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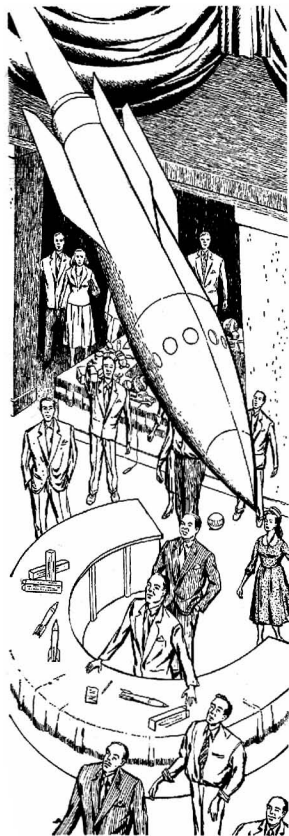
TRADE

The patent system was introduced to induce inventors to reveal their secrets—but it doesn't compel them. It's far from perfect, and if you had an unpatentable secret . . . what fur could be made to fly!

Illustrated by H. R. van Dongen

Fashion model blondes wear mink in midsummer, magazine editors search for stories of snow and ice and old St. Nick, and Santa's little helpers gather themselves for the annual show of the National Toymen's Association.

Center lobby spots at the show are prize plums, and sometimes there's quite a tussle among Santa's jolly assistants to determine who gets the best spots. Dr. Martin Nagle, new to the trade, was somewhat dazed by the cutthroat techniques practiced among the builders of child-size death-ray guns and miniature furniture for little homemakers. But he had to have the center lobby space. Only in the open, away from the overhanging mezzanine, could he have adequate height for his own display. And so he got it, much to the astonishment of old and experienced hands in the rough and tumble toy business.



SECRET

By RAYMOND F. JONES

He had only one toy, too, a circumstance which further annoyed his neighbors with big lines. It was a simple rocketship which rose from the floor, circled twice near the lobby ceiling, then drifted gently down with ports glowing and fire spitting from the tail jets.

Sam Marvenstein, president of Samar Toys, came across from his company's booth as the finishing touches were being put on the displays. He took the cigar from his mouth and glanced up as the miniature spaceship made its second turn and began descending.

"Makes a nice display," said Sam critically, "but it'll never sell. You can't expect the merchandiser to put in a big, high-ceilinged display of this kind. A few of the big city places will rig up a set of wires like you got here, sure, but not the little stores, and that's where you got to count on the big volume sales. And it's a cinch that kids' dads aren't going to be fooled into any elaborate rigging like that.

"Yeah, it looks real pretty up there," he admitted again. "You can hardly see the wires, even."

"Maybe that's because there aren't any," said Mart. "The ship rises and

descends on its own self-contained power, and is pre-set for steering."

"No wires, huh—" Sam entered the booth and passed a hand through the space beneath the descending ship. "Worse yet, then. Too bad, too. It could have been an awfully nice piece of merchandise."

"What's the matter with it now?" said Mart anxiously. "Why shouldn't it sell?"

"Fire hazard. No parent is going to let his kid have something flying around the house with fire spitting out the end of it like that. What kind of fuel do you use, anyway? Whatever it is, the fire underwriters are going to clamp down on you quick."

Sam Marvenstein shook his head sadly as the little rocket spun down to the floor with sparks pouring madly from its jets.

"Oh, that—" said Mart in relief. "That's just for show. We borrowed it from the toy train people. By increasing the intensity we get a nice simulation of rocket fire."

"Then how does it go? What kind of a trick are you selling, anyway?" said Sam almost belligerently.

Mart picked up a model lying on the counter and unscrewed the nose.

A nest of three flashlight batteries could be seen side by side in the interior. "Battery power," he said to Sam. "Three cells give approximately five hours of flying."

"Yeah . . . but how does that—?"

"Antigravity," said Mart. "A small antigravity unit is concealed in the tail under the batteries. The lever on the side of the ship is pre-set for the flight pattern desired. Very simple. Practically foolproof. We even guarantee them for three weeks."

Sam Marvenstein replaced the cigar in his mouth slowly. He picked up one of the toys and turned it end for end, squinting into the dark interior.

"Antigravity. Whadya know? Now that's really something. I used to read about that in the magazines my kid brings home, but I didn't know they had it out yet." He wandered away with the rocket in his hands to show his partners in his own booth. "Antigravity, that's really something, now—"

It *was* really something, as things turned out. Sam's comment was a feeble understatement, and the Nagle Rocket stole the show completely—along with quite a few thousands of dollars worth of orders that would have otherwise gone to the producers of more conventional toys.

By the second day of the show, the hotel lobby was somewhat like the interior of a poorly regulated

beehive. Rockets were taking off at all angles from the hands of delighted toy buyers. They banged the ceiling and soared over the mezzanine to collisions with rival exhibitors and other patrons. And Martin Nagle's pockets were stuffed with orders he couldn't possibly fill.

On the fourth day, Sam Marvenstein strolled over from his own nearly deserted booth and pressed through the crowd. Traffic regulations had been imposed by the hotel people so that no more than two rocketships could be in flight at any one time, and one of these was required to be launched by the proprietor of the exhibit. It made it difficult for Mart to accept the buyers' cash and write down the orders and fly the ships at the same time.

"Maybe I could help," said Sam. "There's not much doing over my way."

"That would be swell, but I don't want to take you away from your own show."

"Ah, it's nothing. People don't want to buy a mere rocket-firing jet plane today, anyway."

"All right. Just write down the people's orders and take their deposits while I keep the ships going."

The show closed at eleven that night. By then Sam was slightly staggered at the sum of the deposits he had taken in for Mart, and by the magnitude of the orders waiting to be filled. He multiplied that by

the four days of the show gone by, and added the sum for the remaining five. He wiped his brow and looked glumly across the lobby to the deserted Samar Toy Town, stacked high with rocket-firing jet planes.

He turned to Mart, who was straightening up the last of the rockets on the counter. "I've been looking up some dope about you, Doc," he said. "You're Dr. Martin Nagle, lately of West Coast University, and more recently of ONR. You have within the past six months set up an office as Basic Research Consultants, in partnership with one Dr. Kenneth Berkeley, psychologist. You don't own a toy factory, and have never been near one as far as I was able to find out. Now, your business is certainly your own, Doc, but I sure am interested in what you intend to do with orders for"—he glanced down at the paper on which he had done a little computing—"one million, four hundred and eighty-six thousand, one hundred and nineteen Nagle Rockets."

Mart straightened soberly. "It just so happens, Sam, that I have also done a little checking on you. I discover that the Samar Toy Plant is probably the best equipped and most modern plant of its kind in the country for producing toys of the complexity of my little rocket. It is also financially sound and respected in the industry. I'm sorry that people aren't buying rocket-firing jet fighters this season, but it seems to me that

a little expansion could convert the Samar plant to production of Nagle Rockets with profit to both of us. In short, the patents on the rockets are available for licensing to interested parties. And the contracts you have in your hand are for sale."

"I'm an interested party, Doc," said Sam. "I don't mind telling you that we counted on making it this year. We thought we had the merchandise that would do it. And we would have, if it hadn't been for you. No hard feelings, you understand, that's all part of the racket. How about a cup of coffee while we see if we can make a deal?"

Mart nodded. "Let me finish here. I think we can come to an agreement—but you should know, right from the start, that there is likely to be a rather large amount of contention stirred up by the appearance of the Nagle Rocket. It probably won't take very long, either."

It didn't. The newsmen, after making routine reports on the toy show, came back for a second look at the phenomenal Nagle Rocket. Science editors checked the basic patents on the toy, and for one day it made the front pages across the country. That same afternoon, Martin Nagle got the call he had been expecting from Washington. Kenneth Berkeley relayed it from their offices in Basic Research Consultants.

"As predicted," said Berk, "Keyes

wants to have some words with you. You probably ought to go down tonight and see him first thing in the morning."

"Was he sore?"

"He would have been happier if I'd admitted robbing Fort Knox instead of telling him that the stories about the Nagle Rocket are true. He's going to shut us down and throw us behind bars for the rest of our lives—unless you can convince him we are innocent of national treachery."

"Maybe you ought to go instead. Or at least go with me. You knew him first. You persuaded him to open Project Levitation."

"No. He wants to see you. You're the physicist and he understands your language far better than mine, even though he did co-operate on Levitation. It's up to you, Mart."

"All right. I'll get started. We knew this was coming. The sooner it's over, the better."

"What about the booth? Shall I come down tomorrow?"

"No. Sam is here. It's practically his baby, anyway, since he's closed his own display and is working with me on conversion of his place to produce our rockets. I'll come over to the office on the way."

It was a gray Washington morning when Mart got off the train and took a taxi for the Office of National Research. As he reached the building,

marked by self-conscious newness, he had a moment of doubt about the wisdom of the thing he was doing. He had to have the trust and support of Keyes and other men like him, and now he was close to the thin edge of renunciation of all such trust.

He went directly to Keyes' office and the secretary kept him only a moment before ushering him in. Keyes had obviously been waiting. The director's face was dull and colorless as he indicated a chair with abruptness bordering on the uncivil.

"I think I know all there is to know of this so-called toy of yours," he said, "but I'd rather hear it from your own lips. If there's any possible fragment of excuse to relieve the brand of treachery upon what you have done, I want to be the first to know it."

Mart felt a momentary overpowering fatigue. This was the moment he had dreaded—and the one he had not known how to avoid. He had gone over it a thousand times in his mind, but now he hesitated, trying to find the right word to begin.

"Berk and I—" he began. "No, leave Berk's name out of it. I'm speaking for myself, and I take full responsibility. For reasons of my own, I have left basic research and have gone into business—the toy manufacturing business. I told you at the completion of Project Levitation that I could not afford to remain with ONR, neither there nor at the

University. I have three children—and there may be more as time goes on—whose care and education I have to provide. I have a home to maintain for them and my wife and myself, which I have no desire to maintain on the fringe of desperation, wondering whether the mortgage payment can be made next month or not. I desire to maintain my home and family in adequate comfort and security.

"This I cannot do on any salary available to me at ONR or at any other Government agency or at the University. It was necessary to go into some suitable business to maintain my finances at the proper level. Some of my colleagues would perhaps consider the toy business trivial and incongruous with my past profession, but it will provide for my family in a way that research has never done or could do. The toy business is an honorable one and I have no apologies for it."

"And I'm not asking for any!" said Keyes almost savagely. "All this is beside the point. The wastage of your own brilliant talent, the virtual betrayal of your profession are all matters that concern me not at all—although they once would have concerned me greatly.

"What matters now is that you have taken the results of the highly confidential research which you performed here at ONR, research which was vitally essential to the security

of our nation, and you have broadcast it to the whole world, including the very enemies we are bound to destroy in self-defense. You give it to them in the form of this miserable toy which you have marketed in order to buy a more sumptuous house, a better car, and perhaps a mink coat to bolster the ego of your wife and yourself." Dr. Keyes clapped his hands to the top of the desk and leaned forward sharply, his face pleading momentarily. "Why, Martin? Why did you do it?"

Mart made no answer, and Keyes slumped back in his chair. "There are penalties, of course. They will be applied. But what rankles most is that you have given abroad even more than you gave here. You achieved the thing which we directly sought and did not find on Project Levitation, a low-capacity antigravity device. And you have given it, literally, to the enemy instead of preserving it for your own. Can you give me any explanation for such insanity?"

Mart inhaled deeply. "Yes. I can give you a great many answers in due time. But only a few of them now. First, I was granted a patent on the antigravity device used in my toy. Have you read that patent?"

Keyes held up the pile of papers at the side of the desk. "I have read nothing else but it and the news accounts in the last thirty-six hours!"

"You have noted, then, the very

precise specifications given in disclosing the mechanism of the toy. You have noted that the patent states this is based on a newly discovered Law of Nature."

