

from the ash is used by the butler in scouring the plate; and the perfumer's violet powder and tooth paste are for the most part made of bone-ash. Our dust-bins then, it will be seen, are amongst our best friends.

Other samples of "hard core," such as scrap iron, old pans, nails, &c., are used over and over again; and in the streets and on smithy floors are gathered the old nails wrenched from worn-out horse-shoes, which produce the raw material from which the finest gun-barrels are manufactured. The pan the cook threw away the other day is carefully laid aside by the dust-contractor, and when he has a certain quantity of useless household utensils, he sells them to an enterprising gentleman, who melts the solder, collects it, and sells it to the plumber or tinman in bars of lead. The old iron goes back to the furnace, and assumes the shape of new knife-blades and other useful articles.

"Soft core" is the name given by the dust-sifter to such things as paper, linen, cotton, or woollen rags, hay, straw, vegetables, and all substances perishable and soft. The hay, straw, and decaying vegetable matter are sent to the market-gardeners near London, who from them produce next year's potatoes, cauliflowers, kidney-beans, peas, and cabbages. The paper, if white, goes back to the mill, and is returned

to the same house perhaps in packets of superfine scented note-paper. That printed on is cleared from ink, and reappears some day in the last new book, or bearing the name of some morning journal; and the page of CASSELL'S FAMILY MAGAZINE which you are now reading may originally have been picked out from your own dust-bin. Coloured or decayed paper is manufactured into papier-maché, or it may be that the head of the doll with which the dear children are playing was moulded out of the paper that rotted on some dustheap. Cotton rags nearly all go into paper; and the dirty cloths with which the servant wiped the canvas, old stockings, and other scraps of wool thrown into the dust-bin, are sent to the town of Batley, in Yorkshire, whence they return in the shape of tweeds and other cloth to make the boys their last new suit. In one word, the dust-bin is a mine of wealth, and the articles that go to it are always returning, after being used by man, to be re-manufactured, used again, and once more thrown away. The odds and ends in the dust-bin, in fact, are indestructible, and, for the most part, come back to us again and again, transformed, beautiful, useful, acceptable to the palate, and comfortable to wear; and many men have from comparative poverty grown to be millionaires simply by learning the varied uses of its contents.

W. GIBSON.



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TIED UP IN THE AIR; OR, HANGING THE WRONG WAY.



chance of being whisked off into space, or heavily bumped in his descent, he will ascend in a "captive" one, and so be "tied up in the air" for a time. The risk of the rise is thus infinitely diminished, if not done away with; and yet he will form that fresh estimate of the strength of the atmosphere, in being pushed up by apparently nothing, that a balloon ascent alone conveys. The popularity of the "Captive Bal-

loon" at Paris during the Exhibition will probably result in the provision of others where there are enough people to find custom for them. There was one, indeed, in London some few years ago, but I think it rose only some 1,000 feet, whereas that at Paris has shown that a rise may be had of something more than the third of a mile; and some day we shall see one which will reach a still higher altitude. I went up, as many hundreds did, in the Paris "Captive," and as I had never been in a balloon before, I expected to feel, and felt, a totally new sensation. No mountain-top or edge of a precipice can afford the same view, especially of a city, since there is none with a sufficiently high eminence near it, and certainly none with a standing-place immediately above the heads of its inhabitants. In going up a mountain, moreover, one's progress must be slow, and the perception of more distant objects gradual. The horizon rises step by step, or if any elevated peak is reached after, say, some hours of climbing through forests, the new scene presents itself at the top without any realisation to the climber of the short successive rises which have preceded it. It is not so with an ascent in a balloon. When I had taken my place in the car of the French one, and the thing was let go, the bottom of the middle of Paris seemed to drop out, and the houses to tumble into the crater from all sides. The horizon rose as suddenly,

NY one who desires a new sensation, and wishes to have a wholly different view of his surroundings to that which has presented itself all his life, had better go up in a balloon. But if he shrinks from the danger of a voyage in the sky, dreading the

and we thus appeared to be ascending out of an immense cup. It was at first difficult to realise that the place beneath us was flat. Presently, however, we found ourselves stationary over a coloured map of Paris and its environs. The city was so far off that this illusion was perfect, only it seemed as if the printer had forgotten to insert the names of the streets, buildings, and open spaces. With this omission there was simply a coloured map spread out below us, having a city in its midst. Another balloon point of view exhibited itself. When we went up, the streets were very full. Crowds of people were walking on the

their heads it seems almost bare. There are 600 square feet in a piece of pavement ten feet wide and twenty yards long. A dozen hats are nothing in so large a space. You might place hundreds there without their touching one another. Thus when, hovering over Paris, we looked down on the human stream which had appeared to fill the *trottoir* along which I had walked to the Louvre, it seemed, as I have said, to have been suddenly dried up, and the population to have become absurdly small for so great a place. Of course, that which remarkably characterises Paris, its multitude of architectural vistas, also disappeared.



