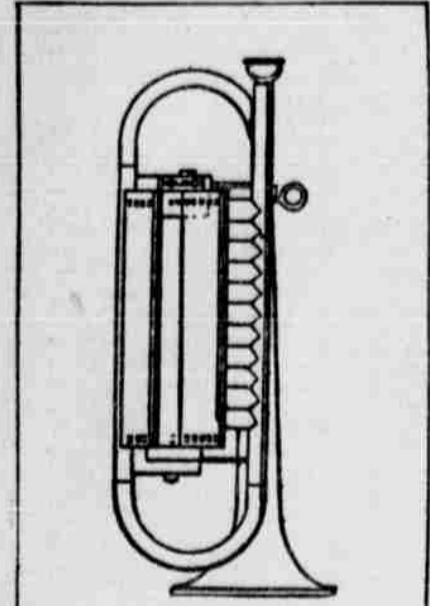


# SCIENCE AND INVENTION

## MUSICAL HORN QUITE NOVEL

Instrument Invented by New York Man Has Music Roll on It and Plays Automatically.

Something decidedly novel in the way of a musical instrument has been designed by a New York man. He concluded that if there were automatic pianos and organs, there might as well be an automatic horn. So he took a horn with the general shape of a cornet and set a series of trans-



Novel Musical Horn.

verse pipes along the main pipe. These transverse pipes have valves controlled by key arms, just like the ordinary cornet, but they lead into a music roll with perforations on it. Like the usual music roll. This roll is caused to revolve automatically, and as it turns around the musician blows steadily through the horn and whatever piece is on the roll is reproduced. With a good collection of rolls any man can earn the reputation of being an accomplished cornetist.

## INVENTION AS AID TO MUTES

French Specialist Produces Contrivance to Improve Hearing—Five Sirens Are Used.

Deaf mutes are seldom absolutely unable to hear any sound, and by measuring their perception and properly cultivating their powers, many of them may be given a useful degree of hearing.

As the voice cannot be varied at will in quality, pitch and intensity, Dr. Marage, the French specialist, has developed a more accurate acoustometer, or measure of audition. Five sirens coupled together give the fundamental vibrations of the five vowels, and this apparatus gives sounds of constant quality that have a known pitch varying with the speed of the motor and a known intensity changing with the pressure of the air traversing the machine.

With the ear at a distance of 20 inches, the intensity of sound is raised by increasing the air pressure until the vibrations are perceived. The normal ear hears sound produced under a pressure of one millimeter, and if the pressure must be raised to 60 millimeters to make the sound heard, the sharpness of hearing is put down at 1-60 and so on.

If there is no roaring at 200 millimeters the test is continued with a tube from the siren to the ear. The perception varies for the different sounds, and a record is made in five divisions, showing the sensitiveness of the hearing for each of the vowels.

The ear's capacity being known, it is trained by the simple and exact vibrations of the siren. In suitable cases hearing develops rapidly, and results are reached in two months that would require several years with great exertion and fatigue—to attain by voice teaching.

## FOR EXERCISE WHILE IN BED

Electrical Device of Benefit to Patients Confined to Couch for Any Length of Time.

To benefit patients who are confined in bed for any length of time a device has been invented to exercise



Taking Exercise in Bed.

The lower limbs, says the Popular Electricity, motion is imparted to the limbs by the apparatus, which is motor driven, in such a manner as to approach the movements and results obtained by walking.

**Remarkable Tuberculin Test.** Tuberculin tests on 1,226 children by three Paris physicians have led to the conclusion that tuberculosis (consumption) increases rapidly towards maturity, and that practically every person is at some time infected, recovery being spontaneous without trace of the disease in three persons out of four. The sensitive test gave traces of tuberculosis in but few children of less than one year, while 90 per cent of those over 15 showed the tuberculin reaction, although the disease could be actually discovered in only a third as many.

**Softness of Bell Tones.** The softness of the tones of Japanese and Chinese bells is not only due to careful workmanship in their manufacture, but also to the absence of iron clappers. The bells are struck from the outside with wooden mallets.

## BRAINS OF SOME GREAT M.

Difference Between Savages and Races Long Civilized Is Given by Prof. Frederick Mott.

Prof. Frederick W. Mott, lecturing before the Royal Institution of Great Britain on "The Brain," said that, although in 88 per cent. of the cases in which the brains of great men had been weighed the weight was above the average, brain weight itself did not always mean brain quality.