"Indeed I have!" said Keyes bitterly. "And what Law of Nature may I assume it to be?"

"Not the one we found during Project Levitation!" said Mart in sudden intensity. "Not that one—do you understand what that means, Dr. Keyes? I have not betrayed the confidences and work of Project Levitation."

"That doesn't make sense. Project Levitation produced antigravity. You utilize the principle of antigravity in these toys of yours. Therefore you utilize the results of Project Levitation, which you were sworn to protect in all secrecy."

"No." Mart shook his head firmly. "There is more than just one principle. To make a crude analogy: One might produce a motor car powered by steam or electricity or gasoline engines. The car would perform the same operations, within limits, regardless of the type of power. Beyond those limits, of course, the similarity would vanish.

"So it is with Project Levitation and my little toy. You wanted us to find a means of building a Buck Rogers flying belt. We didn't do it, but we did find a means of powering thousand-ton airships and spaceships.

"No possible utilization of the

particular principle involved in the work of Project Levitation would produce a flying belt. On the other hand, my little toy, as described in the patent, will never be extrapolated to produce spaceships. Its maximum capacity is a little over two pounds, and cannot be scaled up. It is true that new, and at present unknown, designs based on this new Law of Nature can produce spaceships or flying belts—but they are not inherent in the Nagle Rocket toy. I have not violated the secrecy which I swore in connection with my work at ONR. I have not betrayed you. Believe me, I have not."

"How can you defend such a position?" Keyes demanded. "All the world knows that antigravity is now available, in principle at least."

"You will note that I was careful not to state that principle in my patent disclosure. I could not patent the principle itself, of course, and it was not required to be disclosed, so it remains unknown."

"For how long? Without being the least bit prescient I can state that at this very moment a Nagle Rocket is being dissected in Moscow. Within days, or weeks at most, they will have the principle. From there they will go on to the larger principles of spaceship construction.

"Why, that thought was even part of the speech Berkeley prepared for me to give you at that first meeting

of Project Levitation. I said that since this fictitious Dunning had discovered antigravity from known scientific material one young Russian could do likewise!"

"Yes. And the key in your statement is the phrase 'known scientific material.' The Nagle Rocket is *not* based on what would be considered *known* scientific material. It is a second or even a third-order development. There is the crux of the matter. You might think upon that."

"Think of it—!" Keyes rose and strode suddenly to the window, his back to Mart. "I'm sick of thinking of it! You're not fools, you and Berkeley—" He turned abruptly and faced the physicist. "Berkeley . . . why didn't I think of that before? It's *his* doing! It's another one like Project Levitation! Tell me: is it?"

He strode back to Mart, forcing the physicist to rise to meet that face in which fear, anger, bewilderment and disappointment mingled in turmoil. "Is it?" Keyes demanded again. "I've got a right to know. I've got to know!"

"There are a score of principles," Mart said slowly, "perhaps even more, by which antigravity can be achieved, just as you can run an automobile by steam, electricity, or gas—or atomic power, if you choose.

"The very obvious conclusion that anyone is going to make is the one that you have made for yourself: that there is only one principle of

antigravity. When the Russians begin dissecting the Nagle Rocket, they will be searching for that *one* principle. They will scale up the little engine I have designed—and their laboratories will be demolished in the most curious kind of destruction. Implosion-explosion effects. Matter altered as to dimension and properties.

"And they will not find the principle because it is a higher than first-order development of any science they know anything about! Their search will take them farther and farther from the principles of Project Levitation. Rather than betray the Project, it will actively block revelation of its secrets. That, perhaps, you must take on trust for the moment. But it is true, I assure you."

"I would be an absolute fool to believe a word of that," said Keyes. He flung his hands aside in a gesture of loss. "But . . . almost . . . you leave me nothing else to do. If I accuse you openly of betraying us, the Russians will know for certain that we have a developed spaceship. If I believe you, I risk the entire future air and space development of the United States. I *will* believe you—if you will tell me one thing: Why?"

Mart shook his head slowly. "Not yet. I do not know if we shall succeed in this. If we fail, we shall try again. But if you knew our goal at this time I do not believe you would be willing to uphold us. That, we cannot risk. On the other hand, you cannot

risk believing I have been disloyal, because you know within yourself that it is not true.”

II.

The split with Keyes was Mart's major regret at the moment, but he knew that it was but the first of a long series of such incidents that would follow the promotion of the Nagle Rocket. Keyes, however, symbolized the whole class of unpleasant incidents and broken friendships that would occur. On Project Levitation, directed by Keyes at ONR the year before, Mart and Berk had worked to produce an antigravity device. And as a by-product they had developed an entirely new insight into the operation and workings of the human mind, and had produced fundamentally new methods of *thinking*. To exploit and explore what they found, they organized their own office of Basic Research Consultants.

As Mart left the ONR building, feeling the eyes of Keyes staring at him from the second-floor window, he was not at all sure of the wisdom of their present program. But it had all the qualities of a road full of burned bridges, and uncertainty was futile. Keyes at least would be quiescent for a time. As he had said, an open accusation now would tell the Russians that spaceships with antigravity propulsion were a fact, and Mart's explanation had

thrown him sufficiently off center so that it would take him time to plan any new and definite move. By then it wouldn't matter—

The sale of the toy rocket was not delayed until Christmas. It was pushed hard as soon as Sam Marvenstein's refitted plant was able to put it on store counters. At once it was seized upon by the country's small fry citizens as the successor to all horse and pistol paraphernalia and the pseudo rocket equipment with which they had been kidding themselves. This was the real thing. Re-orders flowed into the plant almost on the heels of the shipments going out.

Within two weeks of initial manufacture Sam Marvenstein was hopelessly behind schedule. He called Mart on the phone. "The toy business is like flowers and fresh vegetables," he said. "One minute you're in and the next minute you're out. One good item and a man can retire. A real blooper and you have to start all over again."

"What's the matter?" said Mart. "The rocket is selling, isn't it?"

"That's the trouble. It's selling *too* well."

"What are you talking about?"

"We need more factory space. We're behind far enough on the orders we've got now to warrant doubling our floor space. But how long can we sell rockets without



reaching the saturation point?

"It looks to me like Christmas would do it. If we turned them out, we could sell a rocket to every kid in the country above crawling age. So suppose we went ahead and increased our floor space with all the necessary jigs and dies—what happens afterwards? Can you give us a new item that will make the expansion worth while, or do you intend to be strictly a one-shot?"

"I won't be a one-shot," said Mart. "I've been thinking of the same problems. In the spring we'll have another little gadget to follow up the rocket. I think we should acquire

the increased space on a rental basis. Tool up to produce all the rockets the trade can stand. We can afford the capital investment and any subsequent loss on it."

"That's all I wanted to know," said Sam.

Although every news service in the country had given the Nagle Rocket a brief play, it was Joe Baird, the nightly TV columnist, who continued to pick at the bones of the story as if not satisfied that all the meat was out of it. Mart was never quite sure where Baird got his leads, but he was quite satisfied

to see the columnist's thin face and hear his somewhat squeaky voice announce with its full capacity for insinuation: "What former high-ranking Government scientist is now peddling toys for a living because Uncle's pay check wasn't big enough? This same scientist is scheduled shortly to be the subject of a series of investigations regarding his use of certain scientific principles for the production of toys instead of for the essential welfare of our nation. A big ripe, raspberry to the man who might be among the first to take his nation to the Moon—and is content merely to entertain the kids."

Mart had no idea whether Baird had inside information or whether he was shooting in the dark. At any rate his agitation was encouraging. It promised results.

The office of Nagle and Berkeley, Basic Research Consultants, was not one to attract customers in large numbers, or particularly before hours. But on the morning following Baird's denunciation Mart came down to open up and found a visitor waiting at the end of the long hall near the locked door of the office. The man was wearing a gray, slightly mashed felt hat and carried a brief case which he rested on the radiator as he looked out the window. Mart gave him a curious glance and fitted the key to the lock. Then he almost closed the door in the stranger's face as the latter hurried towards the office.

"I beg your pardon! I didn't know you were looking for our office."

"You are Dr. Martin Nagle?" the man said.

Mart nodded. "Toymaker extraordinary. Please come in."

"Very extraordinary, I would say." The man deposited his hat and offered his hand. "My name is Don Wolfe. I am chief engineer at Apex Aircraft. There are a few things I would like to talk over with you."

Mart smiled and led the way to his own office. "Please sit down. If you're here concerning the adaptability of the Nagle Rocket to aircraft propulsion, the answer is no. Not in its present form. And that being what you came to ask about I suppose you have had a long trip for nothing."

"No, I think not," said Wolfe. He laid his brief case on the corner of the desk and took the chair Mart indicated. "If I heard correctly you said, 'not in its present form.' I assume, then, that the mechanism has other and more adaptable forms."

"Might be. You said it, I didn't."

Wolfe frowned and hunched forward a trifle in his chair. "My company is prepared to negotiate very generously with you in the utilization of this device. Naturally, you have had and will have other offers. I would like to be assured of an equal footing with others, and in turn assure you that we believe we can meet the best of them. Naturally, I say this upon the basis of our

engineers' examination of your toy. We have no doubt that it is what you say: an antigravity device."

"I hope no one was hurt," said Mart.

"Huh? What do you mean?"

"I say, I hope no one was hurt when you tried to scale up the mechanism in order to increase its lifting power."

Wolfe flushed and glanced down at his hands. "We did have a small accident," he confessed. "No one was hurt, although much valuable equipment was destroyed."

"I'm glad that was all. You had no right, you understand, to alter this patented device for commercial purposes without due permission."

"We have the right to make improvements with a view to obtaining our own patents!"

"Of course. Of course," said Mart. "And you were able to make such improvements, I trust?"

"No, we have not," said Wolfe. And now the tone of his voice began to change. "I do not understand you, Dr. Nagle. I am here to make a legitimate offer. I am here to ask you to name your price for a license to your patents."

"Do you plan to go into the toy business?"

"Please, Dr. Nagle—"

"All right then. Listen to me: I have nothing to sell you. I have no patent that would be of any value

to you whatever. Have you taken the trouble to read the patent issued on the Nagle Rocket?"

The engineer nodded. "Practically committed it to memory."

"Then you have observed that the patent specifically details the precise mechanism that I have incorporated into my rocket toy. Nothing else. Is that clear? My patent covers nothing but that toy, and if you are not interested in toys, I have nothing to sell. I haven't anyway, because we're doing very nicely, thank you, with the present sale of the Nagle Rocket."

Wolfe moved his hands rather helplessly. "But antigravity, it—"

"It should be able to power airplanes—and even spaceships."

"Of course. You referred to a new Law of Nature in your patent. Obviously—"

"Yes. Obviously that is what you are interested in. But I'm afraid I can't sell you a Law of Nature. Nobody gets patents on such things. Unfortunately, that has to come under the classification of Trade Secret."

"That is hardly the attitude of the modern scientist towards his discoveries and his work," said Wolfe stiffly.

Mart shrugged. "It's *my* attitude. So now you know: The basic principle of the Nagle Rocket is completely unprotected. It is right there, lying wide open for you and your engineers to discover for yourselves. And when

you do discover it you can build kites or liners to Mars."

Wolfe made no move but continued to stare across the desk into the eyes of Martin Nagle. "You have a price," said Wolfe. "What is your figure?"

"Yes," Mart nodded slowly. "I have a price. But again, unfortunately, it is as unconventional as the rest of my attitude in this matter. It so happens that it is not denotable by figures."

Wolfe picked up his brief case then and rose abruptly to his feet. "I repeat, I do not understand you, Dr. Nagle. You have either an unmitigated conceit regarding your own abilities or you take the rest of us for fools. I assure you, however, that I will take you at your own word. I *shall* discover for myself whatever principle underlies your toy, and make whatever utilization I care to. But it would seem far more fitting if you exhibited a willingness to co-operate in the exploitation of this discovery—or at least presented a valid reason for not doing so."

