

CLOSE MEASURING OF VELOCITY

Photographing in the One Hundred Thousandth Part of a Second. The new photochronograph, designed for the United States government to test the velocity of cannon balls, will soon be completed by Prof. John A. Brashear at his Allegheny workshops.

In the present instrument but one single lever is used to fire the gun, to start the tuning fork to vibrate, to open the main shutter, and also to release the electric connections which throw the beam of light on the photographic plate.

As this distance can be readily measured the question is to determine how long the ball is between the two wires. Before the cannon ball strikes the first wire in front of the cannon a tuning fork is set in vibration, and through a delicate opening in a small diaphragm one of the prongs of the tuning fork is sent on to the photographic plate.

After the photographic plate is developed it is placed under a divided circle and the relations of the two photographic streaks measured with a micrometer. So exact has this method been found that the movement of a ball two or three inches can readily be timed.

Heretofore measurements of such short intervals have been impossible for the reason that no photographic shutter that had weight could be moved in such a brief space of time, and in this point lies the beauty of the new invention. Instead of moving something that has mass the light from an electric arc impinges on two Nicol prisms which lie at right angles to one another.

The instrument made last year proved so valuable at Fort Monroe that the new machine was ordered for the Sandy Hook testing ground. Not only can the velocity of cannon balls be determined between any two points outside the cannon's mouth, but it can be measured within the cannon. Formerly any attempts in this direction were rather unsuccessful, and the way it was done was quite destructive to the gun, as a foot at a time was cut off from the end so as to determine the motion at each point.

SCHNAPPER OF AUSTRALIA

It is the King of Fish in That Country. The king of Australian fishes is undoubtedly the schnapper. We speak not now of the trumpeter of Tasmania nor of the blue cod of New Zealand, about which the inhabitants of those colonies are not unreasonably proud.

The home of the schnapper is in the deep sea, generally a considerable distance from the shore and in the immediate neighborhood of a shelving reef. Good schnapper fishing may, however, be had from the rocks of the mainland or an island. Every holiday in Sydney there are hundreds who go forth to fish for schnapper. For this purpose it is usual to club funds and charter a small steamer. By this means the expense is lessened, while the party is made more enjoyable. The bait is usually the flesh of mullet or other fish cut up. When the boat has arrived off the fishing ground selected steam is shut off and the vessel allowed to drift with the tide or wind. Then the hooks are baited and the lines cast forth, the fishers occupying the side opposite to the drift of the vessel. When the conditions are favorable a large harvest is usually the result, as schnapper bite very freely.

SERVICE IN THE SKY.

Endeavor Prayer-Meeting on the Summit of Pike's Peak. Pike's Peak recently saw a strange sight. On its summit stood a band of men and women, very grave and quiet. The old mountain has been the scene of the thousand since the first canvas-wrapped wagon crawled across the continent, but some who did as these.

It was a party of Christian Endeavorers from Lebanon, Ky., who carried their church with them to the mountain top. They wished to make the ascent, but Sunday was their only available day, and they were not willing to pass over the day that has been blessed and hallowed with nothing to distinguish it from the six days of labor. At last it was agreed that a service should be held as soon as the summit was reached.

The party formed about their minister and commenced their services. It was such an impressive scene that many other strangers and sight-seers standing about joined in the devotions of the Kentuckians. Dr. Bracken, who stands over six feet high and is a fine specimen of a vigorous old man, spoke for some time without a tremor in his voice on "The Power of God and His Law."

The high altitude, the brilliant Colorado sky, the strangeness of that lonely peak, gave their devotions a deep solemnity that left its mark on the faces and voices. Perhaps no service was ever held quite so near Heaven before.

HARDER THAN DIAMOND.

New Metallic Compound That Will Cut the Premier Gems. Within a short time the patent office will grant title in a discovery which may fairly be considered as being the most remarkable since the X ray. It is for a substance that is harder than the diamond, and the inventor is Moissan, the French savant, whose experiments in the line of diamond making by artifice have obtained such wide publicity.

Titanium is one of the most interesting of the rare metals. It is about half as heavy as iron, and like the latter, is white when perfectly pure. Chemically it resembles tin, while in its physical properties it is like iron. The familiar mineral "rutile" is an oxide of titanium and is used to give the proper color to artificial teeth. A small quantity of the mineral put into the mixture for tooth enamel produces the peculiar yellowish tint that counterfeits nature so admirably.

Marriage in India.

