Bottling of Radium Rays Is Great Discovery in Medical Science

Sir Frederick Treves' Announcement -- Expense Is No Longer Prohibitive--- Emanations Are as Useful as Radium Itself---London Institute's Triumph.

A discovery of far-reaching impor- | would represent £17,200 worth tance to medical science was announced at the Radium Institute, London, One

by Sir Frederick Treves.

Briefly, the experts working at the institute have succeeded in "bottling" radium emanations in such a way that cost, using them in exactly the same way, with the same results, as the of their precious substance exclusively radium itself.

Further, a way has been found of and remarkable cures have been effected by its means.

In order that the work of the Institute may be extended, Lord Iveagh and Sir Ernest Cassel, through whose generosity it was built and equipped, have purchased the whole of one side

Emanations Caught, Stored, and Mixed With Water.

of the street in which it stands.

"A complete revolution in the future of radium." In these words Sir matism, and gout. Frederick Treves, the distinguished surgeon, announced the momentous discovery to a small party of journalists at the Radium Institute in Riding-

"There comes of the radium a gas called the emanation, which has ex- got marked benefit. actly the properties of pure radium, I-venture to claim for the scientific members of this institute the credit of having demonstrated that. We have proved now-the discovery was made some months ago, but nothing was said about it-that for curative purposes the emanation of radium is as efficient as the radium itself.

"Radium gives off these emanations constantly. The amount of emanation depends on the amount of radium that is used. The emanation never weakens the radio-activity of the piece radium from which it exudes. It is like the burning bush of Moses-inex-

Mr. A. E. Hayward Pinch, the medical superintendent of the institute here volunteered the information that, according to most reliable authorities, an atom of radium would only shed one-half of its radio-activity in something between 2,000 and 2.500 years so that it would be a good many generations ahead before there need he any worry about the degeneracy of the radium actually possessed by

Captured and Stored. But more marvellous than the discovery that radium emits gases of ficiency are the remarkable inventions made by the institute staff to capture and confine the emanations in tubes

plates, and bottles. Sir Frederick Treves showed the company some flat plates, about as large as two postage stamps, in which 50 or 80 milligrammes has been sealed. These can be sent out to country doc-

tors who want to treat patients.

The emanation loses its radio-activity very rapidly, declining to onehalf of its original strength in three and a half days, Still, the doctor in Edinburgh who wants to apply the equivalent of 50 milligrammes of radium to a patient can have a tube sent to him overnight which will represent that strength on arrival to him the

Six Guineas for 24 Hours. Fifty milligrammes of pure radium would cost £1,000; 50 milligrammes of radium emanation, of equal curative powers to radium itself, would cost him six guineas for 24 hours' use. This is bringing radium treatment, where there is no radium, within the reach of the most modest purse. "During the last ten days," remarked Sir Frederick Treves, "the institute

has sent out thirteen pieces of appara-

One of the four grammes of radium possessed by the institute (the total value of the four is £80,000) was recently set aside exclusively for the they can be used for curative purposes in place of the radium itself.

production of radium emanations.

From the 160 milligrammes of emana-Hitherto, treatment by radium has tion are secured in plates and tubes been limited to comparatively few every day. Anticipating the calls of owing to the enormous price of the radium emanation that the announcemedium. In future the dector will be ment of this discovery will lead to; able to obtain the hottled rays at small the executive committee have now decided to devote another half gramme

to this work. Sir Frederick Treves frankly said he charging water with the emanations, could not go beyond the expression "apparent cure" which he had applied last year to the results of radium treatment on cancer, tumours, etc. though the observationns of the past year were "very hopeful."

Then he launched out on another new departure. The emanations that the institute had succeeded in capuring to send out into the country had been found to assimilate water, and the institute was now able to supply a radium emanation water that was being used experimentally, with promising results, in cases of neurasthenia, rheumatic gout, rheu-

Made up to the strength of one millimetre of emanation per litre, this water was from 4,000 to 5,000 times as strong as the water of the bestknown artificial spa, and out of every hundred cases tried, forty per cent.

Mr. Pinch related two or three instances in which patients suffering from "affections of the joints" derived benefit.

