

Synthetic Diamonds

The Difficulties of Making Big Ones Called Only Technical.

Out in McPherson, Kan., is Dr. J. W. Hershey, head of the local college department of chemistry. So far as the published records show, he was produced the largest artificial diamond. When it is breathed that the diamond is only about as large as a pinhead and that it cost far more to produce than it is worth (\$5 according to one enthusiastic estimate), those who think of real solitaires sparkling on the counters of five-and-ten stores will lose interest in Dr. Hershey at once.

Back in 1896 a French chemist, Moissan made microscopic diamonds. Until Hershey came along, these were the largest ever produced. Because they were so small, there was some doubt about them. They could not be chemically tested with the thoroughness demanded, because they were just a few specks of matter. Hershey's biggest diamond is four times as big as anything that Moissan made. But is it a diamond?

Here Dr. Sesta comes to the rescue in The Philosophical Magazine. After a thorough consideration of all that has been done, he decides that Moissan did obtain real diamonds.

THE METHOD EMPLOYED
Behold then, Dr. Hershey making diamonds by the Moissan method. He fills a little crucible with iron filings and sugar carbon, and puts it in an electric furnace. At a temperature of 3,000 degrees C. (5,000 F.) the mixture melts into a white-hot liquid. Dr. Hershey drops the crucible into a vat of cold water. A hiss, a cloud of steam. The crucible contracts as it suddenly chills—squeezes the mixture. The pressure exceeds ten tons to the square inch, Dr. Hershey calculates.

Inside of the cooled crucible is a black mass. Does it contain diamonds? Dr. Hershey must cut away the solid iron with something that will not affect the diamonds. So he steeps the mass in aqua regia (a mixture of nitric and hydrochloric acids). After a week the iron disappears (as pure iron). Maybe a bright speck of two of grit is left after the liquid has been filtered. Are they diamonds? Relying on Sesta, Dr. Hershey is convinced that they are.

No one knows exactly how diamonds were made by nature. High temperature and high pressure seem to be necessary. Hence the 3,000 degrees C. and hence the plunging of the glowing crucible into cold to obtain the pressure by contraction. The sugar carbon is used because diamonds are crystallized carbon. And crystallization is brought about by heat and pressure—a forcible rearrangement of atoms.

Is this the beginning of something commercial? Let Dr. Hershey speak for himself.

"The artificial construction of the diamonds," he says, "is no longer an unattainable goal. The difficulties that prevent the preparation of large and beautiful diamonds are only technical."

Beaver's Habits

(Letter to Toronto, Mail and Empire)

I can endorse Mr. Reid as to the size of trees cut down by the beaver. I have seen dozens of trees of over 12 inches diameter so cut, mostly balsam and poplar. On one noted instance we came across on the N. Saskatchewan a poplar of fully 12 in., one of a clump of three that had been cut and had drooped off the stump but lodged and the beaver had cut the tree a second time; again it had lodged and been cut about one-fourth through still remaining lodged. I never saw a similar instance. Beavers seldom or never cut a dry dead tree or rampick, generally choosing green wood like balsam, poplar, etc., which for making their lodges they pile in a heap and literally and actually cut the inside out, making the entrance beneath water and ice level. There are at this day simply hundreds of remains of beaver dams in our northwest, many of them without any exaggeration over 1,000 feet long, and in the smaller streams I have seen numberless instances of backwaters built of stones to enable them to float the wood nearer their lodges, this because the animals are slow on land while the deeper pools enable them to handle their timber better. This is Indian halfbreed and bushman lore, not from a professor.

OLD TIMER

Toronto, Jan. 10, 1936.

"Wanna Buy A Wife"

The Bosnian custom of selling wives and girls for marriage has made a girl in the village of Apatovci the bride of two bridegrooms in one day. Ibrahim Hadjibegovich loved Hafra, the daughter of his neighbour, but she was forced to marry Jusuf Jaritch. On the wedding day, however, Jusuf let his wife go to Ibrahim for thirty shillings.

