HOW WE SHALL FLY!

All About Langley's Steam Flying Machine, Which Runs Through the Air Faster Than a Horse Can Trot.

(Copyrighted, 1896, by Frank G. Carpenter.)

WASHINGTON, D. C., Dec. 10.—Within the past few months an invention has been made here at Washington which promises to revolutionize the travel of the world. It may transfer the vessels of the ocean to the air and carry the locomotives among the clouds. The development of it will, in all probability, change the warfare of the world, and it may make war so terrible that the national troubles of the future will be settled by arbitration. I refer to Mr. Langley's aerodrome. The word means air-runner, and the machine is such that it runs faster upon the surface of the air than a horse can trot.

For sixteen years Mr. Langley has steadily pursued his work upon it. Engrossed as he has been, first in astronomical investigation and later in administering the greatest of our scientific institutions, he has had only his leisure moments to devote to it, and now, after thousands of experiments and hundreds upon hundreds of failures, he has accomplished what scientists once declared to be impossible. Knowing that his work was done almost at the risk of his scientific reputation being questioned, during the early years of it he kept the object of his investigations to himself. Today the world knows practically nothing of them, and it was only last May, after persistent urging on the part of his friend, Prof. Alexander Graham Bell, that he allowed him to state the fact that he had succeeded.

THE AERODROME IN FLIGHT.

Since then additional improvements have been made. A new and better machine than that which flew a half a mile in May last has been tested. It has made a more successful flight, and today Mr. Langley permits me to give in my own words the first full description of his success to the public. I have spent several days with him upon the island in the Potomac river, about thirty miles below Washington, where his last experiments have been conducted, and on Saturday, Nov. 28, I witnessed the most successful flight which has yet been made. I saw this machine, made chiefly of steel, weighing as much as a four-year-old boy, yet so large that it would just about fill the average parlor, moved by a steam engine which was a part of it, dart forth from the launching stage and fly in an almost straight line through the air a distance of more than 1,500 yards, or over three-quarters of a mile. It flew almost as far as the length of Pennsylvania avenue between the treasury and the capitol. The flight was horizontal. There was not a quiver of the wings, and the great bird-like aerodrome swam, as it were, upon the planes of the atmosphere. It first flew to the right, across the bay toward a strip of woods, and, as Mr. Langley and myself watched it, our hearts for the moment came into our throats, for it seemed as though it would dash itself against the trees. As it neared them, however, it gracefully swept round and downward, then turned and rose and as straight as an arrow flew across the bay where we were standing on toward Washington. It continued to fly in this straight horizontal line until the water which furnished the steam was exhausted, when it slowly but gracefully swept down and rested upon the water. It lighted so gently that not a bit of its machinery was injured, and had it not been that the evening shades were falling it could have been flown again. I have never seen any inanimate thing look so like a thing of life.

It was as graceful as any bird, and as it swam through the air, its propellers, which were going about at the rate of over a thousand revolutions a minute, made a whirring noise like the wings of a bird in rapid flight. The feathery smoke of the engine could be seen wreathing its way out of the smoke stack, and, as the setting sun caught its silken wings, and the white, silvery substance which bound the body containing its machinery, it seemed like a wonderful new species of bird. The great danger of losing the machine in the trees led Mr. Langley to put only enough water in it to allow it to fly about one and one-half minutes. It could have carried water for about five minutes, but as it was, it flew by two independent stop watches, one minute and forty-five seconds, being the only flight of any aerial machine except itself which has ever lasted for more than a very few seconds. In this minute and three-quarters it flew a distance of almost a mile, going at the rate of over thirty miles an hour, and showing that if it had been fully supplied with water, it would have flown for more than two miles. As it was, its flight was only limited by the exhaustion of its steam, and there seemed no reason but that with more steam to run it, it might not have gone on indefinitely. With a machine ten times its weight, Mr. Langley told me, a condensing apparatus could be carried upon it which could use the water over and over again, and the same amount of water would carry it for hundreds of times its present flight. The machine flew against the wind. There was nothing of the balloon nature about it. There were no gas bags to uphold it. Its wings were immovable, and they merely steadied it as it flew like a bird through the air. The force which carried it onward was generated upon it.

WONDERS OF THE AERODROME.

As I looked at it I could hardly realize the remarkable thing which Mr. Langley has accomplished. Let me repeat it.

