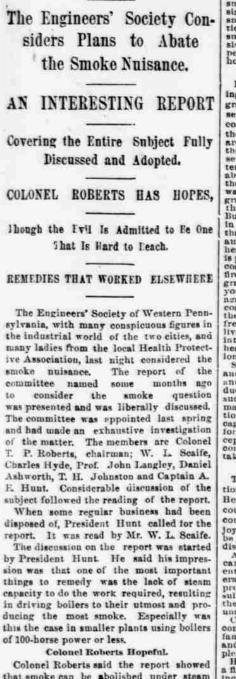
WEDNESDAY, NOVEMBER 16, 1892. THE PITTSBURG DISPATCH.



SWEEPING THE SKY,

that smoke can be abolished under steam boilers and in most all cases greatly reduced. It was only a question of time until smoke would be abolished in the business section of the city. The East End district, he said, covers an area of about five square miles. It is surrounded by hills and doesn't get the benefit of the rivers. In consequence, with less smoke, fogs are more frequent than in other parts of the city. In this respect the East Liberty valley in its conditions much resembled London. "There in the chosen place of our city is the last place we will have to fight smoke. I think the inventor who nomes forth with an invention for the improvement of our domestic fireplaces will get the biggest crumb."

John A. Brashear told of some investigations he had made in London when there, at the request of the committee. The London grates, he found, are the worst constituted of any for smoke consumption. "Laws," he said, "have been laid down for perfect combustion. It is done in our everyday work, and I think the fact that we caunot get it into our fireplaces is a disgrace to our American inventors."

Colonel W. A. Herron spoke of the good results from the use of an automatic stoker under boilers.

isfactorily used by him for three winters in London and one winter afterward in America. It had a downward draft through the grate and was practically smokeless. But it evidently required an expect to kindle a fire in it without filling the room with smoke. This difficulty led Franklin to de-sign another stove which, although not so smokeless as the proceeding, was more prac-tical and may contain the germ of future smokeless stoves and fireplaces. It con-sisted essentially of a cylindrical grate sus-pended in a fireplace and movable about on hours on the stove. How Franklin Worked His Stove. How Franklin Worked His Stove.

Franklin thus describes its use: "In making the first fire in a morning with this grate there is nothing particular to be ob-served. It is made as in other grates, the coals being put in above, after taking out

served. It is made as in other grates, the coals being put in above, after taking out the upper bar and replacing it when they are in. The round figure of the fire when thoroughly kindled is agreeable; it repre-sents the great giver of warmth to our sys-tem. As it burns down and leaves a vacancy above, which you would fill with fresh coals, the upper bar is to be taken out and after-ward replaced. The fresh coals, while the grate continues in the same position, will throw up as usual a body of thick smoke. But everyone accustomed to coal fires in common grates must have observed that pieces of fresh coal stuck in below among the red coals have their smoke so heated as that it becomes fiame as fast as it is produced, which fiame rises among the coals and enlivens the appearance of the fire. By a push with your tongs or poker you turn it over on its axis grently till it arain faces the room, whereby all the fresh coals will be found under the live coals, and the grate part of the smoke arising irom fresh coals will in its passage through the live ones be heated so as to be converted into a fame; whence you have much more heat from them and your red coals are longer preserved from consumption. Since Franklin's time our manufactures and population have grown enormously, and with them the use of coal and the pro-

Since Franklin's time our manufactures and population have grown enormously, and with them the use of coal and the pro-duction of smoke. Yet until recently no successful efforts appear to have been made, on a large scale, to abate the produc-tion of smoke with its attendant evils. Chi-ongo and Cincinnati have passed ordinances forbidding the emission of black smoke ex-cept from dwellings. St. Louis is seriously considering the question, but has as yet taken no legal steps.

Due to the Efforts of Women.

The present agitation of the smoke ques tion in Pittsburg is due to the Women's Health Protective Association of Allegheuy county in the hope of that the benefits of a comparatively unpolluted atmosphere en-

rul.

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An Explanation of Combustion.

Combustion is a process of oxidation, and consists in a chemical union between the carbon and hydrogen of the fuel with the oxygen of the air. Hydrogen and oxygen unite to form water. Carbon may unite in two unite to form water. Carbon may unite in two proportions, forming two oxides called re-spectively carbon monoxide and carbon dioxide. This latter is o ten called carbonic acid, and represents the final result of the complete combustion of carbon. These pro-ducts are fixed gases, and, since at the temperature of the flame, water can only exist as steam, we may consider all the pro-ducts of the complete combustion of a net as being invisible gases, which escape into the atmosphere. A jet of illuminating gas burning in an apartment very nearly realizes this condition. But the nydrogen and carbon of a fuel are not simply mixed together; they are combined, forming a class of compounds known as hydro-carbons, of

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The Use of Steam Jets.

