

JAN. 29

Experiments With Cobalt as Substitute for Nickel in Steel Alloys-Product Wasted

An investigation which may reveal hidden fortunes in what are now the uscless dump: of cobalt oxide at the ore smelters and at Cobalt camp, and give to Canada a new steel alloy industry, is being conducted by the Department of Mines. Experiments to extend over some years will be made in the endeavor to discover a process which will allow of the substitution of cobait for nickel in steel alloys, thus furnishing a market for s product which now in great part value of such an increased market would be, of course, incalculable.

"It would not be surprising," waid Dr. Eugene Haanel, speaking at Ottawa, "if cobait could be advantageously substituted for nickel to produce a better grade of high gr..de steels, where toughness and hardness are desired; for automobile parts, steel rods and axles: the nickel-iron wires to leap, being on a lower level. with low temperature co-efficients of electrical resistance and expansion respectively and the variety of important alloys with non-corrosive properties, for coins, boat propellers, etc."

Canada is now practically the sole producer of cobalt ore. The cobalt content of the ores mined in the Temiskaming district exceed 2,000,000 pounds per year. The market for this at present depends altogether on its very limited use as a blue coloring substance. Hence there is a large accumulation, of cobalt oxide at the melters and at Cobalt camp. Under present industrial conditions the smelters refuse to pay for the cobait and nickel content, consequently the miner receives nothing for this valuable constitutent of the ore. Yet cobalt resembles nickel in almost all its properties and it is considered that it could be substituted for that metal in steel alloys. As cobalt is almost essentially a Canadian product very little investigation has ever been conducted along this line.



Rule 1. Don't lie-it wastes my time and yours. I'm sure to catch you in the end and that's 'he wrong end.

Rulen2. Watch your work, not the



The driving of buffalo is a science with which the modern cowboy or plainsman is unacquainted, according to Mr. Albert Tate, an old-timeer o Edmonton. To make plain the methods adopted of buffalo hunting in the old days. Mr. Tate told the story of a great round up which occurred near ly half a century ago.

It was in the winter of 1867-68, that the great drive took place. Th. country was in the possession of the Indians and buffalo. That winter the buffalo had been reported as decidedly uneasy in their movements, with a strong tendency for more southern 1 astures. So it was decided to organize a large hunting party to lay up a stor. of meat and provision before the buffalo moved into the prairies beyond the Battle and Red Deer rivers The white men and half breeds con ceded to the request of the Indians who had inferior horses and guns, to build a "pound" and drive the buffalo in, and each share up alike.

A pound was accordingly built in a natural hollow or valley, with the walls of young poplar and willo brush, tepee poles and buffao rugs in a circle or the higher edge, so that tubes, gun steel, cranks and crank the buffalo, when driven in, would be shafts, boiler plates, tires, connecting at a disadvantage, should they attemp

> The entrance was placed in the wal' facing the north. A rough line of fence was run for about half a mil or more from each side of the ga e way, gradually widening out to the east and west respectively.

> These lines were continued by living posts, boys on ponies, with Tate in charge of this squad, and the lines still extending, were made up of youn men on good ponies until at last the "wings" were made up of fully armed hunters on fast horses ready to give chase and kill should the buffa'o break through the lines.

One or two envied hunters rode out amid the good wishes of all in the camp "to bring the herd home." Having located the herd, they tool their bearings, along their proposed route towards the wings of the pound. Slowly, very slowly at first, the buf falo were "induced" to go southwa ds. the drivers keeping up a system of signals with their friends, red and white, nearer the pound, and taking care not to stampede the animals too soon.

At last, after long waiting, came the signal: "They have started," and soon came another message: "They have formed in line; the leaders are off." These signals reached the anx.ous camp hours and hours before any untoward movement could be noted.