The aerodrome is a machine made almost altogether of steel. A balloon floats because it is lighter than the air. This machine weighs more than one thousand times as much as the air through which it moves. The working parts of its machinery are of steel, and it carries a peculiar steam engine which forces it along through the air. In construction this machine, the question of weight was an all important one, and everything had to be reduced to the minimum. The aerodrome, weighing less than thirty pounds, carries about four pounds of water. This is about two quarts, and the little engine is so wasteful of it that its flight must be proportionately short, for when the water has been once converted into steam, the aerodrome must stop flying, as there is no more water to furnish steam to run it. The machinery of the air-runner is very light, indeed, but it requires a considerable force to move it in proportion to its weight. Its engine is equal to more than one horse power, and the movable parts of the machinery weigh twenty-six ounces. You could put all of its machinery into a peck measure. Now, a horse weighs a thousand pounds. Think of reducing the size of a horse to a peck measure, and its weight to that of a kitten, and you have some idea of Mr. Langley's aerial engine.

What does the aerodrome look like? I have described it in flight. I examined it at rest and I have gone carefully over its different parts. It is about fifteen feet long and about fourteen feet wide from the tip of one wing to the other. The machine moves through the air on much the same principle as that by which the twin-screw steamer forces its way through the water. On each side of the aerodrome there is a sort of screw propeller or pair of blades in the shape of one cutting of a screw so hung upon a pivot that when the steam is on they fly around at the rate of a thousand revolutions a minute. They look, in fact, much like the wheels of an electric fan when in action. They cut the air so rapidly that you cannot see the blades, and they are, in fact, a pair of wheels about four feet in diameter flying at this wonderful speed around through the air. As they move they screw the airship onward, and this advancing motion keeps it up in somewhat the same way that a swift skater can be supported by thin ice.

The machinery is in a metal receptacle which ends in a smokestack. This is hung to a frame work of steel. The wings, which are stationary, are fastened to the upper part of the frame work, and they extend out above the body holding the machinery.

The machinery is wonderfully delicate, but it is as strong and at the same time as light as scientific investigation can make it. The fuel is gasoline, which is converted into gas before it is used, and which furnishes such an intense heat that it would melt the boiler in a second if there were not a special pump by which the water is kept flowing radidly through the boiler, the intense heat converting some of the water into steam as it flows. Every part of the machinery is of the most practical nature and it has been constructed at an enormous expense of patience and experiment. It may be said that nearly every atom of the aerodrome as it is now put together is the result of experiment. The making of the boiler alone consumed months of work. Every bit of the machinery had to be constructed with scientific accuracy. It had to be tested again and again. The difficulty of getting the machine light enough was such that every part of it had to be remade many times. It would be in full working order when something would give way, and this part would have to be strengthened. This caused additional weight and necessitated the cutting off of that much weight from some other part of the machinery. At times, the difficulty seemed almost heartbreaking, but Mr. Langley went on piece by piece and atom by atom, until he at last succeeded in getting all the parts of the right strength and proportions. Even after he had completed his model and had it ready for flight, he was confronted with an unexpected difficulty, which was, it seemed at the time, almost impossible to surmount.

LAUNCHING THE AIR-RUNNER.

This was the launching of the machine into the air. One of the most difficult things that large, soaring birds have to contend with in flying is in getting a start. You know how difficult it is to launch a ship into the water. It is far more difficult to launch an air ship. Mr. Langley found that his machine had to be clamped down on the launching stage and to be arranged in such a way that the machinery could be started, so that it should receive a slight initial velocity and then be released with a spring. This looks easy. It was hard. But Mr. Langley at last succeeded in launching his machine by hanging it to a movable table, so that it could be turned to face the direction in which the flight was to be made, and so that the wheels of the table would carry the aerodrome straight out in a horizontal line and launch it off into the air. The launching apparatus which we used on November 28 was built on the top of a house boat, and the work of arranging the table was no small one. As I stood upon it and examined its construction Mr. Langley said:

"It don't seem to be much, but it is the result of five years of experiments."

STUDIES OF FLYING BIRDS.

I here asked Mr. Langley what first attracted his attention to aerial navigation.

"I can't tell when I was not interested in it," he replied. "I used to watch the birds flying when I was a boy and to wonder what kept them up. I afterward heard the theory that they possessed great muscular power. You know some scientific men have stated their belief that the muscular strength of birds must be enormously greater in proportion than that of men. But this it seemed to me could not be true. I could not believe what some French mathematicians calculated, namely, that an eagle must be nearly as strong as man. It finally occurred to me that there must be something in the condition of the air which the soaring birds instinctively understood, but which we do not. This idea I held for a long time, the flight of birds continuing to be a wonder to me. It is curious how an idea of that kind sticks to you. I seldom saw a bird flying that I did not think of it, and even lately I have watched them for hours, trying to understand how they could move about through the air, rising and falling, soaring up and sailing down without any motion of the wings."

