

Among Men who Work with Hand or Brain

John Ford, Eyes of the Boss, Tells How Firm Was Robbed

By James Kells.

Everything happened—John F. Gratty and Martin Dawson were sentenced in Judge Miller's court to an indeterminate term in the penitentiary. Gratty and Dawson were convicted of systematically robbing the wholesale grocery firm of Musselord & Co., by whom they were employed.

This is the fashion in which the daily papers told the story. A good portion of the readers of this tale probably read it at the time. Probably, too, they forgot all about it within the next five minutes, for convictions on a charge of larceny are too common in large cities to make impressions on the memory of the newspaper reading city inhabitant.

Gratty and Dawson had robbed their employers. They had been convicted. Well, turn on to the next item. The how and the why of the item does not matter. The facts are enough. The idea that there might be a story in the little item does not occur. The news—the mere mention of the occurrence—is enough.

This is the story, the story of the thievery of Gratty and Dawson, and of their discovery and exposure, as Ford knew it and told it to me.

Firm Was Old Fashioned.

"Musselord & Co. was an old-fashioned house, old-fashioned in its appearance, and old-fashioned in its inner workings. If it hadn't been, all these things couldn't have happened, because a modern house with a systematic way of taking care of its business, its stock, and all those things never would have let this affair get to the stage that it did. A tight, well-operated house would have nipped it in the bud, and I never would have had anything to do with the case. But Musselord & Co. wasn't this sort of a house, hence the story.

"The head of the house, Musselord, was the typical successful teutonic-German who has lived and worked in this country long enough to have absorbed all the shrewdness and all the sharpness of American business methods, and yet who is too much a Teuton at heart to have lost his inclination to get fat, and sit around in easy chairs, and have lots of friends, and be genial and generous toward his associates and employees and to live generally in a highly human way, both at home and at his business, instead of in the fashion that obtains with our successful men who call this country their native land.

"He'd started his business right after the civil war—he'd been in the commissary department of one of the German brigades, himself—started in a small way, made a little money, and had been mighty content with doing that and nothing more. But it seems that the goods he sold and the way he sold them made an unexpected hit with the grocers of this section, and the first thing Musselord knew he had to move into a bigger store, and hire somebody to help him do his office work and attend to the city sales and make up the shipments.

Success Came Without Effort.

"From then on his success continued without interruption, and he kept adding more space to his establishment, adding more people, selling more goods, and making more money, until at the time when this little story comes off, the house of Musselord & Co. was one of those that the commercial agencies list as first class in every way, and Musselord was one of the solid members of the community.

"His house had a unique reputation. It was accredited as being fair in all things. Not only was it fair toward its customers but it was fair towards itself, and something unusual in big houses—fair to its help. They had some cooperative profit-sharing system—I don't know what it was, exactly, but I know that it made employees stay with the house much longer than they had intended to when they came, and made them work a lot harder than they otherwise would have done, and if ever there was a satisfied bunch of working people it was Musselord's. And that's what made it such a delight to me to work up this case—their system of doing the right thing by their employees.

"The case really began a year or more before I got into it. That's the way things went at this place. Here they had a case of thieving going on for a year, and the boss hadn't called in any help to discover the cause of the trouble, although all their efforts to find it by themselves had proved unavailing. They were easy going, and somebody had found them to be pretty easy doing, but finally the thing got to be too big even for them to stand, and I got a letter from the firm asking me to call.

Disappeared, Leaving No Trace.

"The trouble was in their stockrooms, they had decided. They had been suffering from a sort of regularly irregular series of losses in the stock. They could be nothing but thefts, of course, because they had a check on everything that came in and went out, and there couldn't be anything lost in the house. But every once in a while, when they would draw on some article for a big order they would find that the quantity in stock had diminished to a great extent; that it had shrunk, so to speak, in a way that forced them to conclude that somebody had been helping themselves.

"The stock clerk was the man who had discovered the theft. Naturally he would. He had charge of everything, and he was the first to be aware of the deficiencies. He raised an awful hull about it, and fired a couple of men on suspicion. Then the firm thought it was safe, but a couple of months later another shortage showed up. More holler by the stock clerk, the discharge of another man, and a repetition of the thefts a month or so later. Then they put a watchman in the stockroom at night, and the stock clerk himself, staid in the room every minute of the business hours, and the thing certainly should have stopped. But it didn't. A period of four months went along, then, bang! another crash; more goods missing and more troubles. After that the shortages occurred every once in a while.

Ford Takes Up the Case.