Mart shrugged as he accompanied his visitor to the door. "It's your baby. Let's see you carry it off."

Upon opening the office with Kenneth Berkeley, Mart had intensified his contacts with fellow researchers and former students who now held responsible positions in nearly every major industry. His contacts led as well into every Government laboratory

employing specialists even remotely connected with basic physical research. As he expected, there began to be responses from these various points of communication. Among the first of these was one from Jennings out on the West Coast. Jennings had been with them on Levitation.

"The news of the Nagle and Berkeley enterprises," he wrote, "makes me yearn for the good old days of Project Levitation. I didn't know anything could be as foundationless as that project was when it started, but I believe you've topped it in that respect. The boys out here keep telling me you've gone off your rocker for sure, and I keep telling them you haven't. When you get around to it I would appreciate some evidence to back up my defense.

"P.S. Yes, the Nagle Rockets are getting so thick in the air over our subdivisions out here that midair collisions are not infrequent, with resulting claims and counterclaims of damages from one small fry to another. Have you any legal recommendations?"

"P.P.S. One corner of our physics lab was blown out the other day. Nobody got hurt, but some people are awfully mad. Seems to be some strong factions developing. There are those who would like to throw you in the clink, those who suggest you retire to the nearest booby hatch, and those who swear by all the windings of our local cyclotron that

they're going to figure out just what you've built into these gadgets. Also had a note from Keyes advising me to stay firmly shut up regarding Project L. I trust I may be among the first to receive enlightenment."

Mart chuckled as he showed the letter to Berk. "I can imagine what it must have cost Jennings to write that note," he said. "He'll go into a deep spin if he doesn't get the answer pretty soon. I imagine that out of all those we have stirred up he is the most likely to find the gimmick."

"How about that young fellow from Apex?" said Berk. "You said he was a pretty sharp type."

"He's an engineer. Whether that gives him more or less to overcome than a theoretical physicist I don't know. I suspect, however, that we'll be hearing again, one way or another, from Don Wolfe."

Through his technological grapevine Mart learned that by the end of the sixth week of rocket sales a specimen had been dissected in nearly every university lab and in every corporation with more than five hundred dollars a year to spend on basic research. He learned also that Sam had received an order directly from the United States Bureau of Standards for one dozen Nagle Rockets. He was even more pleased when the grapevine came up with the dope that they were actually for trans-shipment to an AEC lab, and that the Bureau had bought its own rockets at the local five and ten.

Letters and telephone calls reported an increasing frenzy building up in all these laboratories as the scientists tinkered with the little gadget, trying to find out its basis of operation and scale it up to useful load size. He didn't get too much from the AEC labs, but he was pretty sure the personnel there were participating in the maddening frustration reported from the Bureau of Standards and elsewhere.

With apprehension too, he waited for reports of injuries resulting from imprudent attacks on the problem. With evident good fortune, however, the grapevine had carried the news of the West Coast minor disasters and precautions were being taken. An occasional flash burn and destruction of carelessly placed equipment were all that came to his attention.

By Christmas the sale of the Nagle Rocket and the scientific frustration created by it had reached a peak. Joe Baird continued to throw occasional dark hints of vast, sinister doings on the part of the toy's creator. Sam Marvenstein had doubled the size of his plant not once but twice. Up to two days before Christmas he was shipping rockets in carload lots.

And then it was over. With the end of the Christmas season, the frantic production wheezed to a halt. Through the offices of St. Nick and Sam Marvenstein, virtually every potential customer for a Nagle Rocket had his wants satisfied.

The day after New Year's, Mart called Sam down to the offices of Research Consultants. As the manufacturer sat down by the desk, Mart handed him a cagelike dingus about six inches in diameter.

"The successor to the Nagle Rocket," Mart said.

Sam looked puzzled. He turned the contraption over in his hands a couple of times and shifted so the light from the window fell through the spaces between the wires to better advantage.

"I suppose it's really quite clever," sighed Sam. "But exactly what does it do?"

"We're tentatively calling it the Teleport," said Mart. "I imagine you can think up a name with more sales appeal. You may remember reading about teleportation in a science-fiction magazine you mentioned when we first met."

Sam's face brightened. "Sure . . . I remember now! That's the story where the fellow sends his girl across the country by radio and she comes out the other end twins so that everybody is happy and don't need to fight over her any more."

"Roughly," said Mart. "Just roughly. So here's what the gadget does. You see that this aluminum disk bisects the spherical cage and that a wire goes through the hole in the center of the disk. On one side there is a bead on the wire. Now I push the button at one pole of the sphere, where

the cage wires come together with the single wire through the middle. Now the bead is on the other side of the disk."

He handed the gadget back to Sam. "Try it yourself. Press the little button at the pole of the sphere."

Sam took it again, a look of disappointment verging on repugnance showing on his face. "I don't get it," he said. "There's nothing to that. Pushing a bead along the wire that goes through the hole in a piece of metal—"

"Look closely, Sam, and push the button."

Sam did so, settling the device in a shaft of sunlight again and squinting through the wires of the cage. He pressed with his thumb. Instantly the bead on the interior wire vanished from one side of the disk and appeared on the other.

"I still don't see," said Sam in disappointment. Then he stopped. "Hey, wait a minute! How did that bead get through there? There's no hole for it to go through. The wire fills up the hole!"

Mart nodded benignly. "Right. Do you think that might be a sort of flash in the pan gadget that would interest the small fry—and maybe their older brothers and sisters—to the tune of a couple of hundred thousand copies?"

"Yeah, I guess maybe it would sell," Sam muttered as he continued staring into the wire framework,

pressing the button at first one pole and then the other. "But there's gotta be a hole in the disk! There's gotta be a way for the bead to get through," he said. "You gotta tell me!"

III.

It wasn't expected that the Teleport would have the same magnitude of success as the rocket had enjoyed. They advertised the new toy for a dollar and placed one-inch ads in the mail-order sections of the home owners' and mechanics' magazines as well as the comic books. The results were better than expected.

Mart would have been content with a couple gross well placed sales. And the grapevine told him that these were made very early in the history of the Teleport. They were the ones made to the laboratories already investigating the rocket.

As soon as he was certain that the second toy was being dismantled and investigated by the right people, Mart left all details of its manufacture and sales to Sam Marvenstein and turned his attention to the third project.

He and Berk were prepared to embark upon a career of professional gambling.

As if they had not already done that some time ago—Carolyn Nagle reminded them during their endless dinnertime discussions of the project.

It would be difficult for a single gambling house to add much, percentage-wise, to the glitter of the Las Vegas night, and the Volcano Club didn't try — not very hard anyway. There was a medium-size neon sign atop the building, supposedly reminiscent of the last days of Pompeii, with neon waves of lava washing down the sides of the darkening cone and bits of fire popping out like bright balls from the Volcano's mouth. It was a good sign, but it had to be searched for in the ever-present glow that hung over the city like the nebulous hopes of a gambler about to make his final tilt with the one-armed bandits.

It was a little out of the way, too, being at the end of the block on Bandit Alley in an old building that used to house a drugstore. Not being gamblers by nature, Mart and Berk had not wanted to sink a lot of money into the initial project, but at the end of the first two weeks they were genuinely disappointed.

They stood on the sidewalk outside their nearly empty club, watching the prancing, beckoning lights farther uptown. "It's the location," said Berk gloomily. "I told you we should get a spot closer to the center of things. A new game in an out-of-the-way location is an almost impossible combination. The gamblers are a mob. You don't attract the individual, you attract the group."

"Let's hold out for a few more days," said Mart. "If business doesn't

pick up by then, we'll make some kind of a change. Maybe we should have hired some better looking dames." He glanced inside at the girls taking bets from the scattering of customers. "I don't see how we could have done much better, though. Carolyn is kicking about them now. She claims the proper type of character for the job is a sourdough in a cracked, green eyeshade."

"Let's move out of the doorway. Looks like this might be a customer."

They watched with mild satisfaction as the approaching stranger stopped, glanced a moment at the sign hanging above, then moved inside the club. Their satisfaction vanished as he emerged a moment later. He looked about and seemed to spot them with some difficulty.

"Mr. Nagle—?" he said as he moved toward them.

"Yes," said Mart. It was apparent now that the man had been drinking somewhat and was just barely over the edge of feeling high.

"I want to know how this thing works. I won't use it until you tell me how it works."

"Of course, be glad to," said Mart. He sighed and took the man's arm.

Inside, they moved around to the side of the Volcano where they would not obscure the vision of any customer seated in the amphitheater around the gambling device. The lights of the room were dim, most of the illumination coming through the

plastic Volcano cone. It was as massive as three or four juke boxes and easily topped them in the garishness of its lighting. Waves of light rippled down the sides of the cone, and inside, a dozen brightly colored balls danced madly on a diaphragm across the bottom of the hole that pierced the axis of the cone.

"The world's first and only completely honest gambling device," said Mart. Abruptly one of the balls appeared on the outside of the cone and rolled to the bottom where it clanked against the metal rim. The number of the ball and its color flashed on a panel behind them. One of the customers looked pleased and waved a betting sheet at the nearest girl attendant.

"Absolutely foolproof," Mart said. "The emergence of a ball from the cone is governed absolutely and completely by random chance."

The man peered closer at the balls which had resumed their dancing on the diaphragm. "Is that so? What keeps them bouncing up and down?"

"A small motor actuates the rubber diaphragm. The balls are matched in weight to a thousandth of a milligram and their balance exceeds that of the finest ball bearing."

"Is that so? You're sure the game isn't fixed, now?"

"Positive," said Mart.

"Think I'll try it. Where do I buy some chips?"

"Just take a seat anywhere you

like. One of the girls will provide you with a betting sheet and you stamp your selection for the following game with the device provided on the arm of the chair. The attendant will show you how. The play is continuous."

"Thanks, mister. Two dollar bet high enough to start?"

"You may start as low as a dollar if you like."

"Look, mister, I want my games to be honest, but I want you to know I'm no small timer. Nothing smaller than two dollars for Paul Gentry. But you're sure this game's not fixed—"

Mart went out into the night air and joined Berk. "The guy's a reporter," he said. "We'll be in the papers. If that doesn't bring us business, nothing will."

But it wasn't the newspapers. Not at first anyway. Joe Baird had learned with considerable interest of the closing of the New York office and with exasperation that was also considerable he had tracked them during the ensuing weeks. So elusive had they been that it was two weeks after their opening before his man caught up with them. So it was not in the newspapers at first, but on Joe Baird's television program the following night.

"What two famous ex-Government scientists are now operating a gambling joint in Las Vegas, Nevada, and why? That's the many dollared question that a goodly number of their

colleagues and government officials are going to want answered.

"You recall that we first had the Nagle Rocket which created such a furor during the Christmas season. Next was the idiotic mechanism with the disappearing bead, which is rumored to contain hidden in it even more important scientific discoveries than the rocket toy. Now we have the most fantastic device of all, a new type gambling machine. It is evident that Dr. Nagle's complaint about low Government salaries was a serious one to him, for he now appears in the role of professional gambler to tidy up his personal fortune."

Baird gave a lengthy description of the Volcano cone, obviously based on the observations of the pseudo-drunk to whom Mart had shown the machine. "It is a fascinating gadget, completely hypnotic in its effect on the addicts who play it. We're certain that it will be as successful as the previous enterprises of Nagle and Berkeley, but we express our regret and the regret of a nation that such badly needed genius should be found in the dimly lit back streets of scarcely legal commercialism."

Mart and Berk missed the broadcast, being on duty at the club, but they read the account which was reproduced almost verbatim in the morning paper. Mart grinned as he passed it across the breakfast dishes to Berk. "We'll know tonight. If that doesn't bring them in, nothing will."