A widow who had to be led by friend as she hobbled on her crutches from the waiting-room to the consulting-room of the institute took two ourses of six weeks each of radium the institute, and said, "It's a marvel! came up by the tube this morning. have walked about Oxford-street and Regent-street, and I am going back to the tube." No crutches, no friends to upport her

case was that of a poor um water for six weeks, and she is now

Accident Meant Sure Death.

Aviation is fickle and provides al-

most every day a new here to wor-

Few are those who actually realize

slightest trouble will mean sure death,

Proofs of the danger are not miss-

that man is a hero indeed.

ship, but the man of the hour will un-

Garros Vividly Describes

His 500-Mile Sea Flight

Work of the Institute.

With regard to the two years' work of the Radium Institute, Sir Frederick Treves recalled that it originated with the late King Edward, and that the scheme had been substantially supported by Lord Iveagh annd Sir

They had four grammes of radium, valued at £20,000 per gramme, and although Vienna had as much, London institute could boast that they had the largest amount in the world

applied to curative purposes. No distinction was made between rich and poor at the institute. During the last twelve months the rich had received 3,000 treatments from the institute and the poor 4,300. . Since May, 1912, the institute had been open 8 a. m. till 12 midnight, requiring a double shift of doctors and nurses. A Reply to Critics.

press complaints had made because the institute was closed or holidays in August. Sir Frederick explained that the institute was not ike a hospital, where temporary doctors and nurses could be obtained. Here they had to be highly skilled in the use of radium, and required a again I went, my hopes revived and on my trip." very long training for the work. "As to the suggestion that our radium should be sent about the country while he institute was closed," said Sir Frederick, "do our critics know hey could not insure it? Do they know that the post office accepted a registered package of radium, and put it in the same bag with a necklace of emeralds or rubies for a long journey, the gems would come out

"We are seeing what effect radium has on brownish and yellow diamonds, and if it turns them white, it will open another line of business for us." Extending the Work.

Turning more self-supporting, and made another important announcement.

a small street—a garage, a chapel, an acknowledge that it is not the unfortuneating-house, and a tailor's-but all ate Jew Beiliss, but its prosecutors, the water. Last Friday week she visited We are proposing to appoint a research officer on the curative side at once, and we hope soon to start instructional classes for doctors in radim treatment.

Another discovery of the institute hemists is revealed in the announcement that during the year radium has girl who had lost the use of her limbs been mounted in appliances for Denhrough rheumatic gout. She could mark, the United States, and Gerneither feed herself nor move her arms many. This has been rendered possible enough to do her hair. She drank radi- by the manufacture of varnish which will stand against the enormous power

Every speck in the clouds remy hopes and at last my efwere rewarded at a time when I had been so often disappointed that my cheerful assurance was really beginning to give way to worry caused by my fast vanishing supply of gaso-line. But there could be no mistake; there, between two clouds, was the promised land. Three small specks on the horizon, but enough to show that I was not alone and that my trials were soon to end. Surely there was rison and the soldiers were of great the African coast. But no; the three specks proved to be the three tor-pedo-boats which M. Leon Barthou

Raphael. Didn't Want Government Aid.

me, after my departure from Saint-

When the suggestion was made watch my flight across the Mediter- soon compelled to abandon the atranean and to render assistance in case of trouble, I opposed it energetto make the trip alone and unassisted. But I can assure you that nothing was on seeing me alight from the skies was boats. I sighted them long before their neighboring village, where I found so near, but I lost no time in showing myself and came down long enough see the three vessels turn around

fully determined to reach land with-

sight, my supply of gasoline was s low that I would not have been able to continue my flight for ten minutes, but at that time it was the least of my thoughts. I was expected at Tunis, but was mighty happy to be able to land at Bizerta, where a magnificent reception was tendered me. I landed on the drill grounds of the garassistance to me and helped me to repair the broken part of my motor.
"Tunis, however, was awaiting me

had ordered out from Bizerta to meet and I was eager to avoid disappointing the crowd. But before leaving, the commander of the garrison insisted on offering me a light lunch and the time quickly passed. Determined to reach Tunis, I left Bizerta as soon as poshat the Government send warships to sible, but night had fallen and I was tempt. Meanwhile, however, I had flown several miles from the military grounds and this time I landed near a

ever more welcome than these three one of the most amusing sights of my warships, although from my point of life. But we soon became friends and vantage they appeared to be three toy all were glad to help me to reach the commanders had any idea that I was what I most needed-a bed. And before retiring for the night I had the supreme satisfaction of receiving a telegram sent on from Tunis, from the and follow me, full steam ahead. Up Premier of France, congratulating me