When there was lack of the functioning tissues, the lecturer explained, the structural material might receive more than its normal share of nourishment and the extra weight be due to over-growth of "brain scaffolding." This accounted for the very large and heavy brains sometimes found in congenital idiots. Pointing out that the brain weight of a race long civilized surpassed that of aborigines, the lecturer stated that whereas the ordinary European hospital patient had a heavier brain than a savage, the Chinese coolie laborer's brain, developed by centuries of use, weighed one and one-half ounces more than that of the European hospital patient.

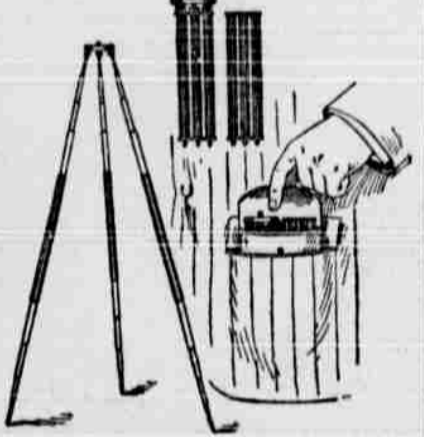
Referring to the relative brain weights of Caucasian men and women, Professor Mott said that the female brain had a good start, weighing nearly one and one-half ounces more than the male brain at birth. In adult life, however, the average man's brain weighed about five and one-half ounces more than the woman's.

The average weight of the European male brain was 2 pounds 15 ounces 9 drams to 2 pounds 16 ounces 9 drams, and of the female brain 2 pounds 10 ounces 11 drams to 2 pounds 10 ounces 14 drams. Among savages there was not this difference, since, in the struggle for existence, the female had to apply her brain as fully as the male, hence it has developed at practically the same rate.

## TRIPOD CARRIED IN POCKET

Convenient Stand for Photographers Can Be Folded Up and Placed in a Very Small Case.

A tripod which can be taken apart and put up in a case so small as to be conveniently carried in a coat pocket, is being marketed in France, says the Popular Mechanic. Each leg consists of two parts which screw



Folding Tripod.

together, and each part has three telescopic members. The parts fit in the flat case as shown.

## Scientific Discovery.

One of the greatest discoveries of science is due to observation of the eclipses of Jodit's moons. It was found that when the earth was in the part of its orbit nearest Jupiter these eclipses occurred 16 minutes earlier than when it was in the farthest part; whereas, by all rules of astronomy, they should have occurred at the same time each time. It was deduced from this that the light was not instantaneous, and consequently took 16 minutes to traverse the diameter of the earth's orbit, a distance of about 200,000,000 miles, thus giving to light a velocity of 186,000 miles a second, which was accurately shown later by other experiments.

## NOTES OF SCIENCE AND INVENTION

Mexico has 19,000 miles of railway. Ireland's linen industry employs 70,000.

China's exports have trebled in 20 years.

The Maoris of New Zealand number 42,000.

New York's Chinatown has a population of 5,000.

The bone of an average whale weighs 45 tons.

The Australian gum trees grow to a height of 415 feet.

The plant bees of India build honey combs as high as 18 feet.

The camel carries a burden three times greater than the horse can.

Canada has more than 1,200 newspapers, of which one-third are dailies.

Berlin firemen wear a jacket filled with water as a protection against heat.

It is said that each year 3,000 foreign waiters find employment in England.

Astronomical observations in China were carried on as far back as 2353 B. C.

The insurance is said to have originated after the great fire of London in 1666.

Two eclipses of the sun and two of the moon are scheduled for the present year.

A great deal of Canadian lumber goes to China, largely for railroad construction.

To supply the needs of Canada's mixed races the Bible is printed in 70 languages.

In a recently built Italian man-of-war there are special arrangements for a dentist.

In ten years the number of depositors in the English post office savings bank has totaled 1,000,000.

In the Blue Nile region in Egypt a native laborer can live very comfortably on six to eight cents a day.

The most densely populated of all the countries of the world is Belgium, with 636 inhabitants to the square mile.