His prediction was more than accurate. Long before noon the curious began streaming toward the obscure building housing the Volcano Club. By mid-afternoon there was not an empty seat remaining in the amphitheater.

Even Mart had to admit there was something hypnotic about the thing. He stood at the rear, watching over the heads of the crowd as they leaned half forward in their seats with eyes staring at the wash of colored light and the glowing balls that jumped at random.

Uniformed girls moved constantly along the aisles, accepting bets and stamping sheets of the winners to be paid off at the windows. And then in the later afternoon Mart and Berk recognized some of the visitors who began coming in. A few of them took seats, but others stood at the rear watching with coldly professional faces. They represented the management and ownership of the other, more conventional clubs about the city.

"I think we're in," Mart whispered to Berk. "Within a week we'll have a Volcano in half the clubs in Las Vegas."

He was a little optimistic there. It took almost three weeks before that number had bought a franchise on the Volcano. He was able to deliver the first one within two days, however, and almost before the delivery truck

was back at the warehouse he received a call. Mart recognized the cigar-in-mouth voice of the gambler with whom he had made his first deal.

"What's the matter with these things? Can't you build them so they will stay operating more than ten minutes? We put the marbles in the hole and all they do is come rolling down the outside. They won't stay in!"

"You put the machine back together the way it was and quit tinkering with it," said Mart. "It will work all right the way we had it."

The gambler adjusted his cigar with a crunching sound in the phone. "We got to change the percentages. You don't expect us to play Santa Claus, do you? How do you make the adjustments?"

"Listen, I told you when we made the deal that these devices are straight. They operate strictly at random. A dozen balls in the pit gives you odds of eleven to one on each bet. What more do you want? The minute you tinker with the machines they'll quit working. Now do you want to buy, or not?"

The gambler guessed he did, and hung up.

"Can you imagine these guys?" said Mart. "They talk about the one-armed bandits—how about the two-armed ones?"

There was a similar problem with every one of the clubs in which a machine was installed, but when it

was finally straightened out, and the gamblers were resigned to operating an honest game, their relationships became one of distant respect based on mutual expediency. Mart and Berk needed the club installations to expose the machines to public view, and the gamblers found it somewhat like discovering a vein of high-grade gold ore under the floor of the roulette room.

Neither Mart nor Berk had any desire to prolong their stay in the gambling paradise. There was still no response, however, from the one source they hoped to disturb with the machine.

"We've proven the machines are effective as gambling devices," said Berk. "But we're wasting time. We ought to give Sam the go-ahead on the bar and drugstore models. We're not going to get the roulette wheel's successor into the Bureau of Standards and the University of Chicago by sitting here in Las Vegas."

"You don't think physicists are likely to come here to gamble?" said Mart.

"Physicists aren't likely to gamble. And after buying the week's groceries, how could they?"

"Yes," said Mart, "I guess that's one of the points we started out to make. Anyway, I'll bet we get a bite before the end of the week. Whether we do or not, we'll close up by then. I'll send Sam a wire this afternoon to get in production. By next Christmas:

two Volcanoes where only one pinball stood before!"

During the same afternoon Mart's attention was attracted to a patron of the club, who was what Mart had come to label an *ungambler*. There were gamblers and non-gamblers, and sometimes it was hard to tell them apart. But a pure *ungambler* could be spotted at a glance.

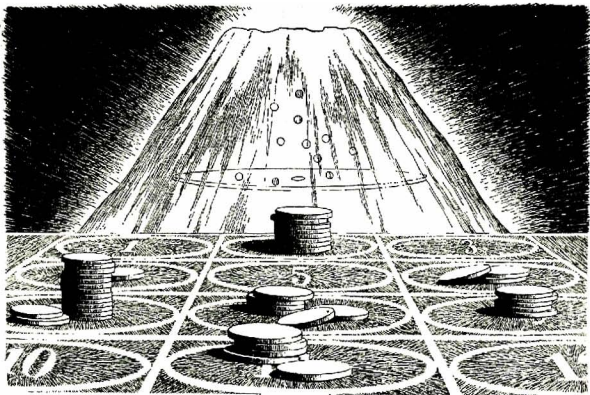
This particular specimen sat in the front row of the amphitheater staring at the Volcano almost as if in a trance. He moved only occasionally to polish the glass of his spectacles with the large white handkerchief, which he withdrew with a flourish. He made bets. A considerable number of them. He did not win a single time. Mart felt like telling him to give it up. You have to have just a *trace*, at least, of ESP or you haven't got a chance. Successful gamblers were loaded with it. The *ungamblers* were apparently born with a total lack of it.

Mart finally resisted the impulse to protect the fellow from his own deficiencies, and turned away from the amphitheater. He saw that Berk was also watching from a post near the cashier's cage.

"FBI, I'd say," said Berk.

"Him? Not a chance. Probably a fresh MA in English Literature. I hate to see the poor guy throwing away his money, but what can I do?"

It was almost closing time that night before this particular patron



gave up his seat and left the building. They had a house rule requiring betting on at least one game in four in order to keep the seat. Evidently the man had run out of minimum dollar bets. Even so, he seemed reluctant to give up his seat and leave.

Mart half expected him to show up the next day, but he made no appearance. On the second day following, he did show up, however, and Mart almost choked in surprise to see who was accompanying the ungambling stranger.

It was the willowy figure of his old friend, Dr. Jennings.

Jennings' face lighted with pleased surprise as he recognized Mart inside the doorway of the Volcano Club.

"Welcome to our establishment," said Mart, grinning. "I didn't know you went in for connivance with lady luck and the wheel of fortune. It's a pleasure to see you here, anyway."

"Nor I, you," said Jennings wryly. "I didn't see Baird's piece until it was called to my attention several days later. By that time, Roy here was pulling my coat tails and demanding I come and see what you were up to. By the way, have you met Roy yet? He said he spent a day here, but didn't make himself known."

Mart beckoned to Berk, and they turned to the man they had watched lose his money two days before.

"Dr. Roy Goodman, of AEC," said Jennings. "He, too, is not a gambling

man, and he tells me you have formed in him a firm conviction to stay that way the rest of his life."

Mart took Dr. Goodman's hand. "I'm sorry," he said. "I almost asked you to leave the other day. Some people have it and some don't. If you don't, you might as well let the ponies and bingo tables alone.

"And the Volcanoes?" said Goodman.

"And the Volcanoes. They won't do you any good, either."

"I'm not so sure of that," said Goodman. "I was so unsure of it that I went all the way to Los Angeles and brought Dr. Jennings back to help verify my opinion."

"And that opinion is—?" said Mart.

"That the Volcano may be the source of a great deal of good for us. Do you mind if I ask Dr. Jennings to form his own opinion?"

"As you wish, gentlemen," said Mart.

Jennings laughed a bit uncertainly. "Well, let's have a look. I certainly don't know what this is all about. I suppose it's on a level with Nagle Rockets and Teleports. Roy has a mystery, too, and I am completely mystified by you both."

"How about dinner when you're through?" said Berk. "We'll get together and try to unmythify one another."

"That does it," said Mart as he

watched the two men take seats in the amphitheater. "That does it, or I miss my guess. After they get through with their looking we can pack our trunks and go home."

"The AEC, did Jennings say?" Berk asked.

"None other."

Jennings and Goodman stayed inside for a long time. Finally, they came out into the orange sunlight of early evening. Jennings' face seemed pale, as if he had been out of the sunlight for a long time. His hands trembled perceptibly as he lit a thin cigar.

"The food at our hotel is very good," said Mart.

Jennings nodded. Neither he nor his companion said a word. The four men turned and walked all the way to the hotel in silence. Only as they sat down to the table and picked up the menu did Jennings emerge from his remoteness.

"Baked ham," he murmured to the waitress. "And make the coffee strong. Very strong."

Then, while they waited, he folded his hands on the table and settled his eyes on Mart. "I know you too well," he said, "to ask if you are simply pulling our leg, but I have to ask it, anyway."

Mart shook his head. "You'll have to tell me what you mean by that. I have shown you only a contraption for parting dollars from suckers—with apologies and exceptions to present company," he smiled as he glanced

in Dr. Goodman's direction.

The AEC man gave no notice that he'd heard.

"Only two kinds of men could produce the Volcano," said Jennings. "One would be merely a fool who had stumbled on the design by accident and didn't know what he'd made. The other would be a genius who knew exactly what he had—a genius whose brilliance was so great that he could afford to sit back and laugh at the rest of us scratching our heads and looking silly trying to figure it out."

"Nobody's laughing," said Mart soberly. "But you've got to say it."

"All right," said Jennings. "That Volcano of yours is nothing but an extremely exact hyper scale model of a radioactive atomic nucleus, complete with potential barrier penetration in full operation.

"You're telling us that you know the full basic theory behind nuclear structure and phenomena. You're telling us that you know what happens in a radioactive atom. And you're thumbing your nose at us while you say it. Why? Why have you done this to us, Mart?"

Mart looked down at the tablecloth and traced the pattern in the linen with his fingernail. "Not that," he said. "I'm not deriding you. I'm ready to tell you why. I'm ready to tell anyone who figures out the Volcano for himself. After dinner, up in our own room."

The rest of the meal passed in almost complete silence. Berk and Mart knew that Jennings wanted to talk. They knew he was thinking of their last association, on Project Levitation, but he couldn't speak of that with Goodman present.

The AEC man seemed to sense that he was something of an intruder. As the silence continued, a look of disgruntled determination settled upon his face, as if he intended not to be left out of any secrets that might pass between the others.

Afterwards, they went up to Mart's room. Carolyn and the children had gone to a show, so they were alone. Jennings lit a fresh cigar and sat down by a window where he could see the haze of lights and desert dust over Las Vegas. Mart stood a moment near the window, looking out. Then he turned.

"I want a patent on what I've got," he said. "That's all I'm after. Nothing but a patent."

Jennings blew a cloud of smoke into the air and looked up quizzically. Goodman lurched impatiently in his chair. "You have patents!" the AEC man said. "I even wired Washington and had a copy of the Volcano patents sent out while I went to Los Angeles. You're covered on everything you've done!"

But already Jennings was smiling as he watched Mart through the haze of cigar smoke that was fading between them. "So you want a patent!" he murmured. "I should have guessed

that it would be something oblique like that, since you were teamed up with Berk. This is Berk's angle, isn't it?"

"We worked it out together," said Mart. "We had developed these things and didn't know what to do with them. Finally, Berk got so tired of my griping about the impossibility of using them without giving them away that he suggested we do something about it. We have."

Jennings shook his head. "Not yet, Mart. You haven't done anything except stir up a hornet's nest. It remains to be seen whether or not the stirring-up is going to result in any real action on your problem."

"The stirring-up is something in itself," said Mart. "Things will never be quite the same again for anyone who fully understands the symbology of the Volcano."

"You are talking over my head!" said Goodman irritably. "I fail completely to understand what this is all about. You have produced a model which you have tacitly admitted has been correctly interpreted by myself and Dr. Jennings. Now you say you want patents—on a device which is already covered by patents!"

"You will recall," said Mart, "that each patent refers to a specific, unnamed Law of Nature upon which the device in question is based. In accord with the present Patent System that is as far as I can go. And we had plenty of trouble going that far—

getting the Volcano in under the wire as an amusement device instead of an immoral gambling machine."

"What do you mean, that's as far as you can go? Where else do you want to go?"

"Where would you like me to go?"

Goodman became slightly redder in the face. "I would like you to enlighten us in our ignorance regarding the structure and internal processes of the radioactive atom—if you consider us capable of understanding it. I would like you to show how the methods of propulsion in your rocket toy may be adapted to full-scale aircraft. And the Teleport . . . it's obvious what we would like you to do with that, if it's possible."