Russia Today Is A Powder Magazine; Needs Only a Spark To Explode It

[From the London Daily News and Leader.]

numanity, has nevertheless rendered a finance, delivered an outspoken condemcommittee asked the press to assure the public that the institute was now self-supporting and made another and made another. autocracy on its trial before the bar of of 1905 and calculated to cripple all the public opinion, and the autocracy has productive forces of the country. M. been unanimously condemned Even the sel have bought the whole of this side apologists of the regime now obtaining in words to reply to this unexpected attack, of the street for us," he said. "It is Russia have at last been constrained to has been purchased with a view to Russian bureaucratic and Black-Hundred the erection of additional buildings. State, who are in the dock, and that the rial is really a political trial. In the present state of Russia it could

not have been otherwise. For a number years Europe has been regaled with ports and statistics showing the marrellous progress made by Russia since the of the revolution, and public pinion has been carefully taught to regard the conditions in that vast empire as normal, settled, and progressive In reality things in Russia have moved in a totally different direction. The years of paralysis have passed long ago; the lifeorces of the country are asserting themselves with ever-increasing vigor; and no amount of exceptional legislation, of police brutality, and of Black Hundred activity can prevent the rapid approach a catastrophe such as convulsed Russia

The Threat of the Future. These are no empty phrases. The fact all the strikes in the Empire at 1,062,000. It is obvious that the barometer among Gutchkoff, the masterful leader of the equal curative power to the substance itself without destroying its own ef-Classes, who on the closing day of the ber of men and women no fewer than not yet in the market, the city tour bartonal Local Government Congress at \$55,000, that is, 75 per cent, struck work cil having postponed its intended \$50,-No better account of the trip itself ali discussion of politics, delivered a casions as the Lena Goldfields massacres, powerful speech denouncing the Government for violating all the principles laid down in the constitutional manifesto of Oct 30, 1905, and warning it, if it should doubtedly retain his fame for a long in the morning," said M. Garres, "and persist in its policy. that "the country would be shaken to its foundations," and desired. My supply of gasoline was that "the consequences would be ter- of last year, suffice to show that not sufficient to last seven and a half rible." And M. Rodzianko, the president everything is in order even in this quarof the Duma, on being asked what he ter. But there is a still more recent and thought of M. Gutchkoff's utterance, re- very eloquent fact which is now for the

plied: "I agree." These men, Opportunists as they are (or just because they are Opportunists), know what they are speaking about Even the Novoe Vremya feels the gatherat ease." The nation, it says, "is seized with a feeling of dissatisfaction at the course of Russian political life," and the admiral ordered the fleet immediately is passing through a mood which vividly to leave the too hospitable waters! eminds one of that which pravailed in 1904 and 1905. The revolutionary elements the analysis? Is it necessary to mention are once more gaining the upper hand, and, though "a revolution may be distant, t would be idle to shut one's eyes to the langers of the road on which we are ravelling." The reactionary sheet writes this in order to call for more repression, | quiet at present is the peasantry. The but the diagnosis is valuable all the same.

The Army of Revolt. In fact, take any class of Russian ociety, and observe its sentiments. What peasants on the "hire system." commercial and industrial classes notor was suddenly interrupted by a feel is clear enough from M. Gutchkoff's utterance. But M. Gutchkoff is snapped. In order to ascertain the ex- with a view to tactical advantages, and a terrible Jacquerie. But before him another man spoke, and land, and Corsica, the nearest spot his words were clothed with still greater

Take the other end of the social scalethe working class, the militant army of the first revolution. Stunned by heavy blows of the counter-revolution, it lay low for a number of years In 1905, the year of the revolution, the number of strikes amounted to nearly 14,000, and the number of persons involved to 2,-863,000. In the five following years the number of strikes gradually fell to 222, and the number of persons involved to 47,000. Seeing that in Russia every strike is a revolt against the police authorities, and to that extent a political act, the dcwn-grade movement of these figures is significant. But already in 1911 the number of strikes rose to 464, with 105,000 persons involved, and in 1912, according to the official report, which only takes cognizance of factories and workshops subject to inspection, the number of strikes was 1,918, with 683,000 person. diractly involved. The Moscow Association of Manufacturers, however, has compiled a general report of its own, and puts the number of persons involved in the working class is rapidly rising to the First of May, and so forth.

