READING THE GLASS.

Use and Construction of the Mercurial Barometer.

ITS VALUE ON BOARD SHIP.

The Significance of a Fall of the Glass Varies Considerably According to Latitude-Fluctuations of the Barometer In the Tropics.

How's the glass? This is a question which is asked daily by thousands of people all over the world and frequently for very trivial reasons. To the navigator the fluctuations of the ba rometer are always of interest and not infrequently of great moment. Hence it is customary in the navy to record the reading at least every four hours and in stormy weather at much shorter The style of barometer which is supplied for use in the navy is that known to makers and physicists as the "cistern" barometer. It consists of a glass tube about thirty-three inches in length and about one-third inch internal diameter.

Any one who has seen a barometer of this type is aware that the glass tube contains a column of mercury reaching within a short distance of the top, but it is not as plainly apparent to the ordinary and uninstructed observer why this tall and narrow column thus remains in the tube. The two conditions essential to the construction of a mercurial barometer are, first, that there shall be as perfect a vacuum as possible in the upper end of the tube. which is closed, and, secondly, that the lower end, which is open, shall be kept immersed in a basin or cistern of mer cury.

These ends are accomplished in a simple fashion, first discovered by an Italian scientist named Torricelli, as far back as the year 1643. The tube is held perpendicular, with the closed end downward, and mercury is poured in until it is quite full. Then the finger is placed over the opening and the tube is turned over, end for end; the open end is immersed in a cistern of mercury, and the finger or stopper is removed. The mercury then sinks a short distance in the tube, leaving a space at the top which must obviously be completely devoid of air. The pres sure which the atmosphere exerts upon the surface of the mercury in the cistern maintains the column in the tube, and any variations in the air pressure will be accompanied by a corresponding rise or fall of the mercury in the

the cistern must, of course, be of the mallest dimensions possible or the instrument would be too clumsy. In the marine barometer it consists of a cup about one and one-half inches in di ameter. The necessary limitation of the cistern causes certain irregularities. which, however, do not practically af fect the efficiency of the instrument as weather glass, and in barometers which are designed for more accurate readings the difficulty is overcome by an ingenious device which there is not space to describe here

should be noted that mercury is used in the construction of barometers simply because it is by far the heaviest of liquids. A barometer can be made equally well, for instance, with water but this would entail having a tube nearly forty feet in length, for when the mercury stands at thirty inches the water barometer will stand at about thirty-four feet, a cumbrous sort of in-

PRAYERS BEFORE BATTLE. Invocations by Famous His-Curious

torical Personages. One of the earliest records in his

tory of a prayer before battle is that of Childeric, king of Gaul, a pagan, who before going into battle at Zuelpich, some 400 years after Christ, prayed to the God of the Christians to help him to victory. His foe was Attila, king of the Huns, and Childeric vowed if God would give him the vic

tory he would embrace the Christian faith. The prayer of a Hungarian officer before one of the battles fought for the Independence of Hungary in 1849 was as follows: "I will not ask thee, Lord.

to help us, and I know thou wilt not help the Austrians, but if thou will sit on yonder hill thou shalt not be ashamed of thy children." This was the prayer of the "Fighting Bishop" Leslie before one of the battles fought in Ireland: "O God, for our unworthiness we are not fit to claim thy help, but if we are bad our enemies are worse. and if thou seest not meet to help us we pray thee help them not, but stand thou neuter on this day and leave it to the arm of the flesh."

The one offered before the battle of Edgehill by Sir Jacob Astley was, "Thou knowest, O Lord, that I shall be very busy this day, and if I forget thee forget thou not me," and then the command followed, "March on, boys!" As King Edward advanced with his columns to Bannockburn he remarked to his aids, seeing the Scotch on their knees: "See, they kneel. The rebels are asking pardon." D'Umphraville was heard to remark: "Yes, but it is to the King of kings. These men conquer or die on this field."

Oliver Cromwell had public prayers before going to battle on several occasions, as, for instance, previous to the battle of Dunbar. It is a curious fact that the English prayer book contains prayers, or at least one preyer, to be cuid before going into action at sea. while nothing is provided for use before engagements on land.

OLD BIRDS' NESTS.