"It's possible, I assure you," said Mart. "Let me say that I don't know exactly *how*—that would take a corps of engineers some little time and a fairly well equipped development laboratory to design the exact means, but that is only a matter of detail.

"I am not an engineer, Dr. Goodman, nor a gimmick maker—except temporarily. I am a theoretical researcher and desire to remain so. Unfortunately, however, I have to eat. So do my family."

"I don't see what that— Any good University—"

"It is commonly supposed that the theoretical researcher is much like the Artiste of old: far above working for mere dirty money. He's supposed to work for Truth and Knowledge, while

somebody else—the development engineer—makes the old filthy green stuff.”

“Dr. Nagle—”

“Now if I were to do what you ask, to broadcast the basic principles which I have discovered and employed in these devices, I would be completely out in the cold. I would get no protection or further remuneration whatever. As long as I remain a maker of trinkets and gimmicks I am entitled to the full protection and blessings of our Patent Laws. The moment I step into the field of new, basic science I have no protection whatever. I cannot even use my own work!

“I cannot reveal to you these basic Laws of Nature which I have discovered without forfeiting all claim to financial benefit from my work!”

Dr. Goodman made a noise as if appalled by some enormous sacrilege. “Of course you can’t patent a Law of Nature! It’s unthinkable! That’s something that’s just *there*—for everybody to use.”

“Fine. Let them use it then.”

It had grown quite dark but they had not turned on the lights. The only illumination came from the glow over the city. From the darkness by the window they heard a low chuckle and Jennings said, “If we understand your Volcano properly, what you are saying is equivalent to saying that you would like to patent the atom.”

“Yes, you might put it that way,”

Mart agreed reflectively. “I wish to take out a patent on the atom.”

“You’re making fun of us,” said Goodman stiffly. “At the moment it seems to be in particularly poor taste. The Government is most certainly in need of your work. I am sure there would be no question of proper remuneration.”

“You are, huh? A lab and two assistants and seventy-two hundred a year. I made almost a hundred thousand on the Nagle Rocket alone.” Mart turned and paced halfway across the room in a motion of sudden irritation. In the dim light he faced the AEC scientist directly.

“Dr. Goodman, you have been the first to have the honor of understanding the Volcano symbology, but you seem to have great difficulty in understanding what I have said. I *want* you to understand it. I want you to carry it back to the Commission’s laboratories. Whenever my name comes up among your fellow workers I want you to get this straight and report it correctly: Martin Nagle has discovered some of the most important and basic Laws of Nature that we can presently conceive.

“They are of immense importance to Government, industry, and the military, but unless Martin Nagle can obtain a patent on his work and get proper remuneration for it, he is going to do nothing with it except make trinkets, gadgets and gimcracks.

“And you may further tell them

that Martin Nagle has not gone off his rocker. Quote me on it."

He glanced at his watch. "If you don't mind, gentlemen, I'm afraid we'll have to get back to the Club. Since it is our present source of income, Berk and I need to help with the evening crowds."

Goodman was speechless as they left the room, but Jennings winked behind his companion's back and shook Mart's hand. "Keep in touch with me," he said. "I'll let you know the reaction out West. You'll be going back to New York, soon?"

"Yes. We have arranged for a large number of franchises on the Volcano here. It will spread to other gambling centers. Then we are putting out another model to compete with pinball machines in bars and drugstores. All in all, I think it's going to be a very successful device."

"I hope so!" said Jennings fervently. "I certainly hope so!"

IV.

Baird had it on his program by the time they got back. Again, they were never quite sure how he managed to get news of their affairs so quickly. It could have been through Goodman this time, they thought, but even that seemed unlikely. At any rate, they heard his report firsthand as the two families had dinner together in Mart's apartment.

"It's out at last," said Baird, pinch-

ing his nostrils together in self-righteousness. "One of the most startling news stories of all time is the truth behind the fantastic enterprises of ex-Government scientists Martin Nagle and Kenneth Berkeley. You will remember these men resigned many months ago from secret Government laboratories to become involved in a toy manufacturing business. Lately, they have managed a gambling house in Las Vega, Nevada. We know now what Martin and Berkeley are after!

"A reliable informant of this reporter has learned that the goal of these two is the breaking down of the entire system of American Patent Law. And the method they choose is apparently that of blackmail!

"Since the beginning of the Patent System, our courts have kept sacred the forces of Nature and prevented them from falling into the hands of selfish, monopolistic interests. The country has prospered technically under the System, and our inventors and scientists have been abundantly rewarded by it.

"Now we have a blatant attempt to destroy it all by demanding control over the natural forces of the universe, which these two men refuse to disclose in the tradition of the great scientists. I do not know what the outcome of this contention will be, but I am certain that our courts will not allow such a brazen assault to succeed. Our Patent System must be protected and retained intact, in

order to secure to inventors their just rights for the fruits of their labors, and at the same time guard against the monopolistic exploitation of the open storehouse of Nature.

"It is a sad thing indeed, to witness the default of two such men of genius as Martin Nagle and Kenneth Berkeley. They *are* men of genius. The whole world of science acknowledges that they are. The genius of the principles in their toys and gambling machines is recognized. We sincerely hope they will reconsider this fantastic effort and return to the laboratories where they are needed so badly in the defense effort of their country."

Carolyn Nagle moved to the television receiver and turned it off. She was a tall, dark-haired woman and her face was unnaturally white as she faced the rest of them.

"That's it," she said. "I hope you are ready for it. If you don't wind this thing up pretty soon, we're liable to be hanging from a lamp-post somewhere along Fifth Avenue."

Mart picked up his glass and stared at the blank screen. "Yeah, I knew it would be bad, but I didn't think anybody would go off their nut to that extent. Berk, maybe you and I ought to go down and have a talk with Baird."

"Uh, uh," said Berk. "As your personal psychiatrist, I advise against it. Baird's a flag-waver. A defender of the home fires. He's just plain dangerous. You'd better stay away from

that guy if you're smart."

"He could be the one to spur an investigation. That's our next step."

"Not if he knew we wanted it. He'd simply hound us over the air until we couldn't move. Carolyn's right. We've got to move fast."

"We've got Jennings," said Mart. "But I'd rather not use him. His association with us in the past is too well-known. I'd rather it came from someone like Baird. Anyway, we can give it a day or two and see what develops. Personally, I think we should wait until more of the right people have seen the Volcano. That's our ace."

"We won't dare let the children out of the house," said Carolyn. "Some crackpot stirred up by Baird is certain to decide to defend his country against them before long. Sometimes I almost wish you hadn't started this thing."

"You can't stand an egg on end without breaking it," said Mart philosophically. "You've got the personal teleport. See the kids are never without it. How quick are you—!" He made a swift motion as if to draw a gun.

Carolyn's hand dropped to the narrow belt at her waist. She vanished before Mart's hand was halfway up.

"Quick enough," she said from the other side of the room.

"Not bad," said Mart. "A little slow in getting your hand on the tab, though. Maybe we ought to practice a little. Anybody want to see Jersey beach tonight—?"

Mart and Berk reopened their offices the next morning. Almost before they had the desks dusted off, there was a visitor. Mart looked up and grinned as Don Wolfe was ushered in.

"I heard Baird on television last night," said the engineer.

"Oh?" said Mart.

"Yes. A darn good thing, too. I was pretty sore the last time I went out of here."

"I don't recall having done anything to offend," said Mart.

"Nothing," said Wolfe, "except give an exhibition of the most colossal, insufferable, unbearable conceit that one human being has ever displayed toward another."

"That's quite an interpretation of my conduct."

"But not an unfair one."

Mart spread his hands and indicated a chair. "And so you have come back."

"Yes," said Don Wolfe, "to congratulate you and to accept your apologies."

"I'm apologizing now?"

"You'd better! I carried it off."

For the space of a half dozen heart beats Mart held his breath. His eyes narrowed on his visitor. "The rocket?"

"Yeah." Wolfe took from his pocket a small object that looked like a cluster of wires wrapped about a half dozen peanut tubes and an assortment of condensers. He bent over and clamped it to the leg of the desk.

"Move back a little."

Mart did so. Abruptly the desk lifted a foot off the floor and remained hanging in midair. He reached out to touch it. It swung gently aside, but when he pressed downward it resisted all his efforts.

"I see." He pinched his lips thoughtfully and leaned back in the chair. "And now, naturally, I'm supposed to ask what you're going to do with it."

Don Wolfe touched the gadget again, and the desk settled gently to the floor. He put the haywire rigging on the desk between them. "I told you I heard Baird last night."

He reached for a heavy glass paperweight and began methodically battering the contraption until the lights in the tiny tubes vanished amid an unrecognizable clutter of glass shards and twisted wire. He brushed the debris into the wastebasket.

"You don't really need to apologize," he said. "I just wanted to prove I'd done it, and tell you I'm with you."

"But it was close. If I hadn't heard Baird last night, it would have been a different story. I didn't savvy what you were up to until I heard his broadcast. I was too mad to recognize that you were obviously doing something besides exercising pure cussedness."

"I don't think you've got a chance, you understand, but just the same I'm with you. I doubt there's a development or research engineer in the country who wouldn't like to per-

sonally deliver a knockout blow to the Patent Office. If there is, I don't know where he's hiding."

He shifted and arose from his seat. "I'm also going to be out of a job when my chief hears I've just smashed up this pretty little working model. I burned all notes. I don't think the model shop people could reconstruct it from clues I might have left. So if you know of any lab that could use a good development man you might let me know."

"I know of just a small job that needs doing—by a *very* good man. Sit down."

Wolfe resumed his seat and Mart leaned forward. "You heard Baird," said Mart. "So you know what kind he is. I want to use him, but I can't do it directly. He'd balk at anything I even intimidated."

"What I want is a congressional investigation—of me, and of the whole Patent System. I believe that Baird could bring it off. He's just the kind to shake an old bone until everybody is so tired they will agree to anything he says. But he needs to be pushed into it. You're the man to do the pushing."

"What could I do?" said Wolfe.

"Simply tell him your story. You offered me a generous deal on the rocket toy principle, but I refused to turn it over. Tell him the aviation industry has got to have it for vital national defense work. Wave the flag. He'll go for that. Lay it on thick

enough and he'll be braying at congressional doors the same day."

"He might do it too well."

"We'll take that chance. Will you do it? There will be a little pay, but not much."

"Never mind the pay—if this is the crusade I think it is."

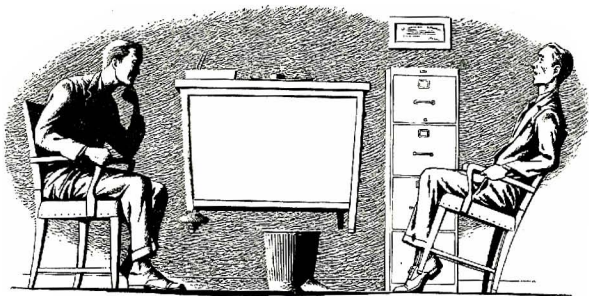
"Thanks. Let me hear from you as soon as you contact Baird."

Mart and Berk expected results from Baird's broadcast. By noon these began to appear in abundance. There were telegrams from Mart's former students, who were now respected engineers and physicists in commercial laboratories throughout the country. His colleagues on a half dozen teaching staffs sent messages also. And strangers whom he had never known, but whose signatures were over the names of some of the largest concerns in the country, added their observations.

Doris, their secretary in the outer office, had long since been given instructions that they were out to all phone callers except their families and important business associates. In Mart's office he and Berk sorted the messages one by one, dividing them into two piles.

"Maybe we need a third pile," said Berk. "Here' a fellow who wants to know if we think we can help him get a patent on his super-cling shoes for cats, which can't be kicked off."