Discreetly, the living wings closed up the rear, out of sight from the now running herd, until at last even the small boys were in the rear of the frantic drove. There was on'y the clock. A bing day's work makes a long day short, and a day's short work makes my face long. There was on'y the open space in front with a solid living wall behind in the distance, and finally the buffalo were in the hollow super space at their little farm were in the hollow, sur-Rule 3: Give me more than I ex rounded by walls and the gateway closed. Then came the slaughter, the boys and men shooting right and left into the struggling mass until not one animal young or old remained alive. J. R. Booth, of Ottawa. Among the friends of Booth there is a question The scene of this great hunt, probwhether he made his fortune in lumably the last one of its kind, was near the site of the present town of Hard ber or in railroading, but it is the general belief that his estate is about isty, Aiberta. equally indebted to these two sources



THE JAEVIS MECO

His Feet Could Not Keep Still When he Heard "Bonnie Doon" Played

While groups of five o'clock tea parties were refreshing themselves in Old for the New World. Her pub ic Montreal cafe, and the orchestra was playing softly, a tail, muscu.ar man, who had been sitting quietly t ':ing tea alone, leaped from his seat. and with wild gestures began leaping about the room to the imminent dah ger of the tables.

"He's crazy!" cried the startled cu tomers to each other, as they gaze. at the man. Women became Lyste. cal, and men started for the telephone to call the police.

The orchestra, which had been playing "The Banks of Bonnie Doon," stopped suddenly. No sooner had they ceased playing than the man concluded his weird dance and sank into his chair breathless but contented, and those nearest to him heard him whisper to himself: "Aye, but that was gr-r-and, mon!"

Strange Old Character

Donald, of Inverness, was again in tract-was closed; and to provide amuse the limelight. Twenty years ago ment and social intercourse for the Jock" was turnkey in the Inverness girls during their free hours. This jail, and one of the most talked of men in the North of Sc.tland.

Left alone in charge of a party of Norwegian smugglers he single-handed the result of Mrs. Radford's efforts, overcame them when they attempted and part of its activity consists in to escape.

It was not all smooth sailing for Jock." His coy Highland lassie was fickle and Jock was jilted. So he came to Canada and plunged into the woods, building himself a "bachelor's palace" on the outskirts of the little village of Tacheville, on the Kaministiquia river. For two decades "Jock" was the "eccentric" of the Fort William country. Working at odd jobsnow in a logging camp, now fishing, now acting as guide to hunting parties in the "north country," Jock made his living in seclusion and quiet.

Wanted to See Home

Then the fever for a change came upon him and he resolved to make for his old home. Then came a letter from his aged mother stating that she was on her way to Canada and wanted him to meet her in Montreal.

Never since he left home had this lonely wanderer heard the strains of instrumental music, and when the old he came to Canada many years ago familiar air of "Bonnie Doon" fell up- he had considerable money, which,



Booth was born in Ottawa, Canada,

before his death, which occurred when

the present head of the family was a

This enforced independence bought

His first big stroke in the world

Canada Atlantic railroad, an in-

different sort of institution, with few

visible assets and fewer prospects.

Booth set about his task with the con-

fidence and determination that have

been his chief characteristics. The

road extended from Montreal to Parry

Sound, and covered a distance of about

Booth had no associates in this ceal.

Out of his lumber earnings, which had

been reasonably large up to that time.

considering the day and age, he at-

tacked railroading on his own re-

sponsibility. Analyzing the situation

with his peculiarly analytical mind,

he put the railroad's stock in a vault

in the Ottawa banks. He was peer-

ing into the future when the Grand

Trunk railroad, then a struggling or-

ganization, would be compelled to buy

him out. He kept the railroad stock

in the bank, unpledged, for five years.

when the Grand Trunk first made

overtures for their purchase at a price

No one knows how much Booth

made on this deal, but it is believed

that the amount gave him his long

waited for boost toward great wealth.

Egg Membrane for Skin

a good substitute for human skin for

a child which had previously been

burned, and in breaking a raw egg

which he desired the child to swallow.

dropped part of the membrane by ac-

the wound. Later on it was discover-

our membrane over the burn caused cells to sugment in number and gradu-

ally to extend over the wound until

at the end of some weeks, the surface

For a long time doctors looked for

constrated by taking the membrane

Booth had paid for them.

of revenue.

450 miles.

SCOTCH GIRLS' FRIEND

ford Undertook Big Task at Advanced Age

Mrs. Jane Radford, founder and principal of the Women's Canadian Employment Bureau of Montreal, has big ideas for encouraging the best type of Scotch immigrant girls to ome to Canada.