"But Mr. Langley, I thought that birds used a great deal of strength to fly. They can't fly without moving their wings, can they?"

"The soaring birds can," replied Mr. Langley, "and they do fly long distances with apparently very little exertion. Darwin once watched the South American condors, which, you know, are immense birds, for hours. He says they ascended and descended, soared and circled about, with scarcely the movement of a feather. He could not detect a single flap of their wings.

"I remember," continued Mr. Langley, "how I stood one cold November day on the Aqueduct bridge that crosses the Potomac river above Georgetown and watched a turkey buzzard which was lazily soaring round and round watching something in the river below. The wind was blowing a gale. It was going at the rate of at least thirty-five miles an hour, still the bird moved about with the greatest ease, keeping generally on one level, but swaying a little as it went round and round. It was not more than sixty feet above me. I could see it perfectly and could not note the flapping of a wing, though I watched it for a long time. I stayed, in fact, until I got so cold that I had to leave."

LANGLEY'S FIRST EXPERIMENT.

"Then you early saw that there was something wrong in our theories as to the wind, Mr. Langley?"

"Yes," was the reply, "I have always felt so, and I remember well when I began to experiment to see if my supposition was correct. It was after a meeting of a scientific association, in which some one stated that an inanimate thing could, under certain circumstances, be made to move in the air against the wind by the power of the opposing wind itself. He claimed that he had made experiments proving this fact, and he stated as an evidence of the truth of his theory that he had seen birds not only come close to the earth and hang stationary in the air, but even advance against the wind and ascend in the air without flapping their wings. He was laughed at, but it is now conceded that what he claimed is not theoretically impossible. I, myself, did not believe he was right at the time, but it set me thinking. My old interest in the subject revived and I began at once to make experiments. I wanted to know the actual facts as to the power needed for flight, and how it was possible that bodies heavier than the air they displaced could keep themselves in the air without falling. I did discover that there was no doubt but that a machine could be made which could support bodies in the air, and which would carry them forward. I have shown you here today a machine which will do this. I have proved that we have the power, and the only question now is to learn how to direct and control it."

MAKING BRASS PLATES FLY.

"Tell me something of your experiments Mr. Langley," said I.

"My first experiments were made when I was connected with the astronomical observatory in Pittsburg. It is now more than fifteen years ago that I built my first laboratory for aerial investigation there. A friend of mine, William Thaw, a wealthy citizen of Pittsburg, supplied the means and I was enabled to make all sorts of tests to ascertain the power used in aerial motion. One device which I had was a whirling table. This was an arm about thirty feet long, which swung about on a central pivot, ten feet above ground. It was moved by a ten-horse power steam engine, and it went flying around, moving at all speeds up to seventy miles an hour. Now, on the end of the arm I put instruments which would measure the lifting power of the wind upon any inclined surface hung to them. I had, for instance, a spring scale hung there, and to this brass plates were attached. When the arm was put in motion I found that the faster it went the less weight the plates registered on the scales, until at great speed they almost floated in the air. I found, in fact, that the higher the speed the less was the force required to keep the plates from falling. This seems at first a contradiction of known principles, but I have no time now to explain it. I found that not one-twentieth of the force before supposed to be required to support bodies under such conditions was needed, and what before had seemed impossible began to look possible.

EASIER TO FLY THAN TO STAND.

"This means that I found," continued Mr. Langley, "that an entirely wrong estimate had been made as to the force needed to sustain moving bodies in the air. Some mathematicians, reasoning from false data, had concluded that if it took a certain amount of power to keep a thing from falling, it would take much additional power to make it advance. My experiments showed just the reverse. I found that it took much less force to push a body rapidly through the air than was needed to simply sustain it there. I found, in short, that the conditions of air travel with my planes and of land and sea travel were in one important respect the opposites of one another. An ocean steamer running at twenty knots an hour will take several times as much coal as is required to run it at the rate of ten knots an hour. The limited express uses a great deal more coal than the slow freight for the same weight and distance. This is not so in aerial flight with planes. Actual experiment shows, I repeat, that the faster the speed the less the force required to sustain the planes, and that it would cost less to transport such planes through the air at a high rate of speed than at a low one. I found further that one horse-power could carry brass plates weighing 200 pounds at the rate of more than forty miles an hour in horizontal flight. Everything, however, depended upon the flight being strictly horizontal. I found that if it were the least irregular the power must be increased in proportion to the irregularity."