"That is the lineup of the case as they gave it to me. Old Musselord and the stock clerk constituted the committee of information, and they took half a day to tell me. But beyond letting me know that these thefts had taken place at such intervals, they told practically nothing. They didn't have any idea of how the stealing had been



How to Get Job as Postman; Work Is an Endless Grind.

By Robert Carlton Brown.

Once in a while you hear somebody make the remark that the postman has an easy time of it. It looks that way on the surface. A postman, by law, is not allowed to work over eight hours a day; there is no night work for him; he can lay off almost whenever he wants to. He has outdoor work to do, and that is healthful; he meets his friends and talks to them on the route. He gets plenty of exercise. People make him presents at Christmas time. Altogether, it looks easy.

But the fact is that the mail carriers lead harder lives than teamsters or coal heavers, for the latter get a chance to sit down once in a while.

There are so many men that take the carrier's examination yearly, and there are so many who already have successfully passed and are waiting for work, that a man must get a high average and stand any chance of appointment to the position.

If he can get through the examination he then waits until there is a chance to get work as a substitute. The period during which he works as substitute is usually long and not at all profitable. There is no salary for the substitutes. They are paid merely for the time they work, and they only get a chance to work when some regular man falls to report. The regular carriers pay the substitutes themselves when they receive their own checks, so a substitute doesn't get his money until the end of the month. The substitute must report for work at 7 a. m. and 1 p. m. every day. If there is no work he is at liberty to go. If there is work, he stays. Another thankless task is the learning of the different routes. The special spends a great deal of time going around on the different routes and learning the streets and numbers.

Rules as to Age and Weight.

There are other qualifications besides passing the civil service examination that are necessary. A carrier must be between the ages of 18 and 45. He must be in good health, a weight of not less than 125 pounds, without overcoat or hat, is required, and a height of not less than 5 feet 4 inches in the bare feet. The substitute carriers are promoted to vacancies in regular order, so that usually it takes a year or two from the time a man passes his examination until he is appointed to a regular position and route.

When the position finally is attained the beginner's pay is usually \$500 a year. The carrier's salary runs from \$600 to \$1,000, according to the length of service and the size of the office, the average salary being \$800 per year.

Postoffice hours are from 7 in the morning to 4 in the afternoon. The law requires the carriers to be in the office at both of these hours, and there are penalties for failure to do so. Saturdays they put in a full day the year round, and every other Sunday each man is detailed to collect the mail from the boxes on certain routes.

Henpecked Man Poor Clerk; Buyers Like to Annoy Him.

By Irwin Ellis.

If you are a young salesman anywhere behind a counter and are nursing the idea of getting married, as you value your future, don't marry a woman who will henpeck you!

One of the saddest sights of the business world is the henpecked husband acting as salesman behind a counter.

Every man customer recognizes him a rod away. Every woman customer divines him through some subtle sixth sense. Even the children are attracted to him by some quality which they don't understand. Worse than this, the henpecked man discovers that he comes in for a share of notice which is not accorded his fellows, and as he recognizes that his "henpecked state is the condition which is making him conspicuous he loses the little nerve that has been left him and gravitates rapidly toward the elevator lever or to the post of "information desk" at the front entrance.

"Poor little henpecked thing."

He may be 6 feet tall and weigh 190 pounds, but this is the designation of his women customers which he may overhear if he will listen.

"Great big stand up and fall down!"

This is the contemptuous sipping up of the salesman by his fellow men.

All the World Henpecks Him.

Women whose own husbands submit to henpecking are the least charitable toward him. Husbands themselves who calmly settle down to petticoat rule in their own homes are the least tolerant of him. In a thousand unspoken actions a day this henpecked salesman has brought home to him the indefensibility of his position in his home.

Every womanly woman and every manly man, also, mark him for their own. There is no hiding from them, until finally the henpecked husband finds that where his wife began with henpecking at home, all the world is delighted to take it up outside.

He forgets that in his dress, bearing, and mannerisms which go to mark him for the henpecked state he is carrying that constant invitation for some one to "try him out."

No woman shopper who has her own husband under her thumb at home ever will let the henpecked salesman off with the mere necessary formula of making a purchase. She is going to try him out in order that she may have the full measure of contempt for him.

Science Weighs Sunbeams.

Solving the Mystery of Comets' Tails, Solar Corona and the Aurora Borealis.

By Ada May Kreckler.

How much does a sunbeam weigh? How hard does a ray of light press upon the object it illuminates? It may seem odd, it may sound absurd, but it is in this weight of a sunbeam, this mechanical pressure of light, that explains the aurora borealis, the comet's tail, meteorites, thunderbolts, zodiacal light, and sundry other mysteries of earth and sky.