ORANGE PEKOE BLEND

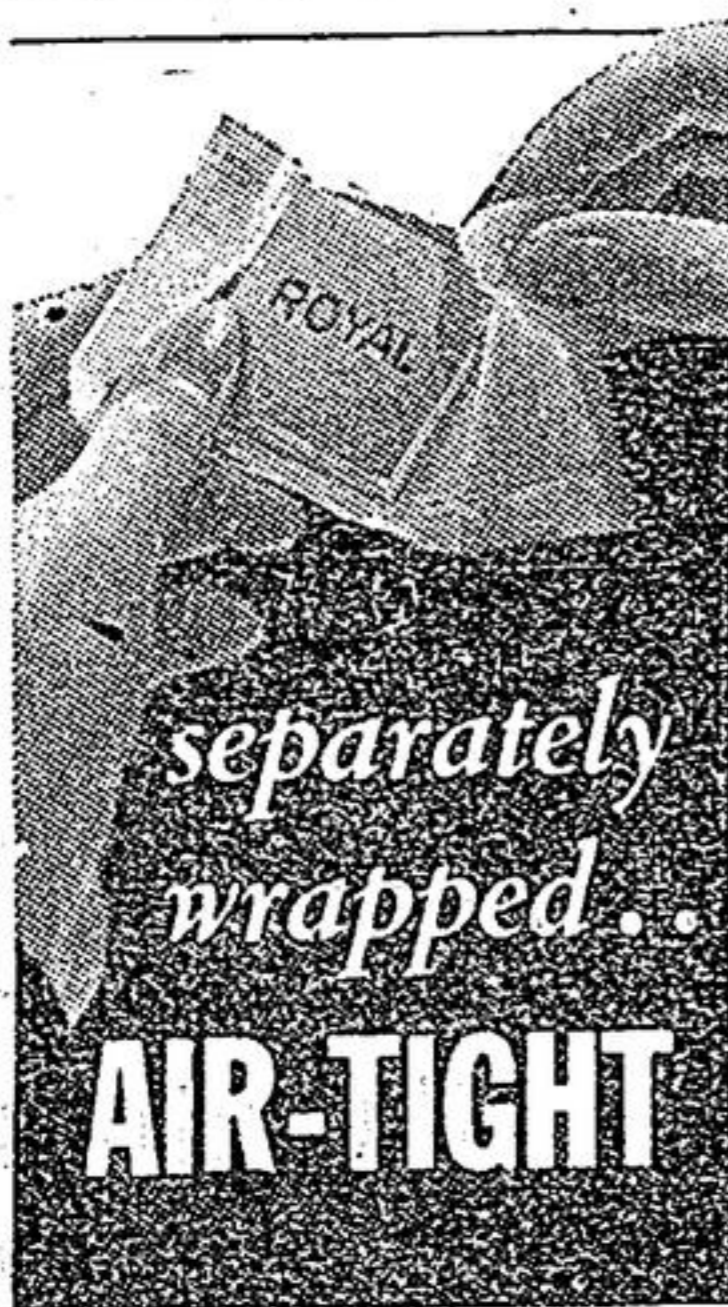
"SALADA" TEA

EVERY DAY LIVING

A WEEKLY TONIC
By Dr. M. M. Lappin

NOISE!