A TEN YEARS' SEARCH.

"It must have been interesting, Mr. Langley," said I.

"It was interesting," replied Mr. Langley, "but so far it had been conducive to no practical results. I had been working, now for years, seeking to learn the principles involved in flight. I thought I discovered some of them. The field, you know, was entirely new. I had to make, and to a large extent invent, the machinery I used. My experiments showed me that I must have a very light engine; but they did not tell me how to get it. They did not show me how to keep the flight horizontal, nor did they give me any idea how such a machine as I might construct could be made to start and alight in safety. There were a number of other things which I should have liked to know, and some of which I still hope to learn which were entirely in the dark. As the result of my work I had some extremely important and valuable facts, but my experiments so far had not told me how to apply those facts to the making of machines for flying. I had only the conviction that what had hitherto been an impossible fancy might in the future become a mechanical fact. I could see, at any rate, from what I had learned, that the subject was worth a new and scientific investigation."

RUBBER MOTORS.

"How did you go about the work of applying your facts?" said I.

"I next began a very different kind of experiments," replied Mr. Langley. "The average man might have looked upon my next work as something childish. I spent many hours in experimenting upon little toys, which I tried to make actually fly. I had my facts, you know, and I wanted to see how they would work out in actual practice. The only thing that had yet been done in making toys or anything that would fly was by an ingenious Frenchman, named Penaud, who, a decade or more ago, had made a flying toy by twisting strands of rubber, which, in untwisting, turned a little propeller wheel made of a couple of feathers. The propellers moved the toy forward. They kept it in the air for a number of seconds, enabling it to fly from fifty to 100 feet. Simple as this toy looked, it was the father of a future flying machine, and France ought to have the credit of it. I tried the same thing again and again on a larger scale, my object being to learn what the conditions were by which we could secure a horizontal flight in free air."

"What did you find?"

"I did not find out a great deal. The rubber models flew so irregularly and for so short a time that I could not learn much from them. I soon saw that I must have a better motive power. I must have something that would make a machine fly long enough for me to observe how it flew. In other words, in order to learn how to make a flying machine, I must have a flying machine to begin with.

THE STEAM ENGINE.

"I examined and experimented on every kind of a motor," Mr. Langley went on. "I tried compressed air, carbonic acid gas, the storage battery, the primary battery and many other things, including the gas engine. The last was the most promising, and it may some day prove to be the best; but like everything else I found it too heavy, for you see the engine had to be exceedingly light in proportion to the power. After much experiment of this kind I concluded that the only immediate hope was in the steam engine, and that it could only be used provided it could be built to a degree of lightness which had hitherto never been attained. I had to have nearly one horse power to give me a good chance for any practical experiment. Now, it is only a few years since an engine developing this amount of power weighed as much as a horse himself. In other words, it weighed something like 1,000 pounds. I had to have a one horse power engine and boiler which together would weigh less than ten pounds, or one-hundredth the weight of a horse, and I at once went to work to make it. It took me a year to construct it, and I had the best of mechanics to help me. I reduced the weight atom by atom, building and rebuilding, until now I have what I believe to be the smallest one horse power engine in the world. Its moving parts, as I told you, weigh just twenty-six ounces, or less than two pounds. As it was with the engine, so it has been with every part of the machine. Every part of it has had to be made over and over again, until, as the result of the greater part of my leisure for the past fifteen years, I have accomplished what you have seen today."

FLYING MACHINES OF FUTURE.