"He doesn't need our help," said Mart. "The Patent Office would grant



that without a second thought! I got one like that, too. Some guy wants to patent a house suspended like a bird cage. Its rocking motion is supposed to cure neuroses of people who were never properly rocked in a cradle. But most of these offer us a pat on the back and wish us luck. How about your batch?"

Berk nodded. "Same here. Some of these guys are really bitter. Not the crackpots. Engineers mostly. The physicists seem a little less enthusiastic about what we're doing. Most of them sound a little bewildered."

"They would," said Mart. "All their lives they have accepted the fact that the Patent System has no bearing on their work, so they aren't even sure of what they ought to expect of it. When the bell finally rings and they catch on to what they've been missing, there'll be a reaction!"

Don Wolfe called on the phone

later in the day. "Baird ate it up," he said. "It was just what he was looking for. It will be on his broadcast tonight. But that guy's a first-class paranoid. It looks to me like it would be a good idea to get a bodyguard until this blows over. He's, quote, out to make a public example of the intellectual selfishness that has hamstrung our nation for the past two decades, unquote. He's just plain nuts."

"That's about normal for the type," said Mart. "I think we can take care of ourselves. If you want me to, I'll fix up some letters now. There shouldn't be any trouble about finding a new job. I hope you'll be available for testimony if this investigation goes through."

"I will, don't worry. And I won't need the letters. I managed to pick up something on my own this afternoon. Let me know when I can help out the good work again."

Don Wolfe had not exaggerated. As Mart listened to the television reporter in the evening he felt a little sick. Baird's viciousness emphasized anew the magnitude of the thing they were combating. The Patent System was only a small fragment, he thought. Roots of the same malignancy penetrated deeply into every division of society.

But Baird succeeded, at least, in making the point Mart wanted him to make. He demanded Congress appoint a committee to investigate the rights of an individual to withhold knowledge of vital concern to the welfare of the nation, even though he couldn't patent his discoveries.

"We know this information exists," he said. "It exists in the mind of one man. Can we afford to let this man monopolize and bury these vital principles beyond the reach of the nation? I submit that this information is comparable to the resources of coal, oil, and atomic energy. We would not think of allowing a single individual to bar access to any of these. I call upon the Congress of the United States to investigate this intolerable situation and pass legislation at once which will correct it."

The effectiveness of Baird's appeal was demonstrated to Mart the following morning as he stepped into a taxi. The moment he was seated, the doors on either side opened, and two neatly dressed men sat down beside him. He felt the points of guns pressed against

him on either side.

Somewhat sadly, he turned to get a look at each of them. There was nothing familiar except a certain thoughtless determination that could be associated with crusaders like Baird—or equally well with thugs who hoped to torture out of him his secrets for their own use.

With the point of his elbow, Mart pressed the control segment of the teleport belt and found himself sitting on the cornice of the apartment building watching the taxi jolt through the traffic below. He watched until it disappeared. He would have to get Carolyn and the children out of town, he thought. He had known the party would be rough, but he hadn't anticipated it quite this bad.

He moved himself down to the apartment and faced Carolyn, who gave a start at his sudden appearance. "I thought you went to the office!" she said.

He told her what had occurred.

"Well, we're not going to move somewhere out in the sticks," she said. "That's the craziest idea you've had yet. If anyone is going to kidnap us, they could do it ten times as easy out there as they could here in town. You would be worrying constantly about how we were. There's no sense in it. We're staying right here until it's over.

"The children are as competent in their use of the belts as you or I. And that reminds me, you are going to

have to speak to Jimmy. His teacher gave him a scolding yesterday about his homework, and he teleported himself right out of class and back home. The teacher became hysterical, and it scared the other children out of their wits. I made him go right back. But you've got to warn him that it's not to be used like that."

Mart grinned at the thought of Jimmy's teacher. But he sobered and admitted to himself that Carolyn was right. It would be foolish to send them away. The incident in the taxi still gave him jitters, however. Something would have to be done to speed things up.

When he finally reached the office, a couple of hours late, it looked as if that something had occurred. Berk handed him a telegram from Jennings.

It said, "Looks like you're going to need help, boy. We're going to give it whether you want it or not. Las Vegas has become the mecca of American physical scientists. The poor guys are losing their shirts. This thing has got to end. Following is a copy of the message we have sent to Washington:

"The undersigned believe it to be to the best interest of the nation that the suggestion be acted upon to investigate the claims and discoveries of one Dr. Martin Nagle, but not for the purpose of suppressing Dr. Nagle, and penalizing him, as has been suggested elsewhere. We ask that such an investigation allow Dr. Nagle to receive an impartial judgment concern-

ing his claims and decisions."

Below the name of Jennings were the names of sixty-five other leading physicists throughout the country.

Mart's hand was shaking just a little when he put the paper down. "Quite a lot of names there of people I didn't think would go along with us. Sort of gives you an idea of who your friends are, anyway."

V.

With a speed that astonished Mart, this effort produced results. In less than two weeks a formal notification to appear came from a Congressional Committee for Investigation of the Intellectual Resources of the United States.

At Keyes' invitation they stopped in at ONR upon their arrival in Washington. It was a dull, rainy day, and the first that Mart had spent in the city since his last visit to Keyes.

The director's greeting was warmer than his last parting had been, but his face still held a frustrated expression, as if he would like to believe in them, but could not because of a lifetime of believing otherwise.

"They're calling me to testify," he said. "I wish you could tell me more of what you are trying to do. I want to be fair but it goes against the grain of all we've been taught since the beginnings of our scientific careers."

They spent the remainder of the afternoon in Keyes' office. While the

rain dripped steadily outside the window, Mart tried to make the older man understand their divergent point of view. He was not sure whether he had made it or not. Keyes remained noncommittal, but the uncertainty seemed to have been replaced by deep reflection. Mart hoped he would understand, because his testimony would mean a great deal to their case, one way or the other.

The first session of the hearing was scheduled for the following morning. It was called to order in a committee room filled with an impressive gathering which included more than fifty top-drawer scientists and research engineers. Mart recognized many as signers of the Jennings telegram.

Jennings himself was there, evidently having arrived that very morning, since he had not contacted them. Mart recognized other men from the AEC, from the Bureau of Standards, and top universities. There were a number of his former students who filled top scientific posts.

Don Wolfe was there, as was Joe Baird, the TV reporter. And then Mart saw, with a somewhat sinking sensation, the portly figure of his former colleague on Project Levitation, Professor Dykstra from MIT. Mart groaned, and nudged Berk as Dykstra took a seat at the rear of the room. "Nemesis is here," said Mart.

There were five congressmen on the Committee in charge of the hearing. Berk and Mart studied them intently

as they came in and took seats at the long table. There was nothing obviously outstanding about any of them—but neither was there about the group of scientists, Mart thought. He reflected on the situation wherein the decision of these five could affect the lives and work of all these others in the room. What made these five and their colleagues in the Congress competent to judge the limitations to be placed upon the men of science and channel their thinking?

His reflections were interrupted by the gavel banging of Senator Cogswell, who stood at the head of the Committee table and spoke into the cluster of microphones, calling for attention.

Mart watched Cogswell intently. He was the key to the Committee. The senator had come from a Midwestern state, a dealer in farm machinery before coming to the Senate. His face and neck and hands had the perpetual florid tint of a man who has spent long years of his life in the sun and wind. The press called him Honest Abe Cogswell, and Mart was certain the name fitted.

But you couldn't be honest if you didn't have the data, Mart thought. It wasn't honest to judge a thing concerning which you had no data. And what a fetish you could make of honesty if you didn't even know you lacked the data! Somehow he would have to find the way to give it to Cogswell.

The farmer-politician announced:

"The first to be called for testimony in this hearing will be Dr. Martin Nagle."

Mart stood up and moved slowly to the seat before the microphones. There was a well filled press section, he noted. Evidently all the news services had been stirred into sending representatives on the off chance that something spectacular might develop.

Cogswell faced him across the microphones. "You are Dr. Nagle?"

"Yes."

Briefly, he was sworn in. Then Cogswell resumed. "You have been called before this Committee as a result of certain allegations on the part of yourself and others. It is alleged that you have refused the military and commercial exploitation of certain discoveries made by you, and that these discoveries are of primary importance to the welfare and defense of the country.

"It is alleged that you have criticized the Patent System of the United States in a very serious manner, claiming that it offers you inadequate protection for your work. It is further alleged that you have threatened to withhold knowledge of your important discoveries until revision of the Patent Laws gives you the protection you desire.

"Would you like to state your position, Dr. Nagle, to clarify your points of contention for the Committee, or would you prefer to be cross-examined, first, point by point?"

"I would like to ask," said Mart, "if the Committee is prepared to recommend to the Congress that modifications be made to the Patent System if it can be shown that this is in the best interest of the public, whom the Patent Laws are designed to protect."

"We are not committed to any action," said Cogswell. "But if it can be shown that action is called for, the Committee is prepared to make recommendations accordingly."

"Then I would like to state my case," said Mart.

"Proceed, Dr. Nagle."

"In the beginning of industry and manufacture," said Mart, "the basis of success was often what came to be known as Trade Secrets. A man or a family, over a period of years discovered superior techniques for producing some item of trade. The process would be zealously guarded from disclosure to any possible competitor. Only by preserving the secrecy of these processes could the inventors and discoverers of them obtain any just remuneration for their work of discovery.

"Until very recently, historically speaking, this system of Trade Secrets prevailed. Obviously, it has drawbacks. It impedes the flow of knowledge. It prevents the progress which might result from the application of one man's knowledge to another's discovery. Because of these draw-

backs, the Patent System was born. In theory, this is designed to release the vast store of Trade Secrets and put them in the reservoir of common knowledge to be used by all men. In return for contributing his discoveries to the common store, a man is theoretically rewarded by the Patent System by being given a limited monopoly in the exploitation of the discovery.

"In addition to providing a reward, the Patent System is supposed also to provide an incentive for new discovery and invention. Actually, the present laws achieve almost none of these very idealistic objectives. The System has failed to keep pace with the technological and scientific progress of the world so that it fails to accomplish that for which it was designed. It protects virtually none of those who most deserve its protection.

"I, for one, am in the position of having what we may term a Trade Secret of great value both to myself and to Society. I would like to share it, but under the present Patent System there is no possible way I may do this and receive a remuneration which I consider adequate and equitable."

A senator interrupted, frowning. "You mean you are not able to obtain patents on your discoveries under the present laws?"

"That is correct," said Mart. "I cannot protect my discoveries, therefore, if I am to make any practical use of them I must keep them as

Trade Secrets, as it were."

"But there are patents here," said the senator. He held up a sheaf of papers. "I have copies of patents issued to you, covering the devices over which disputes seem to have arisen."

Mart shook his head. "No, sir. There is no dispute over the devices covered by those patents. No one is trying to deny me the privilege of making a million toy rockets propelled by antigravity, nor do they care if I become rich as an operator of gambling clubs.

"But I do not wish for these things. I have been forced into these activities by the deficiencies of the Patent Laws."

The senator gulped a mouthful of air in restrained exasperation. "How in the world can any law of the United States force you into such activities against your will?"

"Just a moment, if you will," said Senator Cogswell. "Perhaps we should allow Dr. Nagle to complete his testimony without interruption. There will be opportunity for questioning later."

"If I were free to do so," said Mart, "I would immediately release my material to the industrial and Governmental laboratories of the country. Within months, the hundreds of engineers in these organizations would be able to develop scores of useful devices based upon my discoveries. But the engineers would be granted patents

on the devices in the name of the corporations for which they worked. The corporations would be the ones to profit. I would get not one dime for my part of the work!"

"That's fantastic," the interrupting senator said. "I can't believe that such a situation exists. Certainly no one is going to try to force you to give your work away for nothing.