## BOSTON TRADES "DOC" MILLER FOR TITUS.



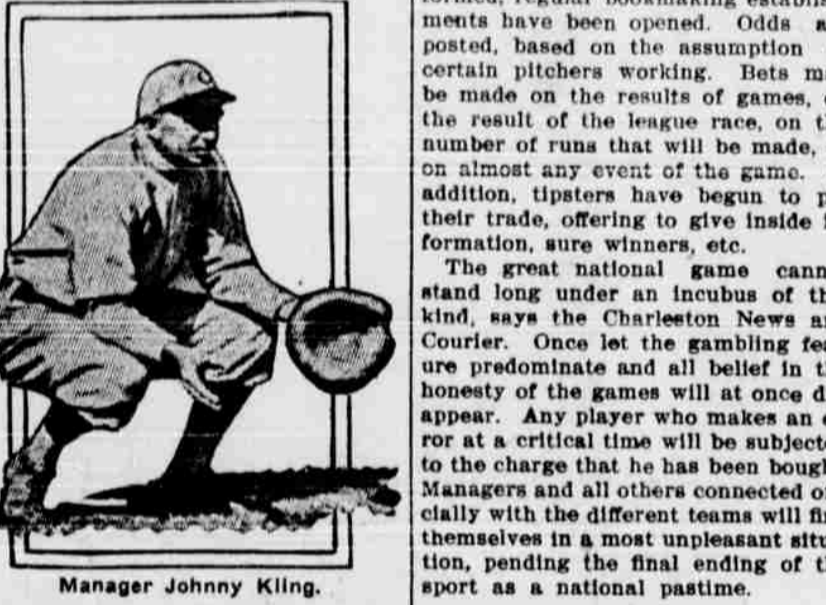
Outfielder Miller in New Berth.

The even up trade of John Titus of the Phillies for Doc Miller of the Braves, opens another interesting argument as to which club gets the "heat" of the trade. Recent averages show Titus hitting .273 and Miller .230 and neither living up to past reputations.

## J. KLING MAY QUIT BOSTONS BETTING ON NATIONAL GAME

Resignation as Manager of Famous Backstop Is Expected Within Very Short Time.

The resignation of Catcher John Kling as manager of the Boston team of the National League is expected within a short time, according to statements made by close friends of



Manager Johnny Kling.

the backstop. These men declare that Johnny has repeatedly told them of his dissatisfaction with the way he is compelled to run the Braves and has frequently expressed his disgust with what he terms the old-fashioned ideas of John Montgomery Ward, president of the club.

While no verification of this rumor could be obtained from either Kling or President Ward, Boston fans have noticed the frequent absence of Kling's name from Boston box scores during the past few weeks and have wondered what the trouble was. Rariden and Gowdy have done the big mitt in the majority of contests of late, although Kling is in condition to play his usual game of ball.

## Among the Baseball Players

Catcher Stephens of the Browns, is a coming star.

Pitcher Martin, formerly of the Athletics, has been taken over to Baltimore.

Brooklyn fans are peeved over the showing Bill Dahlen has made with his team this year.

Vincent Campbell, formerly an uncertain and clumsy outfielder, has improved marvellously.

The Pittsburgh club has been cut to 22 players. Mickey Keilher and Harry Gardner were the last to go.

There are very few batters, who get away with a punt toward third base while Herzog is on the job.

Snodgrass not only plays the initial bag in good shape, but is also of assistance in steadying a pitcher.

Del Howard, ex-manager of the Louisville club, now with St. Paul, has been re-elected Mayor of Kenney, Ill.

By the way he is stealing bases it doesn't look as if Sam Crawford of the Tigers is slowing down this year.

Joe Wood and Walter Johnson are having a close race to see which can win the most games in the American league.

McGraw put every man on his pay roll into the joke game against Boston, which the leaders won by a score of 21 to 12.

Despite the poor showing of the Brooklyn Dodgers, Jake Daubert continues to shine in all departments of the game.

It is the opinion of many that Chick Gandil provided the balance necessary to make Washington a pennant-contending club.

Ed Walsh is fast losing his title of life-saver. Instead of doing the saving act himself others have had to be sent to his rescue.

## PRAISE FOR "BIG SIX"

Joe Tinker Ridicules Idea Mathewson Is Going Back.

Chicago Shortstop Enthusiastically Declares That Christy is the Greatest Pitcher in World—Twirler Lauds Cub Infielder.

The arch battling enemy of Christy Mathewson saw the finishing slaughter of the Cubs through a crack in the center field fence during the recent memorable series in New York. He had just been ejected from the game.

"Say, Joe," was asked—yes, it was Tinker—"do you think Matty is going back?"

"Behave!" he said with a laugh. "What's the idea of that question?"

"Everybody's asking it lately," was explained.

"There's your answer now," he replied, pointing to the diamond and the whooping, happy crowd. "Any time a man can pitch nine strikes out of ten thrown balls and retire the side, you can bet your little bank roll that he isn't going back very far. Control like that will win even after his curve has gone."

When Mathewson performed his feat of sending the Cubs to the junkshop in exactly four minutes the crowd gave him a wonderful ovation. There were 15,000 raving baseball bugs running around the town the next morning, and after that little affair at Coogan's Bluff, in which the Cubs hit the dust, it would be unhealthy to discuss with any of them the question of Matty's prowess as a pitcher.