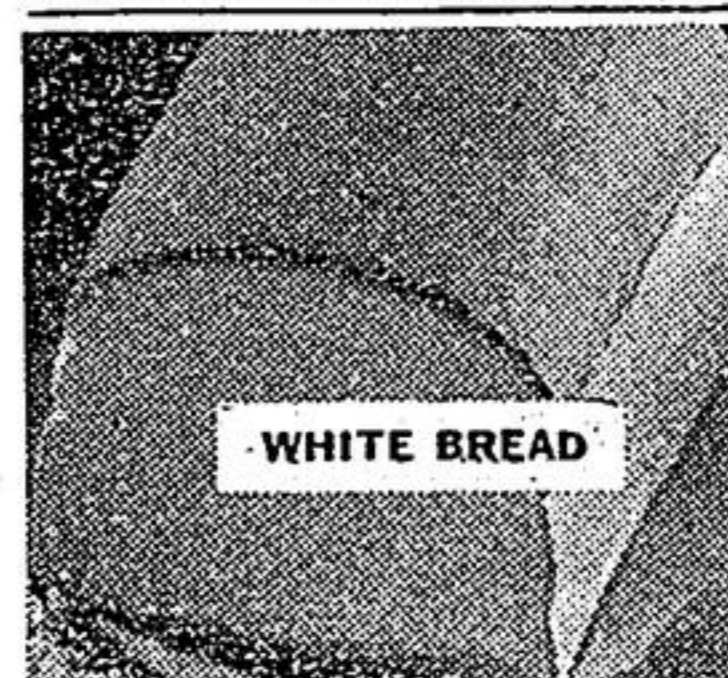
"I dislike noisy people, and all my life I have been troubled by them. Many times I have been compelled to change my address simply to get away from noisy people." These words stand out in a letter that I have now before me as I write. It came to me from a lady correspondent last week and as she relates her



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experiences to me, I can quite understand why she dislikes noisy people. She further states that she is at present troubled with the noise of neighbors. They go out and in at all hours of the night and day, without a thought for anyone apparently but themselves. Talking loudly, slamming doors, prancing heavily along the corridors, of keeping radios go full blast into the small hours of the morning.

"I get little sympathy," complains my correspondent. "I am always trying myself to be quiet and considerate of other people's comfort, and would never think of entering a house late at night, tramping through a hall and slamming doors. I consider it very bad manners and a mean and selfish thing to do."

In that last sentence I feel myself almost in agreement with her. If folks would only think about these seeming little things, they would be more considerate of others. But they don't think, and thoughtlessness is very often the parent of unbecoming selfishness.

We live in a world of noise. Indeed, there is so much noise in the world that civic and other public bodies here and there feel that something ought to be done about it. In New York City, for example, a movement to eliminate noise was sponsored recently by the Mayor of that city. But there seems to be so little that can really be done to eliminate noise. We cannot expect or hope to eliminate it altogether. My own opinion is that, if we could only get men and women to take a little more thought for others, that would go a long way. There is so much noise that will always be necessary that we should try to eliminate all that is unnecessary.

After all, if we must be out late at night, we need not let the whole neighborhood know about it. And if we do want to listen to some late programme on the radio, there is surely no need to keep the radio at full blast. We can tune it down, and radios are so well constructed today that it is an easy matter to tune down so that the programme may be heard quite clearly within the room without disturbing anyone without. If only we would try to be a little more considerate of the other fellow, how much more pleasant life would be for all of us.

On the other hand, I feel that perhaps my correspondent is somewhat sensitive. It may be that she is of a nervous temperament and easily disturbed. Or, perhaps she is among so much noise during the day that she longs for the quiet of the evening and night and, when she does not get that quiet, she feels that more disturbed. There are many who will know how to sympathize with her. I believe we can school ourselves to such a pitch that these things will not trouble us. For example, if one should happen to be

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Issue No. 7 — '36

THE REMARKABLE ROMANCE OF AN INDUSTRIAL DICTATOR

Velvet and Steel

By
PEARL BELLAIRS

SYNOPSIS
Joan Denby of humble origin, is introduced as a social equal of Miss Georgina La Fontaine, rather than as her secretary. She meets Piers Hannen, millionaire, who forces his attentions on her. Lord Edwards proposes to Joan.

Joan leaves Miss La Fontaine to become a mannequin at the Salon Celeste. Piers Hannen takes Joan and her family for a cruise aboard his yacht.

Yes, darling," she said to Joan, as she kissed her. "I've come back to the world—and it's new, wonderful world that I didn't believe could exist! You were quite right, Joan. He means us to live; for when life becomes unbearable He sends us some wonderful thing to help us along!"

Lydia was going to marry Dr. Harvey, the house surgeon who had saved her life at the hospital.