Many Feathered Creatures Use the Same Ones Year After Year.

"That common expression for worth-

sness, 'It has no more a last year's bird's nest,"" said a bird fancier, "is often far from correct. The majority of our birds do leav their nests after raising a brood, but many do not, and their nests are used through a succession of years. I have known some birds to use their nests ten years in succession, and so persistent are they that many times the female will return even after the nest has been robbed and the mate killed. Among these users of perennial nexts are the wrens, some of the swallow family, bluebirds, great crested fly atchers, some of the owls, englehickn/ees and some woodpeckers. "They repair to the nest each year

and often build it over. A little wren have made its next in a hole in a tree in my garden and has occupied it for the last eight years. Each year it has piled on new stuff till the hole is almost fill. ed up. Some say that as soon as it beones crowled the birds will clean it

I know of a bluebird's nest that tion occupied for several years. It the same female year after year, for two black wing feathers and

o tetis * . that build in exposed situa na, like hangbirds, always build w each season, and some other-

lid anew for every brood. Some ney build. They either lay in the nexts of other birls or in the sand. The

WHAT IS A CONCERTO?

It is the Deification of a Single Instrument.

TONE DRAMA IN THREE ACTS.

A Concerto is to the Pianist, Violinist or Cellist What Grand Opera Is to the Singer, the Highest Achievement the Player Can Attain.

A concerto is a symphony wherein one instrument is given persistent prominence-in other words, an extended instrumental solo with orches tral accompaniment, often taking threequarters of an hour to perform. It is the deification of a single instrument. the highest achievement its player can attain. A concerto is to the planist, violinist or cellist what grand opera is to the singer. It is a tone drama in three acts-energetic, tender, then ellmatle

In the first movement there is usual ly a cadenza two or three pages long, which serves the soloist as the "mad scene" does the prima donna in "Lu-It is an occasion for display. cin." The orchestra is silent, the conductor's baton at rest, while the player (if it be a plano concerto) valiantly scales the keyboard alone. At a certain note, however, the orchestra resumes its role, giving the pianist perhaps a rest of several bars. But he must be ready for his next one. Though it he on a thirty-second note in the middle of a beat, he must "land" square and true, like a circus rider on his horse.

In the matter of memory the pianist has a task more arduous than that of any other soloist. The singer volces but one note at a time, the violinist on occasion simultaneously sounds four. but the planist must keep in his head perpendicular chords ten deep. When it comes to a composition sixty-five pages long, the player's brain becomes a veritable safe deposit full of notes, while his hands, like cashlers, dole them out.

There are famous concertos by all great composers and for nearly all instruments, even an occasional one for the drum. But most numerous and familiar are the piano concertos. A notable example to study is the one in D minor by Rubinstein, a titanic structure, splendid and substantial as the shield of Achilles, being sufficient in itself to protect the composer from oblivion. It commences with the orchestra alone, softly at first, but steadily working up to a climax-a crescendo that "touches the stars." Suddenly there is a crash from the piano and a tumble of chords, like the tirmament falling. Lucifer cast down from heaven, lightning striking the earth, a meteor dropped into the sea, steaming, hissing, subsiding.

It is a stupendous effect when well done, but something for the planist to work over thirty-six hours a week all the weeks of a year, and then a full decade later he still may find room for improvement in this one overpowering passage. In the manner of his attack upon these very first chords a public performer declares himself an artist or a dilettante. No mere summer even ing's play of sheet lightning will do for this tempestuous demonstration of electric force. Indeed, the whole composi tion is built on colossal lines. Olymplan in character, like the "Jupiter" symphony by Mozart, this Rubinstein concerto might fittingly be called the "Neptune." One can easily find in it

by the plano in ponderous, plunging

chords is a very leviathan of its kind.

In the cadenza a tremolo in the bass

rumbles like an angry surf, while above

this turbulent accompaniment soars a

glorious theme in single tones, like the

curving flight of a sea gull. Then a

shuddering crescendo, a shriek in the

treble, a ship on the rocks! The ensu-

ing torrent of tones is almost unpar

alleled in pianoforte music. The in

strument groans under the fearful

strain. The strings all twang to the

breaking point. While the principal

theme is gloriously bugied by the or

chestra, the plano, sounding above it

pours forth, like releatless waves thundering ranks of loy octaves.