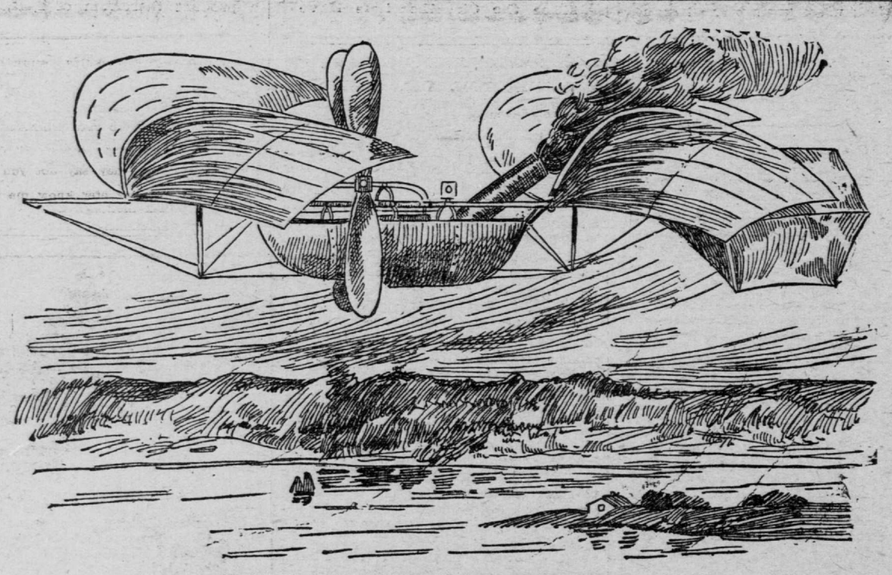
"Yes, Mr. Langley," said I, "that is true, you have worked, but you have succeeded."

"Yes," replied Mr. Langley, "I have succeeded. I have proved both theoretically and practically that machines can be made which will travel through the air. The question of the development of the fact is one of the future. My motive and interest in the work up to this time have been purely scientific ones, but if I had the time and money to spend upon the construction of a large machine, I believe I could make one on a scale such as would demonstrate to the world that a large passenger-carrying flying machine can be a commercial as well as a scientific success. There are many things yet to be learned concerning it, but I have no doubt that they will be discovered in the future. The moment that men see that such machines are not only practicable, but that they may be made commercially profitable, there will be a thousand inventors working upon the problem where there is now one. I believe, however, that the flying machine will first come into national use in the arts of war rather than those of peace. In an event of a great war by means of an aerial machine the armies of one nation will be able to know exactly what those of the enemy are doing, thus radically changing present military strategy and tactics, to say nothing of their power of dropping down bombs out of the sky. I believe, however, that such inventions will finally be of even greater advantage in the arts of peace. I have faith that the swiftest and perhaps the most luxurious, if not the safest, traveling in the future may be through the air."

"But will it not be impossible to induce people to risk their lives in the first experiments on such machines?"

"I think not," replied Mr. Langley. "If I had a large aerodrome constructed on the principles of the one you have seen today, though the danger of the initial experiment would undoubtedly be great, I am sure I should have to turn away any number of men who would be anxious to risk a flight upon it."

—Frank G. Carpenter.



SECRETARY LANGLEY'S LATEST AERODROME.

MERIT MAKES IT FAMOUS.

The Only Remedy in the World, Except a Surgical Operation, That Will Certainly Cure Any Form of Piles.

The study of physicians, the experiments of chemists, the loudly advertised pretensions of quacks, have been for years expended in one direction; to find a pile cure that would cure.

The results have been a number of harmless and in most cases useless ointments, suppositories and even internal remedies, which the public have weighed in the balance of experience and found wanting; nearly all of them gave some relief, but nothing approaching a radical cure resulted from these preparations.

The remedy required is one which will immediately stop the pain so severe in many cases of piles, and then by contracting the small blood vessels (capillaries) to their normal size, produces a radical cure by reducing and finally absorbing the tumors and healing the inflamed, raw mucous surfaces.

Until two years ago, no such remedy had been produced, but at that time a suppository was placed upon the market, which has since proven itself to be the long sought permanent cure for this common and distressing trouble; it has rapidly become famous throughout the United States and Canada, and is now sold by nearly all druggists under the name of the Pyramid Pile Cure.

It is now the best known, because its merit and safety have advertised it wherever used. It has been advertised by word of mouth, from one sufferer to another; people who had tried everything else, even submitting to painful and dangerous surgical operations without avail have finally found that piles may be cured without pain and without expense, practically, as the Pyramid Pile Cure is sold for the nominal price of 50 cents and $1 per package.

The Pyramid instantly stops all pain and at the same time contain no cocaine, morphine or narcotics; the acids and healing properties contained in the remedy speedily remove, cause a healthful, natural contraction and absorption of the tumors; it will cure any form of rectal trouble except cancer and advanced fistula, which, by the way, nearly always result from neglecting proper and timely treatment for piles.

As above stated, can furnish you with the Pyramid Pile Cure at 50 cents for ordinary size or $1 for large package.

A book on cause and cure of piles sent free by addressing Pyramid Co., Albion, Mich.

MONEY TO BURN.

America Relieving the Needs of Foreign Financial Centers.