Mrs. Radford- is considerably over the alotted span of years, and a very interesting story she had to tell of life commenced by her appointment to the Selecting Committee of an agency which was bringing girls out to Canada by the hundred. Her experience in this capacity gave her an ides of the great injustice done by the system under which these girls were sent out. Promises were made that never could be realized, with the result that disappointment and despain invariably made miserable the exist ence of girls who left the Old Count y full of high hopes and ambitions Realizing all this, Mrs. Radford, although seventy-four years of ago. went to Canada and asked to be permitted to put her scheme into operation. That was to tell the truth with regard to the wages domestic servants would receive; to give opportunities to girls to select whom they should work for and see that the particular work of a domestic servant was The one-time famous "Jock" Mac- made clear to her before any conwas rather a big undertaking for a woman; but the Women's Canadian Employment Bureau was organized as bringing the girls into touch with produced. ministers of their own denomination, whether Protestant or Roman Catholic; and giving them the advantage of

a home at a very low rate for at least twenty-four hours after their arrival -a rest being desirable after the faigue of their passage. To perform all these obligations, Mrs. Radford arranged a system of work which does her credit.



Member of Noble German Family Died in Straightened Circumstances

There died at the Aged Women's Home in Toronto, Baroness von Heimrod, widow of the late Baron Ernest von Heimrod, who lived on a little farm at Humber Bay. Her husband died about two years ago. The Baron von Heimrod came from a distinguiched noble Prussian family and when on his ears he was beside himself with however, he lost in unfortunate speculations. The old couple for many



About Ten Thousand New and Useful **Ideas** Protected Each Year

in Ganada

When the Canadian patent office was established in 1874 it was a rather small affair; and at first the annual at each exposure, that wheel will seem registrations were few in number. to stand still in the picture. If the But it has grown till now there are registered about 10,000 new patents in the successive views, and the wheel a year.

By the terms of the Canadian patent law such inventions as are "new] and useful" only can be patented.

Not long ago an Italian inventor took out a patent for transmitting pictures by telegraph. From the original picture a photograph is taken, using in one-sixteenth of a second, the a lens of high magnifying power and wheel would be in the same position passing the reflected rays through a at each successive exposure, and se square aperture and through a netting. The magnification is such that the black dots on the original picture are so enlarged as to be individually examined and the shape determined with the naked eye. The dots are then translated in order into a code previously agreed upon, and telegraphed to the receiving station, There they are retranslated into dots and positions. By photographing with this rule is the hat, and a distinguisha condensing lens of suitable size the ed medical authority decla: es that

An eggshell remover, some day, might be a handy feature of the breakfast table. A holder grips tightly one end of the egg. a perforation in the egg is made, and by forcing in air the contents are ejected.

Lots of Variety

Twenty years ago an arm rest for typists was patented, but it does not seem to have received the respect which was its due. A frame has suspended from it two bands of elastic material terminating in loops. The arms are passed through the loops

and are supported by them, and in this way do not tire. A "new and improved" billiard table offers opportunities of comparison to the expert. It has an octagonal surface, instead of the rectangular one in use since the game began. A unique instrument is the "auto-

matic violin." a patent for which was ent. taken out. It is complicated, but the designs shows great ingenuity. Essentially it consists of a glass disk revolving at a regulated speed mechanically brought in contact with it to fall out, and for the elimination the different strings of the instrument. of these germs the best remedy and The tone may be varied at will by safeguard is rigid cleanliness. altering the speed of the revolving disk or by changing the lengths of the strings. A fowl cacher is another invention. It consists simply of a pair of jaws at the end of a long handle. By a lever controlled by the hand the jaws

FREAKS OF THE FILM

Every one must have noticed that in moving pictures the wheels of carriages or automobiles often seem to be turning backward instead of forward. An authority says:-In taking a moving picture there are, perhapa, sixteen exposures made each second If now the spokes of the wheel of a carriage move with a speed so that the spokes are in the same position wheel is moving slower, then the spokes will seem further back ard will seem to turn backward, while it will be seen to turn forward when the spokes move fast enough to occupy positions further forward in each exposure. It is a matter of the interruption for the exposure and the motion of the wheel. If there are sixteen exposures and the wheel turns through the space between two spokes would not seem to move at all.