This particular passage is another fa-

mous one for the planist to weep and

pray and work over. To play it with

absolute perfection one time out of ten

The second movement is a dream of

deep sea sounds-the underworld of the

waters, whose pulsing motion is mark

ed by the ebb and flow of slumbering

harolike chords. A brooding, gentle

song occasionally sounds above them,

but from first to last there prevails a

The final movement has a dash of

salt breeze in the music. Neptune

rides over waves and foam-sounding

conch shells and laughing sea gods

The first solo theme is a jerky group

of notes that play in and out of the

keys like dolphins in and out of the

Another passage very pecultar in

construction is a downright dispute

between plano and orchestra. They

one utters the other echoes in sharp

staccato sarcasm. They fling scraps

of scales at each other and lose no

time in doing it-a well matched tussle

of tones lasting full two pages before

the conductor, by strenuous effort,

succeeds in quieting things down. It

is hard to know what it was all about.

Possibly the plano was jealous because

the orchestra just before had monopo

lized sixteen measures. But soon they are playing together most andcably. dispensing tender harmonies that cause

one again to dream of sirens and old sen lore. -- Mabel Wagnalis in Circle

What

"talk back" in telling tones.

compelling hush of mystery.

waves.

Magazine.

is an achievement for a virtuoso.

CARTAGENA.

Colombia Has the Oldest Walled City In This Hemisphere.

One of the few walled cities in this hemisphere and perhaps the oldest, is that of Cartagena, Colombia, South America. The wall, which is still standing and in excellent condition, stretches its irregular circumference several miles in inclosing what was one of the gayest, wealthiest and largest cities of the new world in the days of Spanish supremacy. It is said that \$50,000,000 was spent in construct ing this wall, and it must be remen bered that three or four centuries ago that meant considerably more money than it does now.

The wall is wide enough to accom modate several teams abreast. Its top is flat in most places, while at inter vals there stand sentry boxes, showing that the wall was meant to guard the light hearted residents within its in closure from sudden attacks either by sea or by land.

At one end of the wall near the set is still to be seen the government pris on. Here there is a long row of cells which are still kept for the use of prisoners. At present these offenders are much sought by tourists to the Spanish main, for many of the men confined there have for sale exquisite carvings on shell and wood.-New York Herald.

IN CASE OF FIRE.

The Landlord Told His Literary Guest How to Get Out. In the days before the dawn of his fame it was the practice of a certain well known author to wander up and down the land seeking what he might devour in the way of suggestion and local color. In this way he had drifted into Arkansas, "roughing it." and not, as he expresses it, presenting an ap pearance calculated to inspire a hotel proprietor with unlimited confidence. The only hotel in the town, a frame structure, seemed to have been built upon the theory that there was plenty of room straight up, but that ground had to be bought, and the wanderer was shown to a room on the third floor, reached through many narrow and winding passages. From the one window it was a straight drop to the ground.

"Say, how would I get out of this 'n case of fire?" he asked the), who had brought up his grip,

ther eyed him coldly. ", anl," he drawled, "all yo' would have to do would be to show ther night

watchman-the one with ther shotgun -a receipted bill foh yo' board an lodgin' an' get him to tie up the bull-

dog."-Cleveland Leader.

A Mission That Failed.

The Sire de Joinville tells us in his "Histoire de St. Louis" how a certain Brother Yves of the preaching friars once met while crossing a street in Damascus at the time of the sixth crusade an aged woman who carried in her right hand a bowl of fire and in her left a bottle of water.

"Where are you going?" asked the Brother Yves. "I go," said she, "to burn up heaven

with the fire and put out hell with the water, and so I will make an end of both."

"And for why will you do this?" ask

ed the friar. "Because," said she, "I would that we did good neither for the joys of heaven nor for the fear of hell pain. but purely for the love of God. who deserves so well of us and who is able to deliver us from evil.

A SLAB OF BLACK STONE.

Key to All the Ancient Writings of the Egyptians.