The change in her seemed like a miracle, and Joan hoped with all her heart that Lydia's faith in Dr. Harvey would be justified. On Lydia's insisting Joan had lunch with them both next day, and she saw that Lydia was not going to be disappointed. A quiet, sturdy young man, Dr. Harvey radiated strength of a clean idealistic kind; and it was obvious from everything he looked and said, that he was very much in love with Lydia.

Made a little wistful by her happiness, Joan went to Eton Place to see Miss La Fontaine that same evening. Georgie, who was cousin to the Marchioness of Ayre and Skye, had an invitation to the Navy Ball, which was being organized by that lady.

"You look absolutely worn out, Joan," said Miss La Fontaine. "I insist on your coming with me to the Navy Ball! You'll enjoy it, I know you will. You deny yourself in such an absurd way, my dear child. You need someone to carry you off and give you a good shaking. Most girls of your age only want to enjoy life—and they're quite right, too, in many ways!"

"I don't want to be carried off!" said Joan, turning red for some reason.

But she said that she would like to go to the Navy Ball.

"Lord Edward will be there, of course," said Miss La Fontaine. "And who else?"

"Half a dozen young men who are dying to see you, I'm sure. Wherever I go I am asked: 'Where is Joan Denby in these days?' and in accordance with your instructions I never mention that you're at the Salon Celeste."

They went up to Joan's old room and looked through the pretty frocks that she had once worn, still hanging where she had left them in the wardrobe. Miss La Fontaine decided that she had better wear the turquoise chiffon frock that she had worn at the Hotel Mediterranean, on her last evening there, so many months ago.

Smiling, Joan looked at the frock and all the memories it conjured up crowded upon her. Piers Hannen so amusing at dinner; Lord Edward's

reading, it is possible to master the art of concentration to the extent that he can concentrate on his reading to the exclusion of all else. I know this to be true. Or, if it is a case of trying to get to sleep, one can escape from the disturbing noises by suggesting to oneself the need for sleep and the ability to sleep. Sleep can be induced in spite of noise. Granted, it is not easy. One has to go in for some mental training and to learn the art of self-mastery.

My advice to this correspondent is to try and not give way to her feelings. Perhaps her physician would prescribe a nerve tonic, but I rather think that what she should do is try to find a nice quiet locality in which to live and to go in for some kind of mental training that will enable her to adjust herself to her surrounding environment. Of course, one could always recommend living in the country, but even the countryside is not always free from noise these days, and the necessity of having to earn a living has to be considered. I'm afraid that, apart from schooling oneself to paying no attention to noise, this is a problem which, for many people, will never be solved until we all learn to take thought for the other fellow.

proposal; the drive with Hannen into the mountains; her sprig of daphne, taken and tossed away into the dark.

"What a shame this fan is broken!" Miss La Fontaine said, finding on the floor of the wardrobe the great painted fan which Joan had carried with her that night in Cannes.

Joan took it and looked at it curiously. While she and Miss La Fontaine talked she played with it. She struck the palm of her hand with it, and finally tried the effect of it, sharply, across her wrist.

"What on earth are you doing?" exclaimed Miss La Fontaine. "You'll hurt yourself!"

"Yes; it does hurt," said Joan, in a queer, dry voice.

How pale she looked to-night, Miss La Fontaine thought.

"Joan dear, are you unhappy?"

"Just at present," said Joan, faintly, "I feel so wretched that I could cry."

"Why?"

"I don't know, Georgie; that's the worst of it!" said Joan. But with a change of tone she added cheerfully: "But I'm going to have a wonderful time at the Navy Ball—you're a dear to ask me to go. I haven't been anywhere for ages!"

They went downstairs again, and after dinner, which was served at the small table in the smaller dining room, Miss La Fontaine showed Joan the evening paper.

"Our friend Piers has been trying to break his neck again."

She made no other comment, but pretended to be absorbed in the novel she was reading, while Joan, with heightened colour, read the column on the front page which reported the result of the Italian Alpine Road race.

