June, or the 21st to 24th of September or December of any year; or in the Summer of 1855 and through the Winter of 1856, early Fall of 1862, last half of 1864, Spring of 1865, in 1870, Spring and Fall of 1878, Spring of 1880, Fall of 1884 and first half of 1885, in 1892 or Summer of 1907. Guard health, business interests, and cultivate a patient and more optimistic spirit. A bereavement likely to come their way, as well as those whose anniversaries fall between the 5th and 12th of the current August.

August 24.—An advancing market, money conditions more equable, and the social world very active. General conditions much better to close of month. High winds on 30-31st, which will clarify the atmosphere and lessen the labor of the medic.

August promises good fortune for those born between the 5th and 10th of February, April or June, or the 9th to 13th of October or December of any year; with an accentuation of the same in the Summers of 1851 or 1853, the first quarter of 1865, Fall of 1868 and Winter of 1869, close of 1862, early Summer of

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## What the Stars Predict for August

AUGUST is dominated by two lunations, the Full Moon on the 6th and the New Moon on the 21st. The latter is a reversal of testimonies contained in the first, denoting some sudden mutations in both governmental and economic policies toward the close of the month. The midsummer is replete with significant happenings, and press and public will not lack for thrills.

Saturn in the fourth angle betokens earth disturbances, fall of buildings, mining disasters in the Pennsylvania and Southern regions, and some mishap to the Panama Canal, also earthquake shocks in that zone.

In many respects the lunar period does not promise favorably for the country, and to the disinterested on-looker, if any such there be, it will present some puzzling perspectives in the panorama of human ethics.

There is some suspicion of trouble from abroad, and the Secretary of

State in some official capacity will evoke censure. As this midsummer approaches there are not a few notabilities struggling under a Saturn regime, of whom may be mentioned Bryan, the Tammany Hall chief, Mr. Murphy and Colonel Goethals, each with Saturn crossing the natal Sun; ill health and other difficulties to be feared, and considerable worry for President Wilson after the 21st.

The angular position of Mars and Venus square Saturn shows great humidity and increase of temperature—with the Moon on the equator at the full—between the 5th and 12th, similarly between the 21st and 24th. There will be violent electric storms on the 2d.

The stock markets are much depressed in the first half of the month, with more stability and some definite recoveries in the latter half; the money interests are correspondingly conditioned.

The criminal fraternity reaps a regrettable harvest, and with the Moon in conjunction with Uranus so near

Jupiter on the 12th, many criminals will use automobiles to carry out their plots, and there will be few, if any, apprehensions; this especially near the 17-18th and the close of month.

The telegraph, postal, railroads, and all carrying companies are benefited through Venus up to the 21st, with the literary, scientific and religious worlds not so happily circumstanced. This order is reversed after New Moon on the 21st.

Specific incidents on or near the following dates:

August 2.—Destructive storms in middle and Southern section of the country, crops endangered; a casualty on an electric railway.

August 5.—Some interesting social function, an engagement in naval or military circles announced, with Venus conjunction Mars.

August 10.—A prominent business failure in trade or banking circles. Stocks erratic, reaching lower points on the 12th, with recoveries around the 17-18th.

August 21.—Tidal waves and seis-