One of the most varied and successful applications of steam jets may be seen at a well-known mill in this city. After several years of use of natural gas, the owners were forced to return to coal. They found, however, that with coal their boilers would not supply a sufficient steam. Accordingly they concluded to try steam jets to increase com-bustion, and evaporation. After some ex-perimenting they finally adopted a jet some-what of the Bansen burner type, which is now in successful cp ration on two batteries of flue bollers-the jets being placed above the fire doors and immediately below the bollers. The fluel is slack, and yet almost no smoke is visible, even during heavy firing. The same firm have also applied to is pudding and 4 heating furnaces steam jets of a different design. In these the ashipt is made tight and the steam and air enter below the grates. These Intraces are of the usual type, except that special openings are made for air above the fire and through the bridge wall. When the fire doors are closed no black smoke is visible while the steam jets are in operation. The smoke appears above the stack whenever the fire door is opened, but disappears im-mediately on closing the door. Each pud-dling furnace inst two jets of steam and each heating iurnace five jets, all about one-tenth of an inch in diameter, Nut coal can now be used formeriy in both. The jets have been in use for nearing a year, and the mill owners state that they have not injured the bollers, nor the furnaces, nor the iron, but have saved momey by reducing the ama-tity and quality o. the user agrat-noise. This is not very objectionable in a roling mill or machine shop, but will prob-ably prevent its introduction into office buildings, where otherwise it might be use-tul. **Objections to Lima Oll.** concluded to try steam jets to increase com bustion, and evaporation. After some ex

Objections to Lima Oil.

Lima oil is at present used in various kinds of furnaces, being fed into the combustion chambers by means of air under considerable pressure. It makes an easily

bustion chambers by means of air under considerable pressure. It makes an easily regulated, smokeless fire, but has not re-ceived much application in Pittsburg owing to its cost being equal to or greater than coal. Its disagreeable odor is also an ob-jectionable leature. Electricity is proposed for neating purposes, but at present if inds little or no application here. Every city has its peculiar needs and activities which must be recognized in at-tempting to apply to it general results appli-cable elsewhere. Of no city is this more true than of Pittsburg, with its varied industries, its matural recources and enormous produc-tion. Hitherto smoke has been the black en-sign of the ceaseless warfare carried on here with the torces and materials of nature. It is estimated that before the introduc-tion of natural gas Pittsburg consumed about 0,000 tons of coal daily and that the present consumption is about 2,000 tons. In Pittsburg and Allegieny about 2,000 tons. In Pittsburg and Allegieny about 2,000 tons. In Pittsburg and Allegiensy about 2,000 tons of the the several hundreds of millions of cubic eot daily, and probably representing more than half the present coal consumption. If, therefore, our skies are darkened now, what may we expect when the present smoot smokeless natural gas fires become smoke producers? Our finest residence dis-trict, the East End, will especially suffer by to change. Already, owing to the peculiar opportaphy of Pittsburg, and in spite of the special smoke ordinance recently passed, the East End is often covered by clouds of smoke, mostly produced in the lower parts opporting the district, it is estimated that be than the the resert. Black Proepert for the Future.

Black Prospect for the Future. Were the latter to return to coal and the ies to their forme

The Genuine Imported Carlsbad Sprudel Salt

is of great benefit in temporary and habitual constipation, liver and kidney diseases, chronic catarrh of the stomach and bowels, rheumatism, gout, etc., and should be used in the morning before breakfast. Obtain the genuine article, imported in round bottles. Write for pamphlet. Eisner & Mendelson Co., New York.



Customers like good light to buy Cloaks. We have the best, and have it on the first floor. However, that is a small matter. We also have the goods. Our prices have made a big business, and we want your trade to keep this big business going, and we know how to get it. Good goods and low prices will do it.

125 genuine Clay Diagonal Tailor-made Jackets-the kind you have been paying \$15 for. Our price only

\$9.75.

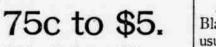
100 extra fine Box Reefers, in blue, black and tan, with pearl buttons and fine finish, at

\$10.

75 Mixed Cheviot Jackets, regular \$7.50 grade, our price

\$5.

We have one rack of broken sizes of Ladies' and Children's Long Wraps. The price has been \$3 to \$15. We are closing them at



Children's Long Wraps, 4 to 12-year sizess.

\$2.50 to \$25.

Misses' Wraps, 12 to 18-

When every lady wants them. An importer wanted money and he sold us a case LYONS SILK FACE CHANGEA-BLE or PRISMATIC VEL VETS, in 20 Evening and Fancy Shades, real value \$2.50, and bought away down so we

NEW ADVERTISEMENTS.

B. & B

A Great Chance for

HANDSOME

\$1.50 a Yard.

Elegant line LYONS SILK FACE VELVETS, in Plain and Changeable, in fifty different combinations and Plain Colors - Evening shades to Darkest shades - and ultra shades in Greens and Olives from lightest tint of Yellow Green to richest Emerald and Myrtles,

can sell at

\$2.50 a Yard.