BALD HEADS AND HATS

Men's Tight Fitting Headgear Cause Shining Pate to Appear

Fashion governs women with or without their consent, but it governs. men only when they consent to be governed. A notable exception to baidness is due to the hats men wear. original picture is almost exactly re Until the stiff hat is banished men may be expected to suffer from baldness. Those who wish to escape this. fate should never wear any hats that firmly clamp the head and so shut off. the circulation. Hats should be light and easy fitting. If the styles do not permit of an easy fit, men must take their choice between the styles and their hair.

The hat causes baldness by shutting off the circulation of blood that nourishes the roots of the hair. Contrary to general belief, the circulation that reaches the hair does not come from the inside of the head. The veins lie very near the surface, and when a hat is placed tightly on the head it pinches these minute veins se that they can convey only a small part of the blood with which they are, charged to the scalp. When the hat is removed the circulation is mproved immediately, but when it is worn for several hours each day for years its effect begins to be perman-

Though tight hats are the chief cause of baldness, they are not the sole cause. There is a family of germs that attacks the hair and causes

pect and I'll pay you more than you expect. I can afford to increase your pay if you increase my profits.

Rule 4. You owe so much to your self that you can't afford to owe any. body else. Keep out of debt.

Rule 5. Dishonesty is never an ac cident. Good men, like good women can't see temptation when they meet

Rule 6. Mind your own business and in time you'll' have a business of your own to mind.

Rule 7. Don't do anything here Sailor Assists Engineman Repair which hurts your self-respect. The employee who is willing to steal for me is capable of stealing from me.

Rule 8. It's none of my business what you do at night, but if dissipation affects what you do next day, and you do half as much as I demand, you'll last half as long as you hoped.

Rule 9. Don't tell me what I'd like to hear, but what I ought to hear. I don't want a valet to my vanity, but I need one for my dollars.

Rule 10. Don't kick if I kick; if you're worth while correcting, you're worth while keeping. I don't waste time cutting spots out of rotten apples.-Retail Lumberman.

RIEL VETERAN DEAD

nas Orthwaite, Recluse of Head ingly, Dies Suddenly

After living the life of a recluse in a one-roomed shack in the village of Headingly, Manitoba, for over 30 years, Thomas Orthwaite, an old Yorkshireman, dropped dead while feeding his stock. Orthwaite, who was 73 years of age, owned a small garden by which he made a modest living, and it was while he was concluding the work of the day that he was seized with heart failure. He was seen to fall by a Galician woman, who called the attention of some neighbors to the fact. The deceased was a veteran of the Riel rebellion, and received a medal for his services in that campaign.

English Grocers and Tobacco

Grocers in England no longer sell bacco, but for many years after the "sovereigne herbe" reached England. theirs were the only shops were it could be obtained. Tes came in under the commonwealth, and from that time the list of commodities sold by the grocers began to extend considerably. was the first half of the seven-Seenth century," writes Mr. Aubrey Rees, "when new lands were opening up on all hands, that adventurers set out in quest of spices and other valuable products to all parts of the then State of New Jersey. known globe. The spirit of adventure and enterprise was abroad, and in no slass of traders was it more pronounthan' among the grocers. 'More blood has been spilt over aloves than wer dynasties,' says Thoroid Rogers.'

A noticies gun for killing horses or her animals at short range has been ated in Bagiand.

Power for a new fire proof m

A NIOBE "HANDYMAN"

Broken Crank Shaft

boy of 15 years, he lost all of his It's common knowledge what a hanmoney and thus compelled his son dy man the British Jack tar is when to depend upon himself. occasion demands. One of the crew of H. M. C. S. Niobe, however, during a train trip between Ottwa and Monand worked, worked and saved, and treal, assumed an entirely new role at a comparatively early age built up as handyman in time of need.

a huge lumber business from a tiny The driving crank of the engine sawmill on the Ottawa River. He did broke down. The engineer, who was not capitalize but paid hard cash for evidently something of a mechanic, all that he bought. too, worked hard but unavailingly to repair it. of finance was when he bought the

As is usual in such cases there were no lack of suggestions submit ted to the engineer as to how to go about his work. Amongst the train's passengers was the sailor from the Niobe. He watched the engineer with the rest of the passengers for some time then politely asked if he could lend a hand, explaining that he held the tank of ship's mechanic on the Niche, which was corroborated by the decorations on his coat sleeve. The engineer said he would appreciate ary help that would get the engine running again and the sailor mechani rolled up his sleeves, got down to work, and very soon the train wat

ONTARIO'S VASTNESS

speeding on its way.

