



AN ANGEL IN PETTICOATS.

HE had whispered, "Yes, Jack, I love you!" in response to his question, his kisses were still on her lips, their hearts were beating in unison, though not so tumultuously as before, and now that the rapture and thrill were over, they were asking questions and making little confessions, after the manner of lovers on the threshold of an engagement.

"Thanks, dear! Now, please forget that there ever was any other girl, and don't look quite so sober the next time I call. I'll be over again Wednesday evening, if nothing happens. Good night, Dora!" "Good night, Jack!"

When Jack Vernon reached his office in Temple court the next morning he found Dora Stevens' note awaiting him. Tearing it open he read: "Brooklyn, 9:30 p. m., March 15. Dear Jack—The love I expressed for you an hour ago I find has turned to pity, and I am going to make you happy by sending you to the only woman you have a right to marry. After hearing your confession, and knowing what I do, I could never be happy with you. I know you think you are in love with me, but the tendrils of your heart are still entwined around that early love, and—she needs you more than I do. I told you she was my schoolmate years ago; I still regard her as one of my dearest friends, and though we have never met since we graduated, we have always kept up a correspondence. I enclose my latest letter from her, received two months ago. I did not know until to-night who the man was that she loved."

"But why are you looking so sober, Dora?" I know now, and I wish you both the joy that life in each other's society can bring you. Go to her, Jack, and make her happy—and my blessing and prayers will go with you. Not good night this time, but good-bye! Ever your friend, DORA."

The inclosure ran as follows: "Rochester, N. Y., Jan. 14. My Dear Dora—No, I am not engaged yet, and never expect to be. I have had plenty of chances to confer my hand and fortune—especially the latter—upon aspiring applicants, but I have declined them all. I have never met a man I really cared for, except one, and I believe he cared for me for a time. Perhaps he does yet; but alas! he discovered that I was an heiress, and then pride, the dear Dora (not being so much of a brain and ambition, but no money), held him back. He loved me; my heart told me that; but fortune hunters were fluttering around me, like moths around a candle, and I suppose he was afraid if he spoke he would be classed with the rest—just as though the alchemy of a woman's love could not detect the gold among the dross!

"Ah, well! he is gone, and there's no use mourning for the past. I cannot help sighing, though, to think that the very money which has attracted so many such moths should drive away the only man I ever loved!" "There, Dora, you have my secret, and know why I shall evermore a maiden be—but please don't tell. Wishing you a love true, some time, dear Dora (not being so much of a brain and ambition, but no money), held him back. He loved me; my heart told me that; but fortune hunters were fluttering around me, like moths around a candle, and I suppose he was afraid if he spoke he would be classed with the rest—just as though the alchemy of a woman's love could not detect the gold among the dross!

Late that afternoon Dora Stevens received the following brief message from Jack Vernon: "My Dear Dora—Many thanks for your kind note and the enclosure. There are at least two angels left on earth. You are one of them. May heaven ever guard and bless you! Yours gratefully, JACK."

"P. S.—I start for Rochester at once, and will mail this on my way to the train. And as Dora read these words, she smiled one little, wee ghost of a smile, and whispered: "Better my heart than hers"—St. Paul Pioneer.

**A DIVER'S DRESS.**  
Weights Nearly Two Hundred Pounds and is Very Complicated.  
"Under the Sea" is an article about divers in St. Nicholas. It is written by James Cassidy, who says: The dress of a fully equipped diver weighs in round numbers, one hundred and seventy pounds. Taking off his every-day garb, the diver pulls on his thick underclothing—a white knitted sweater and trousers and a pair of ribbed stockings, also white. Should he intend to work in unusually deep water, he puts on two, sometimes three, sets of underclothing, to relieve the pressure of the water.

