

location and doubled the capacity of the plant. The season being a remarkably propitious one for tomatoes, Brother Isaacson purchased a sixteen interest for \$100 at the beginning of the season, but improvements and prospects gave greater value to the investment, and when operations began, contracts were out for about 400 tons from the farmers round about. They had on hand 75,000 new cans, 3,000 cases unmade up, and 40,000 labels. The first day's run 5,000 cans were filled and piled at the end of the works ready for the labels; and the following day was equally successful, when, at midnight, the cry of fire resounded, through the silent streets, and all that was saved of the factory and contents was the engine and boiler, protected by the piled up cans already filled. There was every evidence of incendiarism, but it was difficult to trace, although the remains of matches and kerosene soaked rags told the story of a cruel wrong and an unmeasured loss of over \$4,000.

If anything could have daunted the promoters of this industry, frost, fire and treachery would have done it; but the promoters were not made of that material. So in two weeks an almost impromptu building stood over the ruins and after all they packed 130 tons or 3,500 cases of two dozen each.

It is believed that Hooper produced this season 550 tons of tomatoes. All unused by the local factory went to the two factories in Ogden. The Hooper works expect next season, if all is well, to enlarge their capacity to the size of 8,000 cans per day. They have employed about thirty hands all the time, mostly girls, who can earn, when good peelers and fillers, \$1 per day. Those less expert earn about 75 cents. Particular care as to cleanliness is compulsory. The cans are "handfilled," consequently are very solid, without black specks and anything but mushy, as is usual far too often.

The shareholders cultivated nine acres on their own account. Ten tons per acre is considered a fair yield, but some have much exceeded this. Brother Wm. Cook, late from New Zealand, raised his own plants in a hotbed, and from 1½ acres had a crop of 28 tons. Other successful growers were Messrs. Gilbert Parker, John Manning, Thos. Lowe, James Fielding, Munsee, Soule, the Simpsons, and others, the full supply being, as previously said, about 550 tons. Some grew direct from the seed, others transplanted from under glass. It is abundantly evident, however, that soil, water and cultivation have produced great results; so great that even beets are about the only crop that equals in monetary returns the prolific tomato. The factory price on delivery was \$5.50 per ton. With the small average of ten tons per acre the grower feels as if his taxes were less onerous than when the great staple—wheat—on which he usually relied, was only 40 cents per bushel in reachable markets.

Sympathy, if no higher stimulus, should follow the intrepid and undaunted owners of this Hooper canning factory, and when discrimination means home produce, home enterprise and sympathetic aid, neither wholesale nor retail dealers should hesitate in giving the home article preference at least over any importation.

But the great lesson is that patience, perseverance and pluck can almost compel success, if a good and needed article is produced. There are quite a few things yet which in the hands of similarly determined citizens, can be made at least an equal success. Less talk and increased action would solve speedily the problems of work, wages and industrial independence.

### HOW WE SHALL FLY.

WASHINGTON, D. C., Dec. 9th, 1896.



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, Professor Alexander Graham Bell, that he allowed him to state the fact that he had succeeded.

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, November 28th, 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 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.

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