NEW YORK, Dec. 12.—The Financier says: The surplus reserve of the New York clearing house banks, after having increased from $8,220,550 on Sept. 5 last, to $32,404,400 Dec. 5, shows signs of halting. The decrease for the week ending Dec. 12, being $858,050. This contraction was brought about mainly through the enormous expansion in loans.

The increase in loans is the largest reported since the election, and is in itself a striking evidence of the present workings of the low money market. On Nov. 1 the total loans of the New York banks were $442,179,700. The total for the week just ended, was $483,503,500, showing an expansion of $41,312,800 in about one month. The growth for the past week, therefore, was almost 30 per cent of the whole. But it is probably true that this unparalleled increase comes from sources other than those arising from commercial demands. The sterling exchange operators, by which local capital is being used abroad, figures heavily in the loan column, although it would be idle to dispute the fact that the needs of this aid have contributed in bringing about the unprecedented upward movement which seemingly has not yet culminated.

The peculiar position which the New York banks occupy today toward foreign commercial centers is illustrated in this statement. The crop movement having virtually closed, money is flowing into New York banks faster than it can be used, and the result is a remarkable and busy market. How much money we have received from abroad during the late season of stringency cannot be estimated with accuracy, but our enormous exports have made foreign nations debtor to the United States, and, instead of getting their money back in the form of balances, they are compelled to borrow on this side to relieve stringent conditions there. This has never happened before.

WALLING HANGS, TOO.

FRANKFORT, Ky., Dec. 12.—The court of appeals today reaffirmed the decision of the lower court at Newport, Ky., in sentencing Alonzo Walling to be hanged as the accomplice of Scott Jackson in the murder of Pearl Bryan last January.

Covington, Ky., Dec. 12.—When the news of his death sentence being affirmed was told Walling, he was playing cards with Scott Jackson and Robert Laughlin, the latter is to be hung January 9, for killing his wife and niece. Walling was indifferent and not surprised. He insisted he had nothing to say and claimed the points just won by him in the game. Then he urged them to proceed with the game.

"Straws show which way the wind blows"

Northwestern people prefer Export and Excelsior

Hamm's Export Beers Excelsior

while nourishing they soothe and mildly stimulate and are more digestible than milk

Telephone 935-2

For a hospitable case of quart

CHRISTMAS IS DUE

AND YOU ARE DUE AT SANTA CLAUS' PIANO HEADQUARTERS.

THE PRICES ARE SMASHED

IN ORDER TO REALIZE FOR THE CREDITORS TO WHOM MUNGER ASSIGNED.

LOTS OF HAPPINESS FROM $25.

High Grade Pianos at Assignee Sale Is a Great Thing for Christmas.

Do you want a merry Christmas? Why not buy a Piano? This is not the conundrum department of the paper, but after dinner today it might be just as well to sit down and think of what an intimate relation one conundrum bears to another.

Next week Friday will be Christmas. That is the one day in the year when we look for as near universal happiness as can ever be found. Supposing you contribute to make things especially merry in your home. Some Christmas will come which will find you absent. Gone forever. You won't take Pianos nor anything else with you, but don't you really believe you will feel better up to that date, if you have done what you could to make home happy, and never missed the chance to give wife and children a merry Christmas as each Dec. 25th rolled around? Would there be any comfort in life if it was not for the home? If the home isn't happy, is there any comfort in the home? Therefore, if there is no comfort in home, there's no comfort in life. As between a comfortless home and buying a Piano, don't the odds favor the Piano?

But I was talking about Christmas. It's the first time in the history of St. Paul that an assignee sale of high-grade Pianos and Christmas have been in perihelion. It may not be exactly two of a kind, but it's a great pair. I am closing out the stock of Pianos Mr. Munger assigned to his creditors. The creditors have authorized me to be Santa Claus, as a business necessity. The amount of the loss doesn't worry me. It's divided among a good many people and they tell me to make such prices that any one who is going to have a merry Christmas at all can afford to buy a Piano or Organ.

Munger was an old Piano dealer. Had a big stock. Represented the best Piano manufacturers on earth; Decker, Haines, Weber, Steck, Everett, etc., were all on his list. But listen to my tale of figures:

SEE THESE PRICES.

Steck baby grand, rosewood case. You never heard of a poor Steck Piano. This one should sell for $500 at least, but $225 takes it.

A. B. Chase upright, rosewood case, the largest size, remarkably full, round tone; case a little soiled. Worth $325, but it goes for $145.