The marvelous idea of a mechanical pressure of light is one of the victories of twentieth century knowledge, the new science which Prof. Robert Kennedy Duncan has been elucidating for the wide, wide world of people who wonder why and ask why, but must get a narrower world of experts to answer.

Over thirty years ago some one proved the mechanical pressure of light, proved it by mathematics. That was Clerk-Maxwell in one of his prophetic mathematical inspirations, when he showed that such a pressure should exist. But it was not before the twentieth century that the pressure was proved by experiment. Peter Lebedev did it. The pressure discovered was small, but the smallness of a thing often is an inverse measure of its importance, as Prof. Duncan says, and so this light pressure has been found adequate to the task of explaining some of earth's greatest mysteries.

Mr. Lebedev allowed a beam of light to fall on a suspended disk in a bulb containing a vacuum. This vacuum was attained with the greatest care by exhausting the bulb to the highest degree possible and then freezing out the residue of mercury vapor.

Pressure of Light Moves Disk.

In this vacuum the disk was moved when the beam of light raved upon it. This pressure of the light beam was found to be nearly equal to the pressure calculated for in advance by Clerk-Maxwell. Since then several others have worked at the experiment, until now there is not the shadow of doubt that Maxwell was right. The light pressure at the distance of the earth from the sun is not quite a milligram for every square meter of the earth's surface, or, put roughly, 70,000 tons on the whole earth.

Were we to consider only the effect of the impact on large bodies our interest would not proceed far, but things take on a remarkable complexion when we notice the remarkable effect of size on the relation between the light pressure and weight or gravitational attraction. The light pressure is applied only on the surface and is proportional to the surface, while weight or the pull of gravitation, on the other hand, affects the whole body.

Suppose we divided a sphere, such as a cannon ball, into eight equal spheres. The sum of the surfaces of these eight spheres would be twice that of the original sphere, while the weight of the gravitative pull would remain the same. If we continued the process of division until the spheres were the size of the smallest shot the total sum of their surfaces would be enormous compared with the original sphere, while the weight would again be equal to that of the cannon ball.

If we continued the division and so on we eventually would come to a body so small that the ratio of its surface to its weight would be enormous. It would be almost all surface. Now the greater the surface the greater the effect of light pressure, and hence without going into infinitesimal, the process carries us to a particle so fine that the light pressure will exactly balance its weight.

When Pressure Balances Weight.

This is so with a particle of earth one-hundred-thousandth of an inch in diameter. Such a particle would be neither attracted nor repelled from the sun. For the sun's pull upon it exactly is balanced by the repulsive force of the sun's light. If the particle is smaller still it is repelled from the sun, and, in fact, if the particle is exceedingly small the light push may exceed its weight.

One of the greatest mysteries in astronomical science has been the comet's tail and why it points away from the sun. The facts are generally known. The tail of a comet may be any length up to 100,000,000 miles. It develops and grows larger as the comet approaches the sun, proceeding back from the direction of motion like the smoke from a steamer. But, unlike the steamer smoke, as the comet rounds the sun and flies away the tail now precedes the head. It is precisely as if there was a strong repulsive wind blowing away from the sun and sufficient to keep the comet's tail pointed from it. This has been the mystery of astronomy. But now we understand. The burning particles which compose the comet must fall under the sway of the mechanical pressure of light. If they are so small that the light pressure overbalances the force of the sun's gravitative pull they will be driven back from the comet with a speed depending on their size and will constitute the ordinary comet's tail. If these small particles vary in size as naturally would be the case, the rate at which the light drives them will vary and the resulting tail will be curved.

Secret of the Comet's Tail.

If the particles are larger than can be repelled by the sunlight they will form a tail pointing towards the sun, which is a rare phenomenon but occasionally observed. The sizes of the mist particles of the comets' tails necessary to account for their observed length and curvature have been calculated. They vary in diameter from one ten-thousandth to six-hundredths of a millimeter. Now, a particle one-half the weight which the sunlight can balance, about half the thousandth of a millimeter, would travel under the pressure of light more than 865,000 miles an hour. In comets' tails we probably have particles whose diameter is less than one-eighteenth of this. Such particles would travel that distance in less than four minutes.

How Meteorites Are Formed.

The number of corpuscles intercepted by the earth is of course infinitesimal compared with those that miss the earth altogether, and continue on through interstellar space. Through their immense velocity under the pressure of light we easily can see how they would overcome their electrical repulsion, clank together, condense, and form the meteorites which flame through the upper air and occasionally reach the earth itself as "thunderbolts."