The result of Mrs. F. A. Steel's personal observation is that marriages in India are singularly happy. There are fewer cases of unkindness and violence than in Great Britain. The dowry system, as it is, is a great protection to the wife. Every bride takes her husband a dowry, which is a kind of marriage settlement against unkindness. If she is badly treated and thus compelled to go back to her father's house, the husband has to return her dowry; probably he has spent it, and as it is not often convenient for him to refund the money, he takes care to marry his wife well. "I think that a similar system here would be a good thing," says the lady, frankly.

Task Enough Now.

Doctor—You seem to have lost all zest for life. You must rouse yourself and take more interest in your business. Patient—Good heavens, doctor, I'm a money-lender!—Up-to-Date.

FOREIGN GOSSIP.

Mr. W. S. Gilbert's "Bab Ballads" is to appear in a new edition, with additions from Mr. Gilbert's operas and more illustrations.

A 76-year-old lover at Coventry, England, finding as the wedding day drew near that he had not money enough to pay the expenses, drowned himself in a pond.

France has bought the late M. Waddington's collection of Greek coins for 421,000 francs. It contains 73 gold, 1,360 silver, and 5,635 bronze pieces.

England's dog muzzling ordinances have force beyond the grave, in the opinion of the Highgate magistrates. They have fined the owner of a dog found unmuzzled ten shillings, though they were informed the man was dead.

At Port Moresby, New Guinea, the other day six young native girls pleaded guilty before a white magistrate to a charge of theft. As they were rather young to send to prison, his worship took each offender across his knee and spanked her.

A new Pont au Change will be built in Paris before 1900, and made of the same width as the Boulevard St. Michel and the Boulevard de Strasbourg, which it connects.

British East Africa celebrated the jubilee by holding its first race meeting at Ukam "Nine Horses" were entered for the "Ukama Derby," but as only four Europeans were light enough to ride, five Somalis and Sudanese were employed as jockeys, and a Somali came in ahead.

Oxen could become as intelligent and highly trained as horses if the ox had the same advantages of breeding, was the assertion of an Anglican clergyman to the recent congress of vegetarians in London.

JIM BURNETT, OF TOMBSTONE.

He Made His Court Not Only Self-Sustaining, But a Source of Revenue. A stormy life it was that ended the other day when old Jim Burnett was killed in Tombstone by William Greene—a life full of experiences of the border kind, that would supply material for 20 of the most thrilling of the yellow-backed novels.

Since Burnett's death many are the tales being raked up about him. He was a singular personality. Strong-willed and violent in temper, he especially shone in a frontier camp. It was, therefore, quite appropriate that he should have been elected justice of the peace in 1881, at Charleston, on the San Pedro, where the rich ores of Tombstone were at that time mined.

Charleston was then a howling camp, full of freighters, miners and the woolliest of cowboys. The whisky sold wasn't of the mildest brand, and consequently, tribulation grew within the community, and the justice's court was always open. Burnett did a rushing business. At the end of three months he duly reported, as by law required, to the county supervisors, sending in his bill for the amount due him from the county.

And so it was, in great haste. Every time a cowboy would get exhilarated and shoot up the town, the judge would fine him several hundred dollars, and find pocket what remained after paying his constables for the arrest.

One day old man Schwartz got excited and killed a man. After the justice, as ex-officio coroner, had finished the inquest, he had Schwartz haled before the bar, found him guilty of the crime, and fined him \$1,000. Schwartz wanted to appeal the case, but Burnett would issue no papers on appeal. So the defendant went up to Tombstone for Attorney Mark Smith, now delegate to congress from Arizona. Smith came down at once and heard Schwartz's tale of woe. It was a clear case of murder.

"Pay the money, you ass," the lawyer fairly shouted, "and then you go bury yourself somewhere down in Mexico." Schwartz paid and skipped, and the case was never heard of again in court.

But the county never received any of that coin. Those who figured on the proposition said that Burnett came out \$22,000 ahead in his office in two years.—Kansas City Journal.

Yukon Bigger Than Mississippi. The volume of water issuing from the Yukon is greater than that discharged by the Mississippi. The Yukon discharges every hour one-third more water than the father of waters.—Chicago Chronicle.

Bulletin Financier. Bulletin Commercial

Table with multiple columns containing financial data, exchange rates, and market information for various commodities and currencies. Includes sections for 'COMPTOIR D'EXCHANGES', 'COTON', 'MARCHÉ DE LA NIHO-ORLEANS', 'MARCHÉ DE NEW-YORK', and 'MARCHÉ DE LONDRES'.

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