Ames was taken out to substitute a batter, and Matty went in and cut loose. He began by striking out Downs and Miller. The side was out on ten pitched balls. Leach rolling an

Regular Bookmaking Establishments Opened for Placing Wagers on Outcome of Contests.



Joe Tinker.

may one to second. In the next inning Matty struck out Saler, using a total of eight balls to retire the three batters.

"No," added Joe Tinker, as he walked over to the clubhouse, "Matty isn't a dead one yet. If the New York club ever thought so, I wish they would ship him to the Cubs."

Notwithstanding the fact that Tinker has found Matty easier to hit than any pitcher in the league, he enthusiastically declares the big fellow is the greatest pitcher in the world. "Show me a man who has

## Queries From "a Young Wife."

I am very interested in your page and will be thankful to you for answering my questions.

I am going to give a linen shower for a girl friend of mine and would like to get a few suggestions on house decoration.

I have a reception hall, living room, dining room and music room. How should I decorate each room, and which will be the best for the bride to be in when she is receiving her gifts? As I expect to have from forty to fifty guests, I can not seat them at the table. Should cards of any kind be used when passing the refreshments?

What would be a pretty way in bringing the gifts to the bride? I have a little girl two years of age, with long golden curls, whom I thought could help in this, or is she too small? If not, how should I have her dressed? Please excuse my many questions, but I have another one which has puzzled me.

When you have been introduced to a friend and when you or they are ready to part and they say, "I am glad I met you," what is the correct answer to give them? I hope you will have my answers in the paper soon.

A Young Wife.



Christy Mathewson.

done what he has done in eleven years, and I might take it back," said Joe.

Just for fun the writer looked up Mathewson.

"Whom do you consider the greatest batter in the world?" was asked of him.

"That's a hard one to answer," he replied. "I have never seen a better natural hitter than Chief Meyers. The hardest man I have ever had to pitch to, however, is Joe Tinker."

And there you are. Here are two men arch enemies at 4 o'clock and members of a mutual admiration society at 7.

## Profit in Baseball Pools.

There must be a tremendous profit in baseball pools. In Philadelphia recently the police arrested three men on the charge of being gamblers and running a pool at the ball game. The evidence showed the men had been taking in \$1,800 daily and paying out \$80.



The most scrupulous cleanliness is needed for the health and beauty of the feet, and so a daily bath and a comfortable supply of stockings are required. The best results are obtained by putting on a fresh pair of stockings every day, and in case of profuse perspiration they should be changed at least twice a day. If the stockings are washed out immediately upon being taken off, six pairs would make an adequate summer supply. Silk is undoubtedly the best stocking material for hot weather, this being cooler to the feet than cotton and permitting the shoes to slip on more easily. Gauze cotton is the next best thing in point of softness to the foot, and three pairs of quite the stockings in this material can be had for one dollar. Lisle, even in the finest qualities, is to a certain degree rasping to the foot, causing often, besides, a most disagreeable burning.

Women in the smart set go to the pedicure for the removal of corns and callouses, but these afflictions can be treated at home and there are special baths for softening the horny places and for resting all the feet. One is made with ordinary washing soda—about a half cupful to a gallon of water—this being for softening the callouses preparatory to their removal with a knife or file or pumice-stone, for all of these tools are used. A bath with a pound of sea salt will harden and strengthen the feet. Camphor is useful for massaging, thus reducing swelling, while massaging the feet and ankles every night with olive oil, will, as the beauty saying is, keep them young. All care lavished upon the feet tends to keep them in good condition, even if the work consists only of a dainty polishing of the toe nails. When these are neglected they harden and coarsen, sometimes changing their nature and shape entirely.

Before ministering to tormenting corns, bunions and callouses the feet must always be soaked in a softening bath, after which they should be scrupulously dried at every point—particularly between the toes—and then powdered. A good and cooling foot powder, by the way, is one of the

greatest comforts one can have in summer, and there is scarcely a drug store that does not keep several brands of it. A foot powder which can also be used to advantage on perspiring hands, and which is very convenient for gloves, is made after this formula:

Phenolic acid.....10 grams  
Alcohol.....20 grams  
Starch.....20 grams  
Florentine orris.....15 grams  
Essence of violet.....2 grams

Dissolve the acid in alcohol; add the violet essence, then the starch and orris root.

A special powder for perspiring feet is made of one ounce of alum, two ounces of powdered orris root and five ounces of rice powder. Where the perspiration has an unpleasant odor, however, a powder with leycopodium is better than any other, and such sorts are kept at all drug stores of any size, this condition being recognized as something of a disease.