The woolen clothing donned, the next garment is the diving dress, measuring for a man of average height, five feet five inches from the collar to the sole of the foot. This dress is made of solid sheet India-rubber, covered on both sides with tanned twill. It has a double collar, the inner one to pull up round the neck, and the outer one, of red India-rubber, to go over the breastplate and form a water-tight joint. The cuffs also are of red India-rubber, and fit tightly round the wrists, making, when secured by the vulcanized India-rubber rings water-tight joints, at the same time leaving the diver's hands free. In the outer collar twelve holes are bored for securing the breastplate. This is made of tinned copper. The outer edge is of brass, and has twelve screws firmly fitted to it at intervals, and projecting upward. These projections pass through the corresponding holes in the outer collar of the dress.

The hand of the breastplate is in four sections, and the holes in the sections pass over the projecting screws, and are secured in place by wing-nuts or thumb-screws. A little careful consideration will make it clear that the dress is held in position by its rubber collar, and with the aid of the breastplate-flange and wing-nuts. The upper edge of the breastplate is fitted with a necking and a segmental screw. The use of this we shall presently explain.

The boots are of stout leather, with leaden soles, and are secured over the instep by buckles and straps. The pair weighs thirty-two pounds—four pounds over the quarter of a hundredweight. The lead soles are firmly attached by copper rivets. The tongues of the boots are very wide. Boots intended for rough work are fitted with metal toe-caps. Thus far—underclothing, dress, breastplate, and boots—is our diver arrayed. He has now to be weighted. Lead weights of forty pounds each, shield or heart shaped, are suspended back and front by means of gun-metal clips, and studs or tabs, and lashings. He has now only to put on his helmet and to affix the air-pipe.

The helmet, like the breastplate, is of tinned copper, and is fitted with a segment bayonet-screw at the neck, corresponding to that mentioned as belonging to the breastplate. The eighth of a turn, and the helmet is firmly secured, being both air and water tight. It has three strong plate-glass panes in brass frames, protected by guards, two oval at the sides, and a round one in front. The front can be unscrewed to enable the diver to give orders without removing any other portion of the dress. An outlet-valve is provided at the side or back of the helmet, which the diver can close should he wish to rise to the surface. This valve allows the breathed air to escape, yet prevents the entrance of water.

At the side of the front glass is a mechanical arrangement for getting rid of the excess of air, and it also assists, when the back outlet-valve is closed, in regulating the expansion of the dress in rising to the surface. There is also an inlet-valve, and this is constructed so as to allow the air to enter, but not to escape in case of a break in the air-pipe. The air-pipe is made in lengths of from forty-five to sixty feet, fitted together by means of gun-metal joints. Securely connected with the helmet by means of the inlet-valve and an elbow-tube, the other end of the air-pipe is fitted on to the nozzle of the air-delivering diving pump.

His leather belt is buckled on; his knife, well sharpened, and of good, strong steel, covered with a metal case to keep it dry and intact, is slung upon it; and after taking a drink, or a little light refreshment, the word is given, "All right," the face-glass screwed on, and receiving a tap on the helmet as a signal to descend, down he goes by rope or ladder, either of which must be weighted at the bottom.

**Permanent Magnets.**  
Another opportunity for inventive genius to display itself is presented by the Society for the Encouragement of National Industry, Paris, in its offer of various prizes to be awarded during the coming year. Among these is a prize of 3,000 francs in connection with the manufacture of permanent magnets; research in this case may be directed to the composition of the steel for the magnets and such materials other than iron which may enter into it, or to the degrees of temperature for the liquids used in tempering; also the processes of annealing and other necessary accessory operations which are likely to obtain this result. Another prize likely to call forth considerable effort is for an incandescent electric light for one not to exceed a maximum of two candle-power—decimal system. Two thousand francs are also offered for any set of electrical appliances or tools suited to domestic life and to small trade.—New York Sun.

imate friends and companions, but one day, "being merry in company," Tom Porter said he should like to see the man in England who would dare give him a blow. With that Sir Henry Bellasis struck him a box on the ear. The inevitable duel followed, wherein each was wounded. Sir Henry proved to be seriously hurt, so he called Porter, kissed him, and bade him fly. "For," said he, "Tom, thou hast hurt me. But I will make shift to stand upon my legs till thou mayst withdraw, for I would not have thee troubled with that thou hast done."