We are not even yet at the end of the power of the corpuscle. Many of them strike the nebula and comets. The fact that nebulae and comets are both cold bodies, yet shine with their own light, always has been perplexing. It need be no longer, for on the impact of a rain of corpuscles the gaseous mass of a nebula or a comet's tail of necessity would shine with the same light that we see in an aurora or a candle flame. It is interesting and significant that these corpuscles found in candle flames which apparently constitute the essence of matter and absorb light, serve to explain remarkably and adequately some of the most perplexing phenomena in the whole range of natural knowledge.

Palmist Was His Partner.

By C. D. Wright.

A young accident insurance agent, being rather inexperienced, was not making the howling success his energy, ability, and personality won for him in later years. He was a schemer and spent all of his spare time in trying to frame up some means by which he could sign up a few more policies and thus gain the higher esteem of his company. He finally stumbled upon one and is now, as a result of it and more recent ones, a big "accident" man. He found a palmist who was willing to

So it is not surprising that the tail of the great comet of 1860 was found by Newton to have been no less than 20,000,000 leagues in length, and to have occupied only two days in its emission from the comet's body. A decisive proof of this being carried forth by some active zones, the origin of which, by judge by the direction of the tail, must be sought in the sun itself. The whole thing is explained by the mechanical pressure of light, a force in the universe hitherto unsuspected.

Then there are the "solar prominences" and "corona." In a solar eclipse at the precise moment when the moon blots out the sun's disk there becomes visible around the edge of the sun a number of magnificent scarlet streamers or clouds, some of them 60,000 miles high, and held suspended over the sun. These are the solar prominences. In addition to these fiery streams there exists also a beautiful halo or "glory" of a greenish or pearly luster, which contrasts finely with the scarlet hue of the prominences. This halo has been called the "corona."

Both the prominences and the corona consist of matter in a highly rarefied condition, and the so far unanswered question of the astronomers has been, "How is the matter held up?" The complete answer seems to be, "By the pressure of the sun's light."

Mystery of Sun's Surface.

The sun must project vapors into space. These vapors condense into drops when they meet the cold of outer space. These drops, if larger than the critical size, will fall slowly back towards the sun, constituting the prominences; if smaller than the critical value they will be driven away from the sun, forming the curious streams of the corona.

Just after twilight on any clear evening in winter or spring there may be seen on the western horizon a faint soft beam of light. This seems to proceed from each side of the sun to some distance beyond the earth's orbit. It is called the zodiacal light. Its cause has been another of the mysteries of astronomy, although it now finds an easy interpretation. We know that enormous quantities of carbon exist around the sun and at an extraordinarily high temperature. The corpuscles that must be emitted by this carbon are infinitely small, so that the effect of the light pressure must be extreme. The sun must bombard all space with them. They will stream past the earth in an orbit. Far out in space on the other side of the sun they will meet with other particles. And if the particles formed in the meeting are greater than the critical diameter which the pressure of light can control they will drift back with increasing velocity past the earth and towards the sun. If we could stand on the moon we should see the earth attended by a faint double tail, the more conspicuous one pointing away from the sun and a fainter one pointing toward him. It is this sheaf of light on each side of the earth that is thought to be the cause of the zodiacal light.

What Makes Aurora Borealis.

The aurora borealis has been yet another mystery. The new knowledge explains this, too. The corpuscles from red hot carbon have been shown to be deflected by a magnet, bent into a complete circle if the magnet is strong enough. The earth is bombarded by these corpuscles projected from the red hot carbon of the sun. The earth is a magnet, with its lines of force proceeding from pole to pole. Now the corpuscles must arrive most thickly over the equatorial region of the earth, where the earth is directly exposed to them. They must be at once caught by the lines of force and travel along them, ever coming closer and closer and farther and farther down into the atmosphere as they approach the poles. At a certain distance from the poles they begin to give out shifting and darting lights, which account for the aurora borealis, as well as the "dark circles" around the magnetic poles from which as from behind a curtain the leaping pillars of the aurora rise.

Another peculiarity possessed by corpuscles traveling at high velocity is their ability to knock to pieces or ionize a gas through which they pass, and that these ions act as nuclei of condensation of clouds. If, therefore, the earth is bombarded by solar corpuscles they should ionize the air in the upper regions and this should result in the forming of clouds. This is a beautiful explanation of the hitherto inexplicable fact that cloud formation in the upper air varies with the frequency of aurora.

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