There is a slab of black stone in the British museum which if you could walk away with it and establish your claim as the owner you could sell any day for a quarter of a million and find half a dozen money kings in England and America ready to buy it. There is nothing very striking about

the stone. It might be a plece of black marble with some peculiar hieroglyphics upon it. But it is just there hieroglyphies which make it so valua ble, because they are the key to al the ancient writings of the Egyptines. and without this stone, called the Roetta ston , we should be unable to read the Higyotlan writings which have

see a discovered from time to time Since French tourists found the Roetta stone in Egypt and transported it to Paris, where an Englishment took fancy to it for a garden ornament the publ £5 for it-5 sovereigns-and of a treasure which you could cover till gold and yet not represent its atize, but till the day of his death he did not know what that bit of stone was worth .- London World.

Comet Panics.

Joseph Jerome Latrancais de Lalande, the popular French astronomer of a century ago, differed from Newton's view that Providence had so ar ranged matters as to make collision of the earth with a comet impossible and wrote a paper to prove that it was only very improbable. This paper which was to have been read with others before the French academy on a certain day in 1773, got crowded out, but the Parisian public, hearing of it, made up its mind that Lalande had predicted the impending destruction of w earth and such panic ensued that the police had to order the publication of the paper to reassure the public mind. But even then it was popularly believed that the paper had been deliberately toned down and comet panles

continued for a quarter of a century.



it strengthens and vitalizes

With old age comes feebleness and loss of power; the blood is thin and digestion weak.

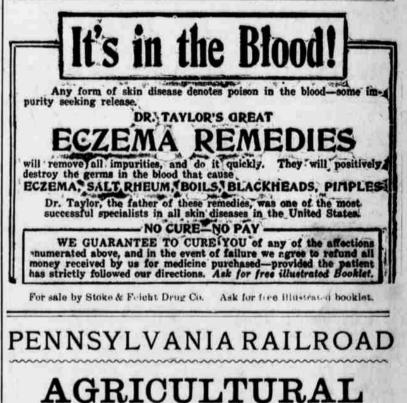
Vinol repairs worn tissues and checks the natural decline. It tones checks the natural decline. It tones up the digestive organs, alds assimi-lation, makes rich, red blood, and strengthens every organ in the body. In this natural manner Vinol replaces weakness with strength. Vinol contains all the medicinal

elements of cod liver oll in a concentrated form, taken from fresh cods' livers, the useless oil eliminated and tonic iron added.

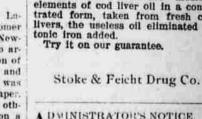
A DMINISTRATOR'S NOTICE.

Estate of James L. Anderson, in Knox Eswaship, Jefferson County, Pennsylvanis, Deceased.

Letters of administration upon the above named estate having been granted to the undersigned, all persons having claims ugains: Me same will present them for pay-ment duly authenticated, and those indebt-ed thereto will please make immediate pay-ment to L. S. ANDERSON, M. M. Davis, Administrator. M. M. Davis, Attorney.



Old People



strument for the navigator to carry about with him.

The glass tube and eistern thus com bined are attached to a wooden mount ing or placed in a metal case, with openings to show the upper part of the tube, and on the case a scale is cut showing inches and tenths and hundredths of an inch, or, in marking a more accurate instrument, something like the two bundred and fiftieth part of an inch. Barometers are usually scaled from twenty-seven to thirty-one inches, this being the practical limit of the fluctuations due to weather, and, indeed, when the glass gets down to twenty-eight inches it is time to look about you.

The significance of a fall of the barometer, however, varies considerably according to the latitude. In Great Britain, says a writer in the Navy and Army, it has follen perhaps half an inch or more during the night, and yet there may be no very alarming gale of wind, but such a fall in the tropics would be the signal for the navigator to prepare for a cyclone, the fuctuations of the glass in these latitudes being usually confined to a slight and regular rise and fall at certain In a recent cyclone in Japan hours. the fall during one hour was threetenths and the rise during the next hour no less than six-tenths, or more than half an inch.

It is indeed with regard to these terrific storms that the barometer is of the utmost service to the navigator. The behavior of the glass, in conjunction with the shifting of the wind, will indicate to the experienced seaman the position of the dreaded vortex and the pproximate course upon which the storm is traveling.