Few peop's realize what a treme dous provin e Ontario is. It extend for nearly twelve hundred miles fro east to west and over a thousand mile from south to north. The ner her most point of Ontario is as far nort of Toronto as New Orleans is south Ontario is over three times the ar : of Great Britain and Ireland, is almos exactly twice as large as France. and is almost twice as large as the Empire of Germany. Inside of the territory of Outario could be got all six of the New England states Maine, New Hampshire, Vermont, Massachusetts Rhode Island and Connecticut, the empire state of New York, the great states of Pennsylvania, Michingan, Il lineis and North and South Dakota and yet room would be left for the

Oldest City in World

The great archicelogical authority Str William Ramony, considers the oldest city in the world to be the city of loonium, or Konis, in Asia Minor. The traditions of the place go back even beyond the flood to the time of King Nannahos, who was told by the oracle that when he died there should ornele that when he died there should was completely covered with the new "Is she tr come a mighty delage in which all was completely covered with the new "Well, she men should period. "Is she true true the stimution of physicians, and it, in the attention of physicians, and it, in

at Humber Bay.

His First Big Financial Stroke Was **CROWDED STREETS** Purchase of Doubtful Railway Canada's premier lumberman is

Tremendous Traffic on Thorouhfares

of Old World Cities The City of London streets near the Mansion House have the heaviest foot passenger traffic of any in the world-500,000 persons a week day; while the Place de Opera in Paris has the heaviest vehicular traffic-63.000 ve-

in 1841. His father was possessed of hicles a day, as compared with 50,000 more than the average means, but a day at the Mansion House corner. The Place de Opera has 450,000 foot passengers a week day. After these two streets come the

Friedrichstrasse in Berlin, with an average of 300,000 foot passengers a day; the Graben, Vienna, with an out all there was in him. He saved average of 275,000, and the Vladimorski, Prospekt, in St. Petersburg, with an average of 300,000 daily.

Centuries in Building

The four centuries between the Panama Canal's first conception and its completion are by no means a record in the annals of canal construction. The completion in 1893 of the canal across the Isthmus of Corinth was the finish of a scheme for which the first survey was made in the year 600 B.C., when Periander employed Egyptian engineers to carry out the work. Nero actually commenced work along the site of the present canal, but at his death it was abandoned, and the project was not revived until 1882, and this though the total length of the canal is under four

Minimized Ice Danger

miles.

On the steamship Royal Edward, from Bristol, was Dr. Meyer Coplans. bacteriologist of public health in the University of Leeds, Eng. Dr. Coplans made the voyage for the purpose of testing an apparatus he has invented as an aid to navigators in fog and haze and for detecting the presence of icebergs. His instrument nosed" the presence of icetergs three miles and a half away and sounded many hundred times in excess of what an alarm on three occasions in the vicinity of ice.

Painting Metal

According to exhaustive tests by two German scientists one coat of paint or varnish protects iron from corrosion better than two or more oats.

Substitute for Radium

grafting. The possibility was lately Carnotie, a mineral found in Colorado, has been found sufficiently that lines the shell of a newly laid radio-active to produce shadow photo egg. plastering it over a burn, and graphs resembling those made by Xmaking it grow as human skin. The discoverer of this process was treating TRYS.

Alcohol From New Source

A process for making ethyl alcohol from the waste liquor from sulphite paper mills has been patented in cident upon the burn and bandaged several countries by its Swedish inventor. od that the accidental placing of the

Very Taking

"My wife has that awful disease kleptomania." "Is she trying to cure it?" "Well, she is taking something all

can be quickly and tightly closed, securing the feathers of the unsuspecting bird; its capture then is easy. A "rocking chair fan" is another invention which should be a means of comfort in the hot sesson.