Porter prodded by his friend's generosity, and escaped to France. Sir Henry died a few days later, and Pepys concludes: "It is pretty to see how the world do talk of us as a couple of fools that killed one another out of love."

**SCIENCE AND INVENTION**

It is a strange fact that injures to the tongue, whether of man or animal, heal more quickly than those of any other part of the system. The population of the earth at the time of the Emperor Augustus is estimated at 54,000,000. It is now estimated to be about 1,400,000,000. The greatest depth in the Atlantic Ocean has been found some 100 miles to the northward of the island of St. Thomas, soundings of 3,875 fathoms having been obtained. The Limited Express service between New York and Chicago is said to be seriously affected by the telephone. Business men who would otherwise go to Chicago for personal consultation can afford to utilize the long-distance telephone instead, and thus avoid the expenditure of time and in many cases can save largely on the expense, in spite of the apparently high rates for long-distance service.

Visitors to Niagara remember the small cascades of water falling over the edge of the cliffs just below the Clifton bridge. The waste of power thus represented has been stopped. The water is now received in a great pipe, or "penstock," and is used to drive water wheels under its 210 foot head. Formerly it drove only wheels at the top of the cliff. An interesting feature of the installation is the use of large size aluminum conductors for the electric power distribution. It is a reflection on modern engineering that this source of power was for so many years neglected.

A Dutch investigator, Beyerinck, has lately made a special study of the little organisms called photo-bacteria, to which, in a large degree, the phosphorescence of the ocean is due. He has been unable to discover that the luminosity of these singular creatures plays any important part in their vitality. It appears to depend chiefly upon the food that they are able to obtain. When they have plenty of carbon they shine brilliantly, and the ocean surface glows with their mysterious light. When fed with sugar or glycerine, their phosphorescent power is increased.

A rainfall of 31.76 inches in 24 hours is reported to have occurred last December at Nedunkun, in the northern province of Ceylon, where the total fall for 1897 was 121.85 inches, although the average yearly rain is but 94.70. Other great rainfalls on record are 31.17 inches in 22 hours at Joyeuse, France; 30 inches in 24 hours at Genoa; 33 inches in 26 hours at Gibraltar; 24 inches in one night near Bombay; and 39 inches on each of five successive days on the Khasia Hills, India. The greatest annual fall is 600 inches, the record for the Khasia Hills.

In a recent number of Power, a singular calculation is presented by J. A. Reule. It would require, according to Mr. Reule's figures, the power of a ten thousand-horse power engine about 70,000,000,000 years to lift the earth one inch in height, and to do this work, allowing thirteen pounds of water per horse power per hour, would require some 10,000,000,000,000,000 gallons of water, or more than would be discharged at the mouth of the Mississippi in 60,000 years. This would be enough, the writer estimates, to cover the entire surface of the earth to a depth of about 300 feet, to convert which into steam, using good boilers, would require some 4,000,000,000,000,000 tons of coal.

**How Snake Poison Kills.**  
The action of poisons upon the system is and always has been one of the most interesting of subjects. Just how and why it kills has just been determined through a series of experiments made by scientists. The following description is unquestionably the best and most lucid of any that has been given to the public: "The venom may be roughly separated into two parts—one acting upon the blood and the other upon the nerves. When injected it immediately begins to create terrible destruction in the blood vessels, the walls of the veins are eaten away and an internal hemorrhage takes place. While this is going on a portion of the venom is attacking the nerves. Particularly susceptible to its ravages is the 'vasomotor' system, a nerve center which controls the muscles of respiration. Paralysis takes place in these organs, and the victim generally dies from an inability to breathe."