"What I do not understand is all this talk about inadequate protection under our Patent Laws. Exactly what is it you wish to patent? Why cannot these so-called Trade Secrets of yours be handled in a normal patentable manner?"

Mart smiled and shrugged. "You cannot require me to explain my Trade Secrets here. In this audience there are those who would take unauthorized advantage of them if I were to describe them at this time. Briefly, the work that I have done is classified by the patent authorities as Laws of Nature. These cannot be protected."

Cogswell frowned. "I am not too familiar with the terminology," he said. "I presume that an example would be the Law of Gravity."

"Yes," said Mart. "The Law of Gravity would be classified by the patent people as a Law of Nature."

"And you suggest then, that if Sir Isaac Newton were alive today and published his discovery of the Law of Gravity that he should be allowed a patent on it?"

"Precisely," said Mart. "That is

exactly the thing I am suggesting."

There was a general shifting among the audience, the scrape of feet on the floor. From the Committee table there were unrestrained snickers.

Chairman Cogswell did not restrain his own smile. "I fail to see, first of all," he said, "what good it would have done the good Sir Isaac to have held such a patent. The Law of Gravity would continue to operate, I am sure, regardless of the patent. Are you suggesting that it would have had any effect on our lives to have the Law of Gravity patented?"

"Perhaps Sir Isaac could have levied a toll upon each of us for the privilege of sticking to the surface of the Earth through the operation of his law? Or collected a royalty on each apple that falls?"

The senators chuckled in unison, turning to one another in appreciation of Cogswell's fine wit. But Mart was looking over the faces of the technical members of the audience. He was pleased with their frowns of disgust.

"I do not make any such suggestions," Mart said to Cogswell.

"Then will you please explain to the Committee what earthly value it would have been for Sir Isaac Newton to hold a patent on the Law of Gravity! And what good it would do you to be issued patents on what must be equally obvious Laws of Nature."

"In your last statement lies the fallacy which is at the root of all our

difficulty in understanding one another," said Mart. "The *action* of gravity is obvious. The Law of Gravity is very far from obvious. The Laws which I have discovered are even less so. As a matter of fact, they are so unobvious that I will make the statement that, unless I agree to reveal them after being given proper patent protection, they will not be rediscovered for at least another hundred years."

"You take a high view of your own abilities in comparison with those of your colleagues!" said Cogswell dryly.

"No—not of my abilities, but of the methods by which I have been able to make these discoveries. To clarify my position, let us take a more understandable example.

"One of the most well-known technological devices in modern science and industry is the common photoelectric cell. The photo cell was made possible by the discoveries of Dr. Albert Einstein. Dr. Einstein did not *invent* the photo cell; he discovered the basic principles by which others were able to do the actual designing of the device. Do you see the difference?

"Dr. Einstein did not, and could not obtain any patents upon his basic discoveries. He went without any appreciable remuneration for that work. But the corporations which have since designed and manufactured photoelectric cells have been paid fabulous royalties on the patents they hold on photo cells. The man who made photo

cells possible receives no royalty.

"This same man, through his momentous principle: $E=MC^2$, laid the foundation for the atomic bomb. You may be sure that the Atomic Energy Commission does not pay him royalties on each bomb produced—or to any of the other workers whose basic discoveries made possible the production of this weapon.

"On the other hand you will find that—"

There was a sudden explosive stir at the rear of the room. For a moment it seemed as if an excited beetle had burst into flight. Then it became apparent that it was merely Dr. Dykstra who had flown from his seat and was rushing down the short aisle toward the senators' table.

"This is preposterous!" he exclaimed. "Absolutely preposterous! I assure you, gentlemen, that Dr. Einstein would not have his name profaned by being mentioned in connection with this . . . this mercenary attempt to—"

Chairman Cogswell rapped loudly with his gavel. "If you please! You will be called and allowed to give testimony when the time comes. At the moment we are hearing Dr. Nagle. You will please take your seat and refrain from further interruptions of this kind."

"I have only one more major point I wish to make at this time," said Mart. "Mention has been made of

the nation's need of scientific talent of the highest order, the need of new and basic discoveries. I wish to add my observation that this is indeed true. Our need is critical.

"But basic scientific work is not being done in adequate quantity because the material rewards to the individual researcher and his sponsoring agency are not great enough.

"I have shown what happens in the case of a man like Dr. Einstein. But consider the corporation that employs large numbers of men for the specific purpose of inventing and discovering new principles. Consider Gigantic Electric Corporation. It assumes a burden of five million dollars worth of basic, theoretical research per year. The results happen to be some basic laws of chemistry and fluid flow. Due to the patent situation these laws cannot be protected but they are highly welcome at Mammoth Chemical and Altitude Aircraft, whose engineers get large numbers of patents on the devices they develop out of the principles discovered at Gigantic.

"Next year, Gigantic's research produces a semipermeable membrane theory. Mammoth Chemical thanks them kindly, does some development work, and obtains patents on methods of extracting fresh water from the sea at a dollar per cubic mile or so. The AEC improves the filters at Oak Ridge. Somebody else gets patents on separating useful hydrocarbons from petroleum by-products for plastic

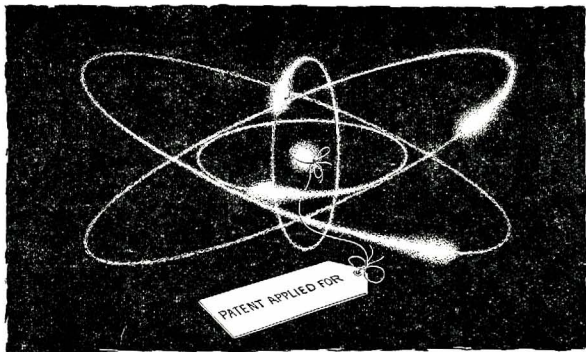
manufacture.

"Gigantic Electric gets nothing. Their stockholders howl. Gigantic drops the big theoretical research program. Nobody dares take it up because, under our present Patent System, there's no return in money from theoretical research on an adequate scale to supply the needs of the nation.

"There's your problem, gentlemen, it's not the question of Dr. Martin Nagle being a dog in the manger with respect to the few things he has available. It's a major problem that affects every sincere, responsible scientist of top-drawer caliber in the nation. It affects the scientific welfare of the whole country. I call upon you to give us the solution we need!"

There was a small dinner party that night at the hotel with a couple dozen of his closest friends. Keyes was there and Jennings, and Don Wolfe. They invited Dykstra just for the hell of it, but the professor had urgent business elsewhere.

Mart kept the talk away from the hearing, and from the general subject of his discoveries. It kept spilling over into their conversation, but he had no intention of letting it be aired at the dinner table. All they had to say now was for the Committee. Only Jennings broke through with one piece of information pertinent to Mart's work. He reported that Goodman had acquired one of the tavern-size Vol-



canoes and was working out a system to beat the game.

Testimony was resumed on Tuesday morning. Dykstra was the first to be called. He arose with a clearing of his throat and moved portentously to the front of the room with the faint side-wise waddle that marked his movements.

He said: "From that great moment, now lost in the dim shades of history, when the first cave man struck fire from flint to warm and illumine his cavern, there has been a code which the true scientist unwaveringly observes. Unspoken and unwritten, it is nevertheless engraved upon his heart in letters that burn. That code is that knowledge shall be free. It shall be the rightful possession of all mankind. The true scientist would no more think

of taking out a patent upon his work than he would think of deliberately falsifying the reports of his observations. Nowhere, in the presence of scientific men, have I heard anything quite so insulting as the reference made yesterday to the revered name of Dr. Einstein. As if he would actually be concerned with the trivialities of royalties from the manufacture of photoelectric cells! Royalties are for tinkerers and garage mechanics. Scientists have nothing to do with such!"

Cogswell coughed behind his hand. "It would seem, Dr. Dykstra, that scientists must also eat."

"The laborer is worthy of his hire," said Dykstra. "No genuine scientist ever starved or was in want. He must live sparingly, of course, but a Spartan regimen is all the more conducive to

the work of the mind at highest efficiency.

"No, indeed, senator, the true scientist is not in need of royalties. A man who is worth his salt will automatically gain the reputation that will take him where he deserves to go—to the laboratories and to the endowments which are his rightfully, in return for the benefit he bestows so freely upon all mankind. Bestows without thought of the vulgar commercialism which we see here being attempted to be thrust upon us."

In the afternoon, Jennings was called. His spare, sticklike frame settled awkwardly into the witness chair. An amused tolerance was upon his face.

"I would prefer to answer your questions," he said. "There is no general statement I have to make beyond what has already been said."

Cogswell said, "What can you tell us, Dr. Jennings, of the allegedly revolutionary principles behind these toys of Dr. Nagle?"

"I can tell you nothing, because I do not know what these principles are," said Jennings.

"You do not know for certain that Dr. Nagle has actually made the discoveries claimed for him and by him?"

"I am certain. I am very certain that they exist. I am certain that this Volcano which you have there on the table is symbolical of perhaps the most revolutionary discoveries since those

that led to the release of atomic energy. Proper utilization of the principles symbolized there would no doubt lead to transmutation of the elements with the simplicity of ordinary chemical reactions. It is difficult to estimate the value of the discovery."

"And yet you tell us you do not know what the principle is," said Cogswell. "It appears that the scientific mind runs in channels far removed from the reasoning of ordinary individuals."

"No, that's a very ordinary channel of thinking—or should be, anyway," said Jennings. "It simply means that I know the abilities of Martin Nagle. I know him. I trust him. If he says it is so, then I believe that his symbology is based upon actual fact."

"Well, if you are so convinced of the existence of these discoveries, what is your opinion of Dr. Nagle's contention that he is entitled to patent protection upon them?"

"I think he is entirely correct in his demands," said Jennings.

"And these unknown principles would be classified, patent-wise, as Laws of Nature?"

"Yes."

"If this is the case, why have they not been exposed by others of your profession? Is this symbology not sufficiently understandable to be deciphered? Do you acknowledge that, as Dr. Nagle says, no one else is smart enough to figure these things out for

another hundred years? Or do you have another unwritten code—one forbidding you to try?”

Jennings smiled wryly. “Dr. Nagle didn’t say that, but we’ll let it pass. We have no code, either. On the contrary, there is scarcely a scientist in the country who has not tried to crack these three gimmicks of Mart’s since he put them on the market. I know of only one man who has made any partial success of the attempt.”

“Can you give any reason for this lack of success? Is Dr. Nagle truly the singular genius he appears?”

“He’s a singular genius, all right, but not in the way he appears,” said Jennings with a laugh. “To answer your question, I suspect there are certain traditional ways of finding out things that are wholly wrong in their approach. I believe Dr. Nagle has abandoned these and has devised for himself new methods to find basic knowledge.”

“And you would say, I suppose, that this Committee should recommend amendments to the Patent Laws permitting Dr. Nagle to obtain patents on Laws of Nature?”

“Indeed I would!” said Jennings.

VI.

They came in a stream after that. There were the bitter ones and the bewildered ones, and the senators listened in astonishment as the young researchers talked of the idiocy of

legal definitions in scientific matters. Of invention and noninvention. Of combinations, defined by the legal mind. Of novelty and prior art. And the wonderful slip-of-the-wrist definitions of statutory and nonstatutory items. Of the mysterious “flash of genius” so essential to invention.

Some of the younger, less disciplined men poured out the unrestrained bitterness of long hours of research and development judged fruitless from the standpoint of patentability and resultant compensation.

But it wasn’t getting out, Mart observed. The reporters were taking down the words, but the bitterness wasn’t getting out to the minds of those who could vindicate him against the accusations that Baird and his kind had made. It was far easier for the press to quote a Dykstra and his comical, melodramatic interpretation than the sincere frustration of the researchers who were doing all they could to back Mart.

Thursday noon he said to Berk. “We’ve got to get it out where every one can buy it. Even if we win here in this little Committee and finally in Congress, we won’t have touched the problem of minds like Baird’s. That’s the real enemy.”