What about the army and the navy?

Is it necessary to proceed further with the academic youth which has just now in many educational centres proclaimed a twenty-four or ferty-eight hours' strike as a protest against the Beiliss trial? The only class in Russia which is tolerable Government is busily engaged in buying up the lands of the "old nobility" at exorbitant prices and selling them to the The peasants take the lands and till them. But the time will come when they will have to pay for them, and then there politician, and politicians often speak will be compulsory sales and evictions,

Such is the present state of Russia—a veritable powder magazine, only wanting

The "Ritual murder" trial, horrible great Nizhni-Novgorod fair, who to M. and insulting as it is to our common Kokovtseff, premier and minister of Kckovtseff could not even find suitable

Disaffected Fleet.

The naval mutinies at Sevastopol and Kronstadt, as well as the formidable military mutiny at Tashkent in the summer first time going to be mentioned in the public press. During the recent visit of the Russian fleet at Portsmouth under Vice-Admiral Russin, two hundred sailors from the biggest ships deserted; and crews, amounting to many thousands, tried to exploit the English and experiments with the introduction would have forsaken the ships had not

a spark to explode. The Famous St. Bernard Hospice

The St. Bernard Dogs.

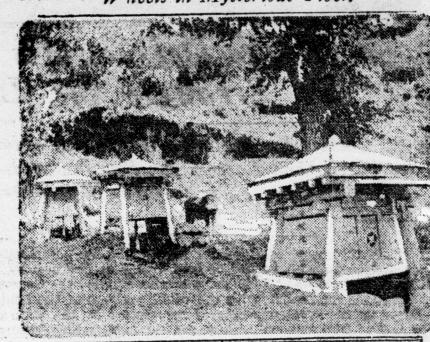
An English tourist has just been rescued from an awkward predicament by the dogs of the Great St. furthest rest-house before starting the last arduous walk up to the Hosover the mountain pass road, which is then entirely obliterated by snow.



beginning to worry me. Should I stop 22,000 Guests in One Summer- | A servant and a dog, or dogs, are sent out to bring the storm-stressed traveller to the summit and the friendly shelter offered by the monks. A recent visitor found twenty St. Bernard dogs in residence. One of them, a giant, appears to be told off on sentry duty in the large entrance hall, or to Bernard Hospice. At the little chalet, act as maitre d'hotel, welcoming the the Cantine de Proz, which is the guests as they arrive from his vantage point on the top of the steps which lead into the guest-house. Their kennels were excessively ho pice, it is possible to telephone in and stuffy and on being let loose one most decided to listen to reason and winter to the Hospice for assistance morning the whole troop of dogs rushed like a flash to a pond of ice old water at the back of the main building. Two pups wandered afar on the mountainside; but did the laybrother, the "valet des chiens," go af ter them? No, he sent two older dogs to bring them back, and back they came with no thought of disobedi-

The Hospice is large-beyond all expectation. Eight hundred visitors can be accommodated at one time, and no charge is made, though the custom (which many well-to-do people are so mean as to disregard) is to place in the poor-box of the adjoining chapel the equivalent of a night's board and lodging at an hotel. A normal summer brings some 28,000 guests, about 17,000 of whom pay nothing, and the rest of whom are guilty of reckoning the cost of night's lodging at no more than few pence on the average. No hotel proprietor could be more obliging than the monks. The bedrooms are spacious; the beds beautifully warmthe only warm thing when 8,000 feet above sea level, even in summer. The

Quaint Customs of the World's Queer People Prayer Without Ceasing and by Means of Water Wheels in Mysterious Tibet.



Praying Waterwheels in Tibet.

The folks who live in the mysterious ing orthodox prayers are affixed to the country of Tibet, in Central Asia, are wheels, and at once they are revolved the most prayerful people in the world, again and again by the grateful wor-They pray, and pray without ceasing, shipers.

thing movable and immovable to help Dalai-Lama. Second, the Draba, an in their devotions. The wind waves unordained priest, who still lives in their prayer flags in the air and the hope of going to Llassa. And, third, streams, revolve, their cumbersome the Amcho, a private lama who has prayer wheels such as those shown in neither desire nor opportunity of ever he illustration.

are chiseled with prayers.

itual Tibetan will get through four astounding stunt. The pilgrim lies flat hundred words a minute, but at : While thus prostrate he makes a mark push he can do much more.