BEFORE THE START.

pavement. In a minute they seemed to have all gone, as if by magic, and to be replaced by a number of small creeping dots. An irregular procession that was crossing some open space beneath us—I am not sure that it was not a regiment: French soldiers march loosely—looked like a set of dominoes put end to end. This delusion rests upon the fact that when you are up high enough, the brim of a man's hat, unless his waistcoat is very protuberant, nearly measures the space he occupies upon the earth. Substitute a hat for every passenger in a street, and the street will be wellnigh empty. When you are walking along the pavement, a dozen people within twenty yards of you shut out the view of the ground beyond them. If you look down a street which has twelve persons walking in every twenty yards of its length the street seems quite full. To the eye of the bird flying high above

The map below us was as if drawn on flat paper. The height of the chief buildings was gone. While we hovered over the great city one was struck, moreover, by the way in which divers seemingly small matters became notable. We pay little regard to the apprentice who sprinkles the stones outside his master's shop in curly patterns. In Paris, however, when the weather is hot and dusty, numbers of men are employed in thus watering the pavement with large watering-pots. That is a sensible procedure, but when viewed from above it seemed to cover the streets with worms. The twisting pattern of the water on the white pavements presented exactly this appearance. The sides of the streets, moreover, were in many places stuck with, apparently, white wafers. I had to consider a minute before I realised that these were the little round tables outside the cafés.

Another thing which soon struck me, as we rose, was the absence of trees or greenery of any kind, except in places where they are seen by all wayfarers. You cannot look down on London from even any high tower in its midst without a manifold revelation of trees in its back premises. In Paris, on the contrary, the rears of the houses everywhere were seen to be singularly cramped and bare. There was no disclosure of snug domestic retreats, however smutty, behind the grand houses which faced the streets. The poor people, who there live much in the highest flats, were thus seen to be without back yards. This is a defect in those improved dwellings which anywhere tower above the streets of small tenements, which, however mean, have mostly some door of escape into a yard behind them. These back yards in London, for instance, are certainly not picturesque, except to a slight extent, in so far as they may contain some small tree, as they often do, but they are certainly convenient; and I could not help feeling that, in a very great part of renovated Paris, the poorest people must be unpleasantly packed. Ruins though look, perhaps, most desolate when seen from above. The view of the fire-smearred and dismantled Tuileries from heavenwards was very ghastly and suggestive. Seen from thence to be gutted to its cellars, this palace showed even a deeper failure than it exhibits from below.

Those who ascend in a balloon may probably expect to experience a sense of insecure flotation, but it is not so in fact. I was much impressed with the stability of our "Captive," not merely from seeing that it was held fast by a rope, for as we drifted slightly with the wind, on looking over the lee side we could perceive nothing of the tie to earth. One felt most the lightness of the huge dome overhead, or rather the upward pressure of the mysterious force beneath us. There were some thirty persons in the car, and had one been with such a company in an omnibus, or small boat, the sense of their weight would have been very perceptible, but in the balloon there was no more thought of it than if they had been feathers. Our specific gravity seemed to be altered. It was not merely that the floor of the car was strong, but the feeling that for the third of a mile there was nothing beneath us was dissipated. The air took a new character, and seemed to be firm rather than buoyant. One felt that if, say, a hat were launched over the edge, it would by no means necessarily fall to the ground. One felt, too, as if the air might be trusted,

and that even if the apparently thin thread beneath our feet were to snap, no harm would come to us. It was an odd sensation, that "hanging the wrong way." The idea of falling did not present itself, but after rising to the limit of our tether, the notion was that the earth was more likely to drop than ourselves if the rope broke. We were doing our best to hold it up rather than being held down.

In the ordinary voyage of a "free" balloon the occupants of the car are said to feel as if they were stationary, and the scene moving beneath them. As they travel with and at the same rate as the wind, of course they do not feel it, though they may be moving swiftly. In a "captive" balloon, on the contrary, when you are fairly "tied up in the air," the breeze is felt as if you were on any eminence, but the sense of tugging at an enormous weight is added when the rope is wholly paid out. Certainly, when we were tethered over Paris, the earth seemed to be very heavy, and as we appeared to be part of the air which was trying to get away from it, one wondered why all the air did not leave the earth to itself. Talk of the downward pressure or weight of the atmosphere! Ascend in a balloon, and so get an altogether new and confused estimate of what the barometer tells us. Of course, we knew that we were being hauled up by gas much lighter than the atmosphere, but the irresistible feeling presented itself that the air had an upward tendency, since we seemed to belong to it and were struggling to rise. It was an entrance into entirely new meteorological conditions, or at least perceptions. There was nothing beneath us, and yet we did not fall, but, on the contrary, pulled hard to get higher. And I don't think there would have been any great alarm felt by the party if we had managed to get "free." High as we were, we wanted a still higher view; and, as I have said, one felt a new confidence in the power of the air. We were not so much forcing a passage through as being lifted up by it, and when, after standing still for awhile over the nameless map beneath us, the rope, which looked no bigger than a string, began to drag us down, the thought that it ought to break presented itself vividly.

Altogether, if my reader should be disinclined to make a voyage in a "free" balloon, I would advise him to lose no chance of going up in a "captive" one, if he wishes to experience a sensation wholly unlike any that may be felt while ascending, or looking down from the summit of, any eminence that he can climb.

HARRY JONES, M.A.

A DREAM.

HER path seemed on a sunny shore,
Which, as night flowed, a moon shone
o'er,
In sky that seemed so near the sands,
She stretched to touch it with her
hands.

Then voices, angel in their tone,
Sang hymns in childhood she had known;
And then there stept upon the shore
A sister who had died before,
Who claspt her, welcoming, and said,
"Though I have died, I am not dead."

E. G. CHARLESWORTH.