Lester Upright Piano, Circassian walnut, largest size, exceptionally fine tone and easy touch, worth $385. Assignee says $185.

C. A. Smith upright, rosewood case, 7 1-3 octaves, three strings, $98, with scarf and stool.

Weber parlor grand, rosewood case, perfect in tone and action, should sell for $600. Our price, $295.

New England upright, ebony case, has had a few months' use, but looks like new, $115.

Everett upright, Style 12, Burl walnut, largest size, easy and responsive action, a beautiful Piano. Retail price, $400. Assignee's price, $212, with best stool and scarf in the store.

Isn't that a gorgeous list? But it doesn't begin to be them all. It's just a mere sample. A stool and scarf go with each one, free, and you only have to pay $25 cash down for the very best, and the rest, $10 a month, on those $200 or less, and $15 a month on those over $200.

AS TO CHRISTMAS.

You'll spend $25 in the aggregate to make a merry Christmas for your family. Why not concentrate it and come in and select a Piano which I will hold for you and put in your parlor Christmas eve. Your wife will smile, your children shout, the neighborhood will all turn out, and you'll all feel gay, as the Piano comes rolling in. You think I say this just because I am selling Pianos. That is a mistake. I want to see people have a merry Christmas, and I know that very many who could never afford a Piano before can afford to get one at this Munger Assignee Sale of high grades. Pianos are not always cheap because the price is low, but these are, because the grades are high and prices low—a rare combination.

Business has been splendid the past week. Had all I could attend to and made a great many sales. But I tell everybody not to delay. You'll feel better to come before they are all gone. It won't cost you anything to come after the sale is over, but you'll have the pang, that of all sad words by tongue or pen, the saddest are these, Pianos have been.

I invite country trade and box and deliver at depot without extra charge. Open evenings. 49 East Seventh street, between Cedar and Minnesota, is where I am at. Where are you at?

—A. E. Whitney,

Agent for the Munger Assignee Piano Sale.

GRESHAM IS SPEEDY.

New Lake Cutter Given Her Official Trial.

CLEVELAND, O., Dec. 12.—The official trial of the new revenue cutter Walter Q. Gresham, took place today and proved highly satisfactory. For about two hours, under a steam pressure of sixteen pounds and the wheel making 155 revolutions, the speed averaged was 19.6 miles an hour in ten fathoms of water. From this it varied in different depths up to 171 revolutions and the speed as high as 21.1 miles an hour, in fifteen fathoms. The vessel was turned while going at full speed in one minute and fifteen seconds without apparent heel, changing her course from due North to due South. The trial was conducted by Capt. John W. Collins, engineer in chief of the revenue cutter service, assisted by Inspector Jeffries and an efficient staff from Washington.

DOUBLE TRAGEDY.

Prominent Chicago People Found Dead in Boston.

BOSTON, Dec. 12.—Samuel P. Putnam, president of the Free Thought congress, and Mary L. Collins, both of Chicago, were found dead upon the floor of an apartment in St. Botolph street, in the fashionable Back Bay district of this city today. The woman was twenty years of age, Putnam fifty. A gas cock in the room was wide open, and the fumes of the gas had been the cause of death.

DANGER IN SODA.

Serious Results Sometimes Follow Its Excessive Use.

Common soda is all right in its place and indispensable in the kitchen and for cooking and washing purposes, but it was never intended for a medicine, and people who use it as such will some day regret it.

We refer to the common use of soda to relieve heartburn or sour stomach, a habit which thousands of people practice almost daily, and one which is fraught with danger; moreover the soda only gives temporary relief and in the end the stomach trouble gets worse and worse.

The soda acts as a mechanical irritant to the walls of the stomach and bowels and cases are on record where it accumulated in the intestines, causing death by inflammation or peritonitis.

Dr. Harlandson recommends as the safest and surest cure for sour stomach (acid dyspepsia) an excellent preparation sold by druggists under the name of Stuart's Dyspepsia Tablets. These tablets are large 20-grain lozenges, very pleasant to taste and contain the natural acids, peptones, and digestive elements essential to good digestion, and when taken after meals they digest the food perfectly and promptly before it has time to ferment, sour and poison the blood and nervous system.

Dr. Wuerth states that he invariably uses Stuart's Dyspepsia Tablets in all cases of stomach derangements and finds them a certain cure not only for sour stomach, but by promptly digesting the food they create a healthy appetite, increase flesh and strengthen the action of the heart and liver. They are not a cathartic, but intended only for stomach diseases and weakness and will be found reliable in any stomach trouble except cancer of the stomach.