You retire at night, you rise early in In the ordinary Tibetan village the the morning, but long after you are Buddhist priestly population may be

asleep and long before the sun has divided into three classes. First, the risen the voice of prayer has filled the lama (or, ordained priest), who has made the long journey to Llassa and They pray everywhere, utilize every- there received ordination from the seeing the sacred city.

Entrances to villages are strewn The lama is a respectable member with countless paper prayers. Stream- of society, well housed and fed and ers of prayers are hung from tree to clad generally. He spends his time tree and from house to house. Bridges almost wholly in the temple, acceptare pasted with them. Rocks and cliffs ing spiritual engagements only from

Praying at leisure, the ordinary spir- A pilgrimage to Llassa is on the ground with his hand. He then In his praying wheels, with the aid rises, takes three steps to this mark of a fairly rapid stream he will acomplish in a very short time with the does every step of the way between would perhaps be a burgen to him his home and Llassa, taking years to

Another Cancer Cure Found

Virtues Claimed for Monacite | the merits of the treatment are as Sand—Held Safer Than Radium.

In view of the promising results attained in the treatment of cancer, more than a dozen German cities have voted money for the purchase of radium and its sister product, meso-

The appropriations range as high as \$60,000 at Leipsig and \$58,000 at Ber-drum and diseases of the labyrinth, lin. Munich is the only large city ailments which have hitherto defled not yet in the market, the city coun- medical treatment, and in a number of 000 appropriation on the ground that a small quantity of mesotherium speculators had raised the price of five milligrams-is required, it is not radium artificially and exorbitantly.

The total amount voted throughout the empire is about \$600,000, more than half the value of the world's

total supply of radium at present. Opens Field For Swindlers.

Public interest in these substances has created a rare opportunity for position of lecithin, one of the fatty swindlers and radium promoters are already in the field. The German that under the influence French markets with a pretended radium company and who is now fects of radioactive treatment. flooding Germany with circulars advising investment in the stock of a enormous profits.

in every important German city, but cures were effected.

usual overshadowed by extravagant

Among the really scientific develop ments reported is the application of radium and mesothorium to diseases of the ear. This is the subject of an article by Dr. Hugel in the Munich Medical Weekly.

Dr. Hugel's experiments have extended over only six months, but he has treated ossification of the earcases noted a marked The treatment is painless, and as only

expensive New Way To Treat Cancer. In the same publication Professor Werner of the Samariter House at Heidelberg reports on an alternative treatment of cancer by a combination of chemical and-radio-active treat ment. He uses as the chemical element cholin, a product of the decom-

substances found in the body. It was observed about a year ago financial papers recently warned the rays the lecithin of the body tended admitting that "our society is at present one of these men that the whole of the public against an adventurer who had to change into cholin. This led to cholin into the body, thereby imitating in a chemical way one of the ef-

Professor Werner has treated sev eral hundred cases and reports decided improvement in a considerable similar concern. He has obtained lists percentage. In some instances the of possible investors and promises complete disappearance of the growth under treatment was noted, though Radium institutes are springing up only time can tell whether actual

Hotel Built Just for Children



Exterior and Interior Views of Children's Hotel.

How would you like to stop at a hotel Of course the maid or parents go with which had been built just for children? the children and stay there, too. This picture shows one of that kind But everything is fitted up with first over in England.

You see, many hotelkeepers do not like nurseries and outdoor play courts at this to take children because they make a hotel. noise and scamper around the halls. So a very thoughtful manager, who vided. de ided that little folks must travel and The

thought for the youngsters. There are big playgrounds and reading-rooms and All kinds of toys and games are pro

The children have the privilege of

cluded wine. Any person may put up ling, or when spending a week or two at the Hospice for not more than a at the seaside, built this hotel just on and shows that the man who started purpose for children. riding or driving, cycling, etc.

The hotel has proved very popular

if the actual substance were used, air pilot, was lost in the same manner This Dog Earns \$1,000 a Week on the Stage

the form of radium emanation, which, found, and Cecil Grace, the English

ranean.



"Jasper." whose other name is Taylor, has accepted the flattering offer of Pat Casey to appear in vaudeville.