**PETS OF THE NAVY.**  
Many Mascots on Board Ships of the American Navy.  
There are enough pets of various kinds serving as "mascots" in American war-ships to stock a good-sized menagerie. According to the sailors' superstition, the crew of a man-of-war would not be complete without such a mascot, and since pets are allowed on board only with the formal consent of the Captain they may be said to be regularly in commission. Even at the time of the disaster of the Maine, says the New York World, her pets were not forgotten. The Maine carried a dog and three cats, one of them the senior cat in the United States navy. Two of the cats, which had been bought in Cuba, perished with the ship, but old Tom utilized his nine lives and survived, as did the Captain's dog. Tom was born thirteen years ago in the Brooklyn navy yard, and has been in active service ever since. At the time of the disaster he was sleeping peacefully three decks down, or a distance of nearly thirty feet below the upper deck. The force of the explosion was so great that Tom was literally fired through these three decks, and came down unharmed.

In the confusion of that awful night Tom was lost sight of, but the next morning he was discovered crying pitifully, crouched on the part of the wreck which remained above water. He was first discovered by Commander Wainwright, who hastened to take him off in a boat and remove him to the Fern, where the sailors received him as an old friend.

The other survivor of the Maine was Captain Sigbee's little pug dog, Peggy. Peggy was asleep in the Captain's stateroom when the explosion occurred, and was forgotten by her owner in the confusion which followed.

The ship was in complete darkness, but Peggy managed to find her way to the deck, and when the Captain's boat was finally lowered in the midst of the shrieks of the dying, the roaring of the fire and all the confusion, Peggy was found standing at the place she had been taught to take when that particular boat was to be lowered.

In some ways the most remarkable of all these mascots is the goat, Billy, now on the cruiser New York. Billy has served for more than fifteen years, and takes an active part in the life of the ship. The custom of decorating the uniforms of old sailors with enlistment stripes has been extended to Billy, and he now wears five stripes, each stripe representing three years of honorable service.

He wears these when on dress parade attached to a belt of navy blue cloth, which buttons over his back. In summer, when on dress parade, he wears a white duck belt decorated with gold stripes. Billy always marches in parade with the same company, and is always at his post throughout the most complicated naval maneuvers. He never makes a mistake in finding his own boat, and no one on board is more prompt in responding to the various orders.

Another celebrated goat is "Billy the Terror," which makes his home on the monitor Terror. This goat seems to be happy on the limited deck space of the monitor, where he frequently lives for weeks at a time without going ashore. These little mascots have curious ways of making themselves at home. One of the cats which sails with the Minnesota often crawls into the yawning mouth of one of the cannon. She has found from experience that this is a very quiet place for an uninterrupted nap, and when the gun is not wearing its canvas cover she is usually to be found there.

**The Pony Express.**  
W. F. Bailey contributes to the Century an article on "The Pony Express," between St. Joseph, Mo., and San Francisco. Mr. Bailey says: At first the schedule was fixed at ten days, an average of eight miles an hour from start to finish. This was cut down to eight days, requiring an average speed of ten miles. The quickest trip made was in carrying President Lincoln's infant daughter, which was done in seven days and seventeen hours, an average speed of 10.7 miles per hour, the fastest time of any one rider being 120 miles, from Smith's Creek to Fort Churchill, by "Pony Bob," in eight hours and ten minutes, or 14.7 miles per hour. Considered, such as hostile Indians, road-agents, floods, and snowstorms, and accidents to horses and riders, the schedule was maintained to an astonishing degree. The service created the greatest enthusiasm not only among the employes, but also in the ranks of stage employes, freighters, and residents along the route. To aid a "pony" in difficulty was a privilege, and woe be to the man who would so much as throw a stone in the way.

**Decrease of Marble Importation.**  
The importation of marble to the United States has almost ceased. It is only now and then that a cargo arrives at this port, while a few years ago a fleet of sailing vessels brought many cargoes annually from the famous Carrara quarries in Italy to Philadelphia. Marble buildings seem to be becoming things of the past, and the tombstone-makers find little demand for marble tombs, slabs, or monuments. Granite has taken the place of marble everywhere, even in the cemeteries and where marble shafts and slabs were formerly the only proper things. Granite, unlike marble, does not require very frequent cleaning, and looks well without being touched up for years. It also admits of a high polish, and does not show the marks of rust by contact with metal, as marble does.