“What are you going to do?” said Berk.

“I’m going to offer to be interviewed on his program.”

Berk whistled. “Brother, that’s the equivalent of putting your head into

the lion's mouth clear down to your ankles. You know how they can murder you on those so-called interviews. You're up there like a mounted insect with a pin stuck right through your middle. You don't say a word. If you do, they shout you down with accusations of every sort. Baird'll take the hide off you!"

"I don't think so," said Mart. "It's pretty tough to tear off."

Baird was more than delighted with the suggestion. Mart had the impression that the commentator could scarcely refrain from baring his teeth. Momentarily, he almost wished he had accepted Berk's warning.

"I would like it to take place as soon as possible," he said. "Before the completion of the hearings."

"Tonight," said Baird. "I'll scrap my whole program for this evening and give you a chance to state your case to the whole country."

Mart nodded. "I'll meet you at the studio."

He didn't require any preparation. He knew exactly what he wanted to say. It was only a matter of keeping Baird from mangling his whole story. It was obvious that he was going to try.

He sat Mart at a bad angle, to begin with, so that his face was away from the cameras, and only Baird could make direct appeal to those who watched and listened. As soon as they were on the air, Mart shifted

his chair so that he faced the camera squarely. Disconcerted, Baird was forced to shift or appear to be sitting behind Mart. He shifted.

He opened with a stream of talk that gave the audience a none too subtle view of the difficulties that television commentators endure in the course of their public service work. The impression was left that Dr. Martin Nagle was among the most difficult crosses that any commentator had to bear.

He said, "Dr. Nagle, will you tell our audience just what your concept of a satisfactory patent system is?"

"A patent system," said Mart, "is intended to be a form of remuneration to a discoverer in return for the use of his work. In the case of—"

"Well, now, just a moment, Dr. Nagle. The reward offered by a patent is in the nature of a monopoly, and that is the crux of our present problem. You cannot say that it would be justifiable to grant a person a monopoly on just any kind of a discovery because he happened to be the first to discover it."

"I did not use the word monopoly," said Mart. "I said remuneration. In the case of—"

"Well, now, Dr. Nagle. You say remuneration. All right, we'll use the word remuneration. But it is obvious at once that if you wish to place the magnitude of the remuneration in direct proportion to the magnitude of the discovery, there rapidly appears a

point at which it is ridiculous to allow a single individual to control or realize the rewards of certain discoveries which will be of the utmost magnitude. Do you not agree that this is so, Dr. Nagle?"

Mart shrugged and smiled and said nothing. He glanced at the watch on his wrist, hoping he had not miscalculated the time at his disposal.

Baird hesitated, waiting for Mart to make a statement which could be interrupted and shouted down. But Mart remained silent.

"Will you tell our audience, then, exactly how you view your own present, controversial discoveries in the light of our present Patent System?"

"I will," said Mart quietly, "if you will allow me to finish my statements without interrupting before I am through. If I am interrupted again, I will allow the audience to make its own decision as to why I am not permitted to state my case."

Baird grew red in the face, and it looked as if he were going to explode. Just in time, he glanced at the ever-present cameras.

Mart let his breath out slowly. He had been right. The cameras were the one check that would keep Baird in line. The commentator's bottled up rage would scarcely permit him to interrupt now.

Through thin lips and blazing eyes directed toward Mart, and momentarily out of range of the camera, he

said. "Please continue—Dr. Nagle."

Mart looked directly into the glistening, opaque eyes that were like some stupid inquisitors out of space. "We have built our nation," he said slowly, "on the principle, among others, of just rewards for conscientious labor. The correctness of this principle can be determined quite easily by comparison of our society with those based on other principles which require that both the man and his labor belong to the community.

"In the beginning, it was easy to make our labor principles work. A man staked out a farm and produced his crops and traded with his neighbors. Afterwards, there came to be so many kinds of labor that it was difficult to evaluate one in terms of another, with a just remuneration for all.

"Among the most difficult was the labor of a man who devised machines to lighten the burden of his neighbor and himself. How much should he be paid for such devising? Once he built and sold such a machine he had no reward for the days spent in thought and creation. When the secrets of the machine were revealed, any man could make it for his own.

"The man who invented did so because he loved that kind of labor, just as the farmer loves the earth. But even inventors must eat and provide for their families. How could the farmers as a group properly repay the inventor for his creation? In its attempt to provide justly for these men,

society has made laws that grant limited monopolies to the inventor for the exploitation of his discovery. This is intended to be his reward and remuneration.

"In the exploitation of the resources of the land, we followed the same plan. A man was allowed the land which he staked out and put to use. He was allowed to mine and sell the minerals and oil found within it, for his own profit.

"Nowhere have we ever challenged the right to exploit and make a profit from that which a man discovers—except in one field. The intangible field of Man's exploration of the principles and laws upon which the world of nature operates. A housewife can make a small fortune by devising a simplified method for cleaning out the family plumbing. The man who discovers the forces that hold together the building blocks of the Universe gets nothing.

"It has been said that the thrill of discovery is all the reward that such a man needs or wants. That is a fool's answer. We live in a real world that demands that we be fed and clothed and housed adequately and that our families are well cared for, if we are to embark on the longest voyages which the mind of man can make.

"We have made it possible for housewives and garage mechanics to reap fortunes for a few weeks' work in basement or shop. But we have not made it possible to reward the man

who discovers a basic secret of the Universe.

"I have given myself for an example. I made a toy, a trivial gadget of little worth. For this, you paid me a substantial sum. But I also discovered what force it is that reaches out across the depths of space from planet to planet and from sun to sun. And it is demanded—literally demanded by Mr. Baird and others—that I give this for nothing!

"I have done this to show you what happens to scientists who try honestly to devote their talents to the good of all. What I cannot show is the amount of waste of intellectual ability that results from the failure of our Patent System to reward those who discover new Laws of Nature. Our great corporations would like to promote vast programs of research into the secrets of the Universe. But there is no way for you, the workers and stockholders in these companies, to profit directly from such research. There is no way for an individual to engage in a career of pure, basic research with the hope of profiting thereby, unless he turns maker of gimmicks, as I have done.

"But I do not wish to be a gadgeteer. Neither do thousands of others who are forced to do so because they can get a reward in no other way. Further than this, it is fundamentally impossible for us to make such a switch of profession and do it adequately. There are theoretical re-

search minds, and there are engineer-type-thinkers. By their very nature, these are not interchangeable in the kinds of work that each is competent to perform. Each needs the other. If both are forced into one mold, then both suffer alike, as a result."

Out of the corner of his eye, Mart saw it coming. It was almost as if Baird had drawn back his arm and were aiming a polished haft and gleaming point in his direction.

The television reporter leaned forward, his eyes shining with malice. He had timed it just right, Mart thought. For a moment he felt a little sorry for Baird. You always knew what a mind like Baird's was going to do next. The rut it traveled in was old and very deep.

When he spoke now, Baird's voice was low and modulated with his special kind of phony sincerity. "Suppose that the present hearings before the Congressional Committee were decided against you, Dr. Nagle. Suppose it is decided not to reward you with a monopoly on what has long been considered a Law of Nature so that you can profit therefrom. This is a time when your country needs these discoveries very badly, so the scientists tell us. Your country, which is perhaps the only one under the blue sky of Earth where you could have the freedom sufficient to make these discoveries. Will you give them to that country of yours freely, even

if the decision is against you? Or will you bury them as you have threatened to do—until someone else who can equal your great genius comes along and rediscovers them? Which will you do, Dr. Nagle?"

Baird drew back, grinning triumphantly. Mart paused long enough to let him enjoy that triumph. Then he faced the cameras squarely again.

"I will give my work freely, of course," he said. "What I have done has been merely to bring this tragic injustice to the attention of the nation, which is being harmed so irrevocably by it. I have done this because I believe in my fellow citizens. I believe they will no longer permit this injustice to continue—driving out of my profession those whose life work ought to be the uncovering of the great secrets of Nature.

"Rather, now that they know the truth, they will insist that justice be done. First, because it is their nature to be just. Second, to draw back to my profession the thousands of brilliant young minds that should not be forced into the making of gadgets for a living. I assure you, Mr. Baird, and you, my fellow citizens, that my discoveries will not remain very much longer as Trade Secrets."

Afterwards, Mart contended that it was the television broadcast that swung the decision, but Berk was not sure. The following days saw a huge

stack of testimony taken from scientists who told almost incredible stories of trying to get satisfaction from the existing Patent System.

Mart was called for final testimony and rebuttal, but he could only underline what had already been said. He was gratified, however, to observe that the attitude of the whole Committee was considerably different from that expressed by them on the first day of the hearings. He even felt that perhaps they understood—just a little—what he meant by declaring that Sir Isaac Newton should have been able to patent the Law of Gravity. And that he, Martin Nagle, should be allowed to patent the atom.

At the end of the final session, Senator Cogswell took his hand. "There'll be some changes made," he promised. "It may be rough going to get it done. We may have to call you back again—more than once. But in the end you people are going to get what you want. Generations of scientists to come are going to be grateful because you endured the personal sacrifice of staging this demonstration which brought to our attention the inadequacies of a system of which we were unjustly proud."

It was not until they were back in New York clearing out their temporary offices for a move to a more reasonable environment that they saw Don Wolfe at any length. He came in the morning after their return and sat

down without a word in a chair opposite the desk where Mart was examining a file of papers. Berk was packing a carton of reports on the other side of the room.

"I want in," said Don Wolfe finally. "It was all over before the full crux of this thing hit me like a sandbag on the noggin. You shoved it through so fast that you almost put it over on me, too."

"Come again?" said Mart.

"You put on a show and bribed them with antigravity and teleportation to change the whole Patent System, and not one of them guessed what you were really doing—what they were actually letting themselves in for."

Mart glanced across the room toward Berk, his eyebrows slanted in a frown. "So? Now we have secret designs and untold motives?"

Wolfe nodded. "If you had lived in ancient Salem, they would no doubt have burned you for witchcraft. They were more clever at catching on to these things back in them days. But I'm not entirely sure it won't happen yet. You have just delivered one of the deadliest rabbit punches ever given to the glorious age of scientific superstition, and I don't think its high priests are going to let you go entirely unscratched.

"Dykstra is not the only one. He just happened to be in the minority at the Committee meetings. The others would have come if they had

known you had a chance of winning. The universities are bulging with them. There are plenty, too, in the commercial labs. The AEC and the Bureau of Standards are salted liberally with them."

Mart laughed and gave up the work he was trying to do. He leaned back and looked at Don Wolfe. "I'm afraid I haven't the least idea what you are talking about, Don."

"The old way was a good way because it was essentially designed to discourage new thinking. It encouraged a man to try to make a million by selling a new and patented writing tool that wouldn't work. It encouraged file clerks to invent collar holders and tie clips. It got ten million tinkers and garage mechanics to spend their week-ends thinking up dimestore ding-whizzits and mail order thingoosies so they could get enough to retire.

"And it kept nicely under its thumb the thousands of good brains that might have been engaged in new,

basic thinking on how the Universe is put together—which is what its chief purpose came to be. Oh, not consciously, of course! You know that better than I. The human organism is far more devious than that. But that's been the effect.

"Now it's blown wide open. You meant to blow it open. You did it deliberately, knowing the full effect of what you were doing. And I almost missed it!

"I want a piece of it. I recognize that, compared to you guys, I'm a sort of subhuman moron, but I'm bright enough to see what's going on. I can sweep floors and brush off desks and take care of laboratory equipment. So—have you got a place for me?"

Mart laughed again and turned to his partner who was chuckling softly. "I guess the firm of Nagle and Berkeley can always scare up room," said Mart, "for a young man who exhibits such terrific powers of imagination!"

THE END