According to the paper one of the most dramatic wins in motor racing for a long time had been achieved by the English driver, Mr. Piers Hannen, in his car, after an accident half-way through the race, when his car hit a bank and turned completely over.

"Though Mr. Hannen was injured in one arm," Joan read, "the car appeared to be undamaged, and the intrepid driver continued the race after an interval of less than ten minutes. It was observable later that the steering of the car had sustained damage in some way, and the fact that he finished the race at all was said to be remarkable. That he came in first provides one of the most dramatic wins on record in this most dangerous and exacting speed trial."

"I wish I had never met him!" said Joan, impulsively, as she put the newspaper down.

Miss La Fontaine looked up in surprise at her fervent tone.

"Do you really? I thought he was a matter of indifference to you in every way."

(To Be Continued)

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The Book Shelf

BY MAIR M. MORGAN

"GO WEST YOUNG MAN"—by Bernard J. Farmer (Thomas Nelson and Sons, Ltd.) \$2.00 is the story of one Peter Cochrane, ambitious young Briton emigrating to Canada.

There have been few good novels about Canadians who comprise seventy per cent. of the population—the farm and rural people and the mass of "Shirtsleeve" city workers. Admittedly a number of books have been written about farm life—although real farmers often have some difficulty in recognizing themselves.

This new novel by Bernard J. Farmer should be greeted with a warm welcome as it shows accurately, yet poignantly in simple, unpretentious prose, the experiences of a young man, fresh from the Old Country, tossed into the whirlpool of "unskilled labour" before he is able to land on his feet.

Ontario readers will find it enlightening—the manner in which the unskilled workman obtains a

daily subsistence. The hero of "Go West, Young Man" labours on railway section crews, sells silk stockings from door to door in Winnipeg, works on construction gangs and mines in Ontario. He often starves, is often down but never out, and in the end achieves contentment in a modest job, with a happy, contented wife as his partner. Many of the incidents come from the personal experience of the author—and many Old Country folk will recognize some of the difficulties that they too encountered during the first years of taking root in a new country.

Forthcoming Books

FICTION
"MAIN LINE WEST"—Paul Horgan (Mussou)—March.
"THIRD ACT IN VENICE"—Sylvia Thompson (McClelland and Stewart)—March.
"DUST OVER THE RUINS"—Helen Ashton (Macmillan)—February.

R. L. Stevenson And His Beloved Nanny

Many a man has cherished the tender memories of his old nurse. In the instance of Robert Louis Stevenson, it remains a moot point whether his love for his old nurse "Cummy" (Alison Cunningham) did not pass that deep natural affection for his own mother.

The auction room may be held to give supporting evidence. Recently at Sotheby's (London), Stevenson's "Child's Garden of Verse," 1885 (dedicated to his old nanny), which he had inscribed to his mother, "M. I. Stevenson from her loving son, the author," was purchased by Mr. Ernest Maggs for 330 pounds. A very good price indeed, but let it be recalled that, in the Kern sale, New York, six years ago, the copy which Stevenson had given to his old nurse realized 1,700 pounds.

It must be borne in mind, however, that this well-thumbed copy was accompanied by a wonderful letter, in which Stevenson explained to his mother why he had dedicated the volume of his childhood's verses to his old nurse. The "family" had been a bit annoyed by this preference. Let Stevenson's letter speak for itself:

"I stick to what I said about Cummy, which was that she was the person entitled to the dedication. If I said she was the only person who would understand, it was a fashion of speaking; but to Cummy the dedication is due because she had the most trouble and the least thanks. As for Auntie, she is my aunt, and I am often decently civil to her; four advantages that could not be alleged for Cummy. That is why I chose Cummy; and that is why I think I chose right."

It was the great-niece (living in Alberta) of Mrs. Stevenson who sent the presentation copy to Sotheby's, along with 27 others given to Stevenson's mother, which totalled 2,221 pounds.

"Treasure Island," 1883, proved to be the highest. This was inscribed, "From her afft. son, The Author," and realized 580 pounds; "Travels with a Donkey in the Cevennes"

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