Here he is signing a three years' con-Pretty good for a mere dog, isn't it? In his short life, for Jasper is still able time he was being given, went

"vacationitis," Jasper sent in his card to the great inventor, asking leave to try his powers in relieving the malady. Edison, though an awfully busy man, received the four-legged caller.

Jasper, apparently realizing the valu-

a frisky young fellow, he has appeared through his various "stunts" quickly before many prominent people in the But before he had finished the "wizard" before many prominent people in the But before he had finished the "wizard" United States, including President Wil-was "sitting up and taking notice." son, Vanderbilt, and the "wizard," Jasper, who, by the way is an English Thomas A. Edison.

Ouite recently, when Mr. Edison anhis winter's job of keeping the wolf from
nounced himself to be suffered from the door at \$1,000 per week.

Crossed Mediterranean When the one accomplished by Garros Gasoline For Seven and a Half Hours. and of its dangers could be printed than that given by the aviator himself on his return to Paris. "I feft Saint-Raphael at 5:50 o'clock

time to come, for he is Roland Garros, the weather was as fine as could be the man who flew across the Mediter- desired. My supply of gasoline was hours and my plan was to make the what such a trip means: 500 miles over flight in a straight line across the Medthe ocean, with nothing but the sky iterranean, covering the 500 miles in and the sea in sight. Flights are be- six and a half hours. This would take ing made daily over perflous house- me over the Island of Sardinia but I ops and dangerous mountain peaks, was extremely anxious to avoid the out the aviator is practically always necessity of landing there. To certain of finding a landing place wrist I had strapped a watch which I should something go wrong. But the had set at 12 o'clock at the time of man who wilfully and cheerfully leaves my departure; I had decided beforeterra firma to fly for hours across a hand that if the hands of this watch broad expanse of water, knowing that had passed half-past four on my ar-

there will be no chance to alight before rival over the town of Cagliari, Sardinia. ne reaches the other side and that the I would land and abandon the flight. "Fifteen minutes after the start sighted the Island of Corsica and this was my last glimpse of land for more ing. Lieut, Bague, of the French army, than five hours. After that I settled the last one to attempt the trans-Med- myself as comfortably as possible in iterranean flight, was never heard my narrow seat and steering straight from, no trace even of the wreckage ahead, went on, on through the untus, representing 860 milligrammes, in of his aeroplane having ever been known, between the sky and the water with not even a ship in sight. I had been flying for about an hour and a half when the monotonous roar of my sound which could not be mistaken; one of the parts of the motor had ent of the damage I would have to where a landing could be made, was authority. This was M. Salaskin, presi-only about forty miles to my left. The only about forty miles to my left. The temptation was great and hard to resist. But my motor was still running smoothly and rather than abandon my attempt I determined to take a chance

and continue my flight. "Meanwhile another question was at Cagliari, thus accomplishing practically nothing, or go ahead and do what I set out to achieve? The short moments during which my plans were uncertain were unquestionably the most trying of the entire flight. But a few minutes later the gray mountains in the background of Cagliari hove in sight and a glance at the watch on my wrist gave me another good reason to stop, for it showed that I had been flying five hours instead of four and a half. I thought it all over carefully in a few seconds and had alland; but just one more glance at the depressing sight of the gray mountains below and all good reasons vanished. Upward I went and out over the sea and the unknown. A few minutes later I was again above the

Three Specks on the Horizon. Sardinia soon disappeared and was happy, happy at the thought that even though my life was at stake, I at least had no more decisions to make and my course was steady onward to my original goal.

"Flying above the clouds, I could see neither land nor sea, and although my compass and other instruments were n excellent condition, I paid little attention to them, but went straight ahead, flying toward the sun, which by now had become almost tropical For more than an hour I had a very indefinite idea of just what I was doing, and where I was going; it was hard to tell whether I was flying ahead or being carried out of my course by will I ask Jerome Power for the hand of

back to earth. there was no land in sight and of I tion from-".

the wind. I realized, however, that his daughter when I know that he knows worrying would not help me and on I that I've had six jobs in one month and went, calmly confident that sometime, am only getting \$7 a week! . A somehow, somewhere, I would come young man who expects to marry an ack to earth.

'Straining my eyes was of no avail: "I come, sir, with a fine recommenda-