**SUPPOSE WE SMILE.**  
MUMOROUS PARAGRAPHS FROM THE COMIC PAPERS.  
L'pleasant Incidents Occurring the World Over—Sayings that are Cheerful to Old or Young—Funny Selections that Everybody Will Enjoy.

**His Flattery.**  
"It really made me indignant, Henrietta," said Mr. Meekton, "when you intimated that I had not accomplished much in my life."  
"Indeed!"  
"Yes, I don't like to dispute your opinions; but to suggest that a man who succeeded in becoming your husband hasn't achieved much does seem just a little bit unjust."—Washington Star.

**A Householder's Opinion.**  
Wickwire—I don't exactly like the idea of calling one of the new ships of war the American Girl.  
Vabsley—What is the matter with it?  
Wickwire—It sounds too tame. The Hired Girl would give a much better idea of destruction and desolation.—Indianapolis Journal.

**Hard to Decide.**  
Watts—Briggs is either the vainest or the most modest man among my acquaintances; I can't decide which.  
Potts—What is the matter with Briggs?  
"He says he knows more about his business than he does about how to conduct the war."—Indianapolis Journal.

**Don't Marry a Rich Girl.**  
"Say, Chonnie, how would yer like to be married to dat little albsey queen of Holland? Wouldn't dat be great?"  
"Naw, I wouldn't want none o' dat. Me Uncle Ike married a girl wit a hundred and fifty dollars, and she ain't never let 'im say his soul was his own since."

**Not Necessarily an Angel.**  
"You remember Joe Briggs, don't you? He has a model wife."  
"Yes, I remember Joe. Who is he married to?"  
"A young woman who had a job in a big dry-goods store trying on things so that customers could see them to the best advantage."

**Only One Way for Him.**  
"They say Scribbleton, the novelist, dictates all his stories to a stenographer."  
"Is that so? I didn't know he was married."  
"Who said he was married?"  
"Nobody; but surely a man who writes novels for a living can't afford to hire a stenographer."

**His Platform.**  
"And why?" she asked, "are you so strongly in favor of annexing all this conquered territory? Do you believe that we can extend our trade relations more easily if we bring all those islands under our jurisdiction than if we withdraw and let them govern themselves, or do you take your stand upon the broad grounds of humanity and the extension of civilization?"  
"Weally, aw," he replied, "I haven't thought of the propositions you mention, but we need more room for golf links."

**Equal as to Size.**  
She—Do you think the time will ever come when men and women will be on an equal footing?  
He—Sometimes I think it will. As a matter of fact, they seem to have reached that condition in St. Louis now.

**Turning Night into Day.**  
"Does your baby give you much trouble at night?"  
"No. We've fooled it by having an electric light put up in front of our house."

**A Practical Girl.**  
Harry Downtown (to country sweetheart)—Miss Milkyweid, do you play and sing "When the Cows Are in the Corn?"  
Miss Milkyweid—Lord bless you, no. I got the dogs and chase 'em out.

**Explained at Last.**  
Mrs. Pressley—Mrs. Bingle says her husband has kissed her regularly every morning and every evening during the fourteen years of their married life.  
Mrs. Pressley—I have often wondered what gave him that expression of settled melancholy.

**Didn't Entertain.**  
Mme. Theosophia—Tell me, have you never seen a vision? Never welcomed some strange spirit from the unseen world?  
Mrs. Sinclair—Never. But then, I entertain so little.—Punch.

**A Type of His Class.**  
"I see you've still got your old office boy."  
"Yes."  
"Improves with age, does he?"  
"Well, he seems to get fresher every day."—Philadelphia Record.

**One Woman's Wisdom.**  
Bleeker—Where on earth did you ever discover such a homely typewriter?  
Meeker—Oh, that's one of my wife's discoveries.  
Her Instruction.  
Cholly—Yaws, I took a prize at a progressive euchre party once, donch'er-know.  
Mande—Indeed. And was it worth anything?  
Cholly—Yaws; it was valued at fosh dollars, if I wemembah correctlah.  
Mande—Awfully careless of the owner to leave it lying around, wasn't it?