And there are other curious inventions, among them a card shuffling de expenditure of \$500,000 available for vice, also one for dealing cards; a schools, hospitals and civic improvebow facing oar, an instrument for in- ments. As a matter of fact the exdicating grades, which is very simple penditure per head on intoxicating and quite practical; a paper hanging liquors in the Dominion was larger machine, a nose protector for winter than \$10 per head, the total expenwear, and coin counting and milking diture being annually \$81,000,000, machines without number.

cesses there is one for working up he was of opinion that in proportion, waste cheese curds into a marketable to the population there was no place product. The curds are first heated, in Canada where there was so much then thoroughly mixed with water un. liquor drunk as in Edmonton. til a thick gruel is formed. By press ing in a mould the water and enclosed air are expelled and the residue be comes solidified. It is then dried at a low temperature and treated with formaldehyde in order to kill the ferments present, such as the lactic acid ferment. After this it may be pressed or moulded into any required form and used for backing brushes, insulating electric wires or other such purposes. Patent Office Rules

The full fee for an 18-year patent is \$60, but an inventor can secure one for twelve or even six years by paying a pro rata rate.

Applications for patents are refused if the article has been in use or on to be 12 pounds in weight, 301/2 inches sale for more than a year previous to in length and 18 inches in givth. On the application at the Patent Office: or if a patent for it has existed in a foreign country for more than a year; or if it had been previously known to, or made by, any person other than the alleged inventor.

Patents for medical compounds are as a rule, refused. The preparation of such compounds does not involve invention. It merely involves the mixing of ingredients.

Sometimes a person working on an invention fears that somebody may despoil him of his idea before it is perfected. In that case he may file a caveat at the Patent Office, which protects him till the invention is ready to be patented. Patents are open to public inspection, but "caveats" are kept dark secrets.

By the terms of the patent law, an article patented must be put on the market within two years or the pa-tent rights will be forfeited.

Canada ne Infant

Scientists estimate the age of the earth variously from 20,000,000 years whom the building was dedicated, has to 800,000,000 years. The Hon. Mr. Strutt, an eminent geologist, has assigned a minimum age of 711,000,000 and stating that it was erected by years for some Archaesa rocks from friends in Gueiph, Canada.

Night Court Proposed It was proposed to establish a night

court in Montreal so that prisoners court and have their cases dispand of any sort in that country. The in-of. In cases where they would be novation was brought about by an acquitted they would avoid spanding electrical promotor from Hyderabed. a night in the cells.

A HEAVY DRINK BILL

Lawyer Says Edmonton Consumes More Than its Share of Liquor

Calculating the expenditure on liquors at \$10 per head for every person in the Dominion, Alex. Stuart, K.C., in an address at Edmonton, said that in a town of the population of Edmonton it meant that if drink were abolished there would be an annual whereas the population was only some-Among the patents for chemical pro- thing over seven millions. Further,

FINE FISH IN NORTH

Monster Salmon Trout Weighing Twelve Pounds Won Big Prize

The first grand prize for salmon trout in the \$2,000 fishing contest, organized by "Field & Stream," a New York publication was awarded to Mr. George W. Collier of Bordentown, N.Y., for a fish caught at Lake of Two Rivers in Algonquin National Park. After a terrific battle lasting nearly an hour Mr. Collier succeeding in landing his salmon trout which proved one afternoon during the same trip Mr. Collier and two Priends caught 11 trout that weighed together 35 pounds.

No Menace to Shipping

The Department of Marine and Fisheries did not find it necessary to take any action toward breaking up the steamer Helvetia, which sank in the Gulf of St. Lawrence. off Gaspa as the result of her collision with the Empress of Britain. The depth of water in which she lies prevents her from being a menace to shipping. The depth is 180 feet, and since 50 feet is sufficient depth for a waterway the wreck is thus far from the reach of the deepest draught vessel.

Built by Guelphites

The Anderson Memorial building in connection with the Claire Leper Anylum at Clandkuri, India, of which the superintendent is W. H. P. Anderson, a son of the deceased Guelphite for an inscription stone built into the wall bearing the name of the building.

Electricity in Arabia

A modern electric plant has been installed in the palace of the Sultan at Oman, Arabia. This is the first. the instance of the operation of electricity mad of any sort in that country. The in-