A Fiasco.

' The phrase, "a complete fiasco," origted with a German workman, who declared that he could blow glass as well as an expert glass worker. A friend laid a wager with him to the contrary, and when the test came off the would be glass blower found that he could produce only a pear shaped fask (finsco). Nothing daunted, he tried again, but with the same result.

The story of the workman became nown, and hence the origin of the hrase which is used in designating a

a and the owl make a framework and slight rooties are needed "in" lines' nests that you find hav a to been used. For instance, the wren builds several with the 'en that in the case of disturbance as male will attract attention to the than that in male! meth is brooding and so shield her from then. We T

in Ishmarilte of the Plains. the dead thing, whenever it lies, still re dus the covote's choicest ferst without a release an Islame "Inter more and animate have see in decidence, the ideal thief m variabind of the animal world, fi

got mannt figurehead of the masters ward still survives, as much the own at the opening we have in the days of in his annoistant factor? or 10.4401 ern' a tankiment an i streets er clamations upon the expedition of Lamb and there for the map shows the map of the set o ly nerose that transmissionri wilder ne s whose future was then undream ed.-James W. Steele in Outing Maga-

Snuff Taking In London.

Until taking is a common habit cient certrin classes of the London per. It shows its effects in rambling speech, pailld aspect and dejected depor, resembling the symptoms of the morphia taker. The practice is especially common among women, and an elserver says that women in the prisoner's dock in the police court will have their hair decorated with curl papers which contain each the pinch of snuff needed for consolution.

DIES BLEEDING OR PROTRUDING ITCHING,

We guarantee to either cure or refu the money to any sufferer from lichin Bleeding or Protruding Piles who fait

Dr. A. W. Chase's Ointment

Rev. T. B. Roberts of 100 Marshall St. Byracuse, N. Y., says:- "For nine years I suffered from litching and protruding piles which were so bud that they necessitated my absence from professional duties. I used numerous remedies and underwent one opera-tion without relief, but by using Dr. A. W. Chase's Olutment I am new permanently cured." So a box. All dealers or Dr. A. W. Chase Medicine Co., Buffalo, N. Y.

For sale by Stoke & Feicht Drug Co.

all that is over and under and on th sea. The principal theme proclaimed

Forgotten Hotel Keys.

said a guest, "a good "I suppose," many forgetful people go off with your hotel keys?

"This will show you," sold the clork And he took from a drawer the following printed slip:

"The manager of the Blank hotel acknowledges with thanks the return of key No. -, which M- by oversight carried away on departure."

So many keys, the young man explained, were mailed back by forgetful guests that it had been deemed advisable, as a time saving device, to have a key acknowledgment printed .- New Orleans Times-Democrat.

More Important.

"Did I understand you to say," aaked Mrs. Chatters, "that your husband had ro vocation?

"Worse than that," replied the minister's wife. "I said he'd had no vaca-

Insanity Follows Loss of Sleep

Dr. A. W. Chase's Nerve Pills give restful, natural sleep by a steadying tonic effect.

Rob anyone night after night of nat-

Rob anyone night after night of nat-trai sieep and a mental and general treakdown is bound to occur. Try and relieve this condition with Bromides, Chloral or Opiates and the system goes to pieces. Take a systematic course of treatment with the Dr. A. W. Chase's Nerve Pills that give natural, restful sleep by a tonk, steadying power and you get well. Mrs. Randolph Knutti of No. 59 Penn St., Salem. Ohio, says: "Day times I was always nervous-children's noises and little things upset and worried me and at night I could not sleep. As a result I felt depressed and debilitated. I was told of Dr. A. W. Chase's Nerve Pills and got some and they acted finely. They made my nerves steady and strong, gave me restful sleep and a spiendid feeling of general strength and vigor. I don't worry or bother now about small things any more, and am very grateful for the change. As a nerve and general tone I consider the medicine has no equal." 56c a box at all dealers or Dr. A. W. Chase Medi-che Co., Buffalo, N. Y. None genulne without the signature and portrait of Dr. A. W. Chase. For sale by Stoke & Felebt Drug Co.

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