**The Trouble.**  
Mrs. Gape—Did she secure her divorce on the ground of desertion?  
Mrs. Napp—No; that was the trouble; it was almost impossible for her to get rid of him.—North America.

**Not in a Class.**  
Two wheelmen are discussing their relative merits.  
"Have you ever run over anybody?"  
"No, never."  
"Then you are not in my class."—Filegenda Blatter.

**Too Horrible.**  
Burgling Bill—No, no! I won't go in again! She's talkin' in her sleep.  
The Mouse—Well, dat ain't nuthin'.  
Burgling Bill (hoarsely)—But she's a lovely eclectionist.—San Francisco Examiner.

**True to Its Mission.**  
Elsie—I wonder what it was that caused the explosion between Mamie and Mr. Price?  
Emma—I've understood that Ensign Worth gave her a miniature torpedo to be worn as a brooch.—Jewelers' Weekly.

**Shift the Alarm.**  
Agent—This is the finest protection in the world. The burglar no sooner enters the house than it gives you the alarm.  
Mr. Hussiff—Haven't you got one that will alarm the burglar?—Judge.

**Strictly Neutral.**  
Mr. Neverpeigh—Old Redash has declared neutrality at last.  
Mrs. Neverpeigh—I don't understand you.  
Mr. Neverpeigh—He has refused to let us have any coal.—Judge.

**At the Club.**  
"Those two fellows over in the corner seem to have a very interesting subject. They've been talking at each other as hard as possible for an hour and a half."  
"Yes; one of them has a little boy who has just learned to walk and the other's baby cut its first tooth day before yesterday."

**A Warning.**  
"You had better not go boating with Ada," said Tommy to his sister's fiancee.  
"Why not, Tommy?"  
"Cause I heard her say she intended to throw you overboard soon."—Tit-Bits.

**On the College Grounds.**  
Visitor—Well, professor, I see you are putting up a new building. Gymnasium?  
Professor—No, sir; it's a hospital for the use of the foot-ball team.

**To Her Advantage.**  
"Well," said the corporal's wife, "I suppose the boys did suffer a good deal on account of the poor quality and the scarcity of food, but for my part I'm glad of it."  
"Oh, Mrs. Whitestripes," her neighbor exclaimed, "how can you say such a thing? It's wicked."  
"Maybe it is, but my husband hasn't had a single complaint to make about my cooking since he got home."

**Induced.**  
"What! Vote for that man? Never! I would rather cut off my right arm."  
"He told me to tell you that if you supported him and he got there he would see to it that your taxes were cut down \$1.75 a year."  
"Hurrah for him! Tell him I'll roll up a majority of at least 500 for him in my ward."

**Trouble.**  
"Do you think the United States will want all our colonial possessions?" asked one disconcerted Spaniard.  
"No," replied the other. "They'll leave us just enough islands to keep us in continual hot water over naval appropriations."—Washington Star.

**How Much Seed to the Acre?**  
When wheat is selling at a low price the average farmer is apt to be somewhat more liberal about sowing seed than he would be if it were worth a high price. Whatever the price may be, it is waste to sow more seed than is necessary for the production of the largest crop the soil will mature.

The amount of seed depends somewhat on several conditions. If the land is in thorough condition, the soil moist and the weather favorable, there is good reason for believing that three pecks of wheat is sufficient to produce a good crop. If the land is in bad condition, the soil too wet or too dry, the weather unfavorable, six pecks is often not too much.

A series of experiments at the Ohio experiment station indicated five or six pecks as the best quantity of wheat to sow. It is probable that five pecks on comparatively new or fertile land is as much as can profitably be used. A greater quantity produces so many plants that they interfere with each other.—Farmer's Voice.

The scorching evidently believes in putting his shoulder to the wheel.

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