All druggists sell Stuart's Dyspepsia Tablets at 50 cts. per package.

A little book describing all forms of stomach weakness and their cure mailed free by addressing the Stuart Co., of Marshall, Mich.

TWO MANY COUNTIES.

Boom Acts of Kansas to Be Undone.

TOPEKA, Kas., Dec. 12.—It is stated here that Gov.-elect Leedy, in his forthcoming message to the state legislature, will recommend a general consolidation of county governments in the thinly settled districts of Western Kansas, where county governments organized in boom times are now maintained at a great expense to taxpayers. It has even been suggested that forty counties lying west of the 99th meridian be reorganized into but eight counties, but it is stated that the governor's message will not recommend any specific arrangement. The plan is sure to meet with determined opposition in many of the towns which would cease to be county seats.

DESPERATE IOWA GANG

Uncovered by the Killing of Young Wolf.

CEDAR RAPIDS, Io., Dec. 12.—The killing of young Wolf by Station Agent Benedict at Fairfax, reveals the extent and methods of the gang infesting Iowa and Johnson counties for years past. Crimes of every nature have been committed and the local authorities were unable to cope with the situation. Search today reveals that the dead man's name was not Wolf, but Loescher. He has a sister in this city. It is believed there is a fence for the gang in Cedar Rapids.

Chance for Bryan.

CHICAGO, Dec. 12.—The Jackson celebration banquet, at which William J. Bryan will be the chief guest of honor, will be held Jan. 7 at the Tremont house. This was decided upon at a conference of Democratic leaders today. It is expected that Mr. Bryan, on that occasion, will make a speech urging the friends of silver to keep up the fight. Gov. Altgeld will also be present.

Vote of Washington.

OLYMPIC, Wash., Dec. 12.—The official canvass of the vote of the state of Washington for the November election has just been completed by the secretary of state. The vote is as follows: Bryan, 51,646; McKinley, 38,574; Levering, 968; Palmer, 148.

Thirty-One Children.

In the parish register of Kirton-le-Moor, Cumberland, Eng., under date of July 31, 1781, mention is made of a man and wife who, together with their thirty children, walked to church so as to be present at the christening of the thirty-first child. Thomas Greenhill, "surgen" to the Duke of Norfolk, in 1698, was the seventh son and thirty-ninth child of one father and mother.—St. Louis Republic.

Travelers shudder with horror at the thought of the train-wrecker who stealthily undermines the supports of a railway bridge and precipitates a passenger train with its load of precious human freight to a horrible death by fire and water. There is a deadlier enemy than the train-wrecker that menaces not only travelers but stay-at-homes. Its name is indigestion. It slowly undermines the supports that hold up the bridge of life and yearly precipitates untold thousands into the dread valley of consumption. If people will only take the right precaution they can avoid this calamity and even remedy it after it has occurred if they will act in time.

All cases of indigestion and every disease that has its inception in indigestion or faulty nutrition are cured by Dr. Pierce's Golden Medical Discovery. It cures 98 per cent. of all cases of consumption. It cures wasting diseases. It is an unfailing remedy for nervous prostration. It is the great blood-maker, flesh-builder, and nerve tonic. Thousands have testified to its merits. There is nothing else "just as good." Druggists sell it.

"I beg leave to inform you," writes Mrs. J. Shely, of No. 1701 Thomas Place, Minneapolis, Minn., "that Dr. Pierce's Golden Medical Discovery cured my trouble in my neck—Goitre. It went away in three months. At the sixth bottle it began to grow smaller. Before, it had grown larger very perceptibly. I am very grateful for the cure."

Healthy babies. Healthy mother. Healthy father. These are what you find in the homes that have a copy of Dr. Pierce's Common Sense Medical Adviser. Send 21 one-cent stamps, to cover cost of mailing *only*, to World's Dispensary Medical Association, Buffalo, N. Y. Cloth binding, 31 stamps.

HOLLY!

Mistletoe and Christmas Greens at

L. L. May & Co.'s, 25-27 W. 5th St

SIDLE BLOCK FIRE SALE. STOVE DEPARTMENT opens MONDAY, 14th. If you want a Stove or Range or Heating Stove in the next two years, it will pay you to buy now.

Cook Stoves, Family Ranges, Hotel Ranges, all kinds of Wood Heaters, Air-Tight Heaters, Coal Heaters. Call at once.

Sidle Block Fire Sale, BETWEEN FIFTH AND SIXTH ON NICOLLET AVE.