After the bath, attend to the corns or callouses at once, trimming the nails only as often as is needed. They should be cut square across and left a little longer than the flesh. If there are soft corns, several foot baths a day are needed, also larger shoes, and in extreme cases it may be necessary to place bits of absorbent cotton wet with some healing lotion or salve between the toes. For relief from blisters the excessive pain of corns and other callousities, this simple pomade is highly recommended:

Melted mutton tallow.....1 1/2 ounces  
Maurow, freshly gathered and bruised.....3 drams

Mix thoroughly and rub the whole foot with it, massaging it well into the skin.

A good bunion lotion is made of two drams each of carbolic acid, glycerin and tincture of iodine.

Flatfoot is a condition much recognized just now, and in severe cases it is as deforming as lemmings. It is not always recognizable at first, only the pain and difficulty in walking being perceptible; but after a while the arch of the foot breaks down and then the beauty of it is gone. So when feeling a definite pain in the instep it is wise to wear strong-soled shoes with a stiff spring in the instep, as these will counteract the weak tendency of the arch. Inner soles with high arches are also sold for the purpose, while doctors recommended foot exercises for strengthening the muscles of the arch and its supports.

But, to go back to the mere comfort of summer time, the simple things one may do to have more ease with feet whose only fault, perhaps, comes with hot weather, extreme cleanliness and proper dressing are the things of vital importance. All exercise upon the feet, too, will improve their condition and beauty, while the mere heat of the hands, while massaging with some unguent or other, will be an immediate relief to strained and tired muscles.

## Social Forms and Entertainments



Simply, in vases, bowls and baskets; place them on the mantels, in front of fireplaces, on the piano and on the porches. I should say that the living room would be the best place for the bride and the guests, as it is doubtless the largest. You do not need place cards unless you seat the guests at small tables and serve all at once. I am afraid the little two-year-old will be too young to assist. When you wish to reply to the remark mentioned, just say, "I am sure the pleasure is mutual; I'm glad I met you, too." There are no set phrases for certain occasions; just be your own natural self. Perhaps you could place all the parasols in a flower and ribboned the basket and let the wee daughter drag it in by white ribbons to the bride-elect.

For a Lawn Party. Will you suggest something entertaining for a lawn party for boys and girls between the ages of twelve and fifteen? Our club of seven wishes to entertain as many boys. The decorations are pink and green; flower, pink carnations. We have small funds to work with, but will be ever so much obliged for any help. Secretary.

I am sure you can arrange a beautiful time. Have the ice cream in pink and green, with small cakes frosted in the same colors. Give each one a pink carnation to wear. Then have a match game of croquet, and if you are very good, won't "mother" us by having a prize ready for the winners? Perhaps you have a tennis court; if so, a game could be arranged. All outdoor sports are in favor, including the good old game of archery.

Soup Course at Dinner. I have the soup course in a "progressive" dinner party. Kindly tell me if soup is the only thing included in this course or if celery, olives or bread is served with it? A Reader.

Serve wafers or bread sticks or the little dinner biscuit with the soup, also olives, radishes and celery if you can get it small and tender.

MME. MERRI.

depth of coloring as when he or she was shown it in the shop. Shift the rug's position—i. e., with the pile toward the light—and the defect will be remedied.

Aprons of Oriental rugs, it may be told that the successful way to clean one is to wash it, a square foot at a time, with a soft brush and olive oil soap; then to rinse off the soap, first with clear warm water, and then clear cold, and lastly, to rub it softly until it is quite dry with a cloth.

Advantage in Flat Brims. Flat brims have not been readily thrown from their pinnacle of popularity, and women past their first youth gladly accept the discretion of their shelter, for the brim which upturns from the face is too candid. The middle way of brim upturned from the brow to the back of the head at one side should be given the preference, and, by the bye, these have been speedily of the elect, and they lend themselves either to an outlining of flat wings, or sprays, or a clump of flowers.

Baby Accessory. Infant washstand sets recently imported from Germany and arranged upon small sized stands of white enamel iron similar to those used in hospital wards are of glazed surfaced cream-tinted pottery fetchingly decorated with Dutch babies in various attitudes. The six pieces in these sets include a novel wash basin of oblong shape and very unusual depth, and this is divided into two equal sized compartments, one for the cold and the other for the tepid water. Attached by a nickel chain to one arm of the stand is a small thermometer with which to test the heat of the warm water.

Right Way With Rugs. The right way to lay down an Oriental rug is the Oriental way, with the pile toward the light, because that helps to bring out the beauty and "bloom" of its coloring. An eastern dealer, when he sells a rug, sees that the buyer shall get the play of light and shade upon the pile. When a rug comes home the buyer frequently complains that it has not the same