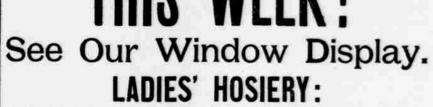
Our Velvet Department makes a specialty of odd and ultra shades, so that almost any combination or color can be matched.

Three large lots PLAIN SILK FACE VELVETS-all colors and extra good ones, 19 inches wide,

75c, \$1 and \$1.25.

All-Silk Colored Velvets and Black All-Silk Velvets-an unusually large collection, and sold for less money than you pay generally—you see for yourself.

New BLACK SILK CRYS-TAL VELOUR VELVETS



SPECIAL SALE

NEW ADVERTISEMENTS.

Ladies' Seamless Balbriggan Hose, 121/2c, 15c, 18c, 22c, 25c, 35¢, 38¢, 45¢, 56¢ and upward.

Ladies' Black Cotton Hose, 10c, 12 1/2 c, 15c, 18c, 20c, 25c, 35c, 38c, 40c, 45c, 50c, 56c, 75c, 88c and upward.

Ladies' Black Onyx Hose, with white feet, 40c, 50c and upward.

Ladies' Black Lisle Hose, 38c, 50c, 56c, 63c, 75c and upward. Ladies' Black Silk Hose, 75c, 88c, \$1, \$1.25, \$1.50, \$2.

Ladies' Fancy Cotton Hose, 121/2c, 15c, 18c, 20c, 25c, 35c, 38c, 40c, 50c and upward.

- Ladies' Fancy Lisle Hose, 40c, 44c, 50c, 56c, 63c, 75c and upward.
- Ladies' fine Fancy Silk Hose, \$1, \$1.50 and upward.
- Ladies' Fleece-lined Balbriggan Hose, 20c, 25c, 35c, 40c, 50c. Ladies' Black Cotton Fleece-lined Hose, 25c, 35c, 40c, 50c and upward.
- Ladies' Woolen Hose, 25c, 35c, 40c, 50c and upward.

Ladies' Cashmere Hose, 40c, 50c, 63c, 65c, 68c, 75c, \$1 and upward.

GENTLEMEN'S HOSIERY:

Gentlemen's Brown and Gray Mixed Cotton Half Hose, seamless, IOC.

Gentlemen's English Cotton Half Hose, seamless, gussetted, worth 20c, at 121/2c.

Gentlemen's Slater Cotton Half Hose, 121/2c, 18c, 25c per pair. Gentlemen's Fancy Cotton Half Hose, seamless, 15c, 25c, 350, 500.

Gentlemen's fine Lisle Half Hose, 35c, 50c and upward. Gentlemen's Gray Mixed Woolen Hose, 20c.

Gentlemen's Natural Wool Half Hose, 25c, 35c and upward. Gentlemen's Camel's Hair Half Hose, 25c, 35c and upward. Gentlemen's Black Wool Half Hose, 25c, 35c and upward. Gentlemen's Blue Mixed Woolen Half Hose, 35c.

Gentlemen's Merino Half Hose, 25c, 35c, 40c, 50c and upward. Gentlemen's Cashmere Half Hose, 35c, 40c, 50c, 75c and up-

CHILDREN'S COTTON HOSIERY:

Children's Black Ribbed Cotton Hose, seamless, all sizes, 121/2c. Children's Black Cotton Hose, guaranteed stainless, at 18c. for sleeves and millinery pur- Children's Black Ribbed Cotton Hose, double knees, double heels and double soles, the best stocking for school wear ever sold in this city. Price per pair 25c. Children's Black Ribbed Cotton Hose, extra long, guaranteed stainless, all-sizes, 38c. Children's Onyx Black Ribbed Hose, double knees, guaranteed

of furnaces and various appliances to decrease smoke.

Emil Swensson said that as to domestic fires the use alternately of hard and soft coal did away with smoke and was an economical fire.

Opposed to Gas.

R. N. Clark, secretary of the society, said that many people in the East End use hard coal and gas coke in their furnaces. There is no smoke and there is no cheaper fuel in the world when properly used.

Mr. Cotton said the essential thing in getting rid of smoke was a proper mixture of air at a right temperature with the gases as emitted. One important point, he said, is that architects have not learned in mak-ing plans for buildings to leave proper space for boilers, leaving them to be erected wherever they can be put after the plans have been completed.

have been completed. Mr. Brashear, after referring to the waste of gas and coal as tuel, suggested that they go to the source of all heat, the sun, and an-ticinate the years to come by utilizing its heat, thus preparing for the future, when coal will be exhausted.

When the discussion ended a motion was adopted to approve the report, print it and send copies to the Mayors and Councilmen of Pittsburg and Allegheny.

The Smoke Committee's Report.

The report of the committee was comprehensive and interesting, and its reading was listened to with marked attention. The report says:

Your committee, appointed at the March meeting of the society, have had neither the time nor the opportunity to make a detailed or experimental investigation of the general subject of smoke abatement. We believe we have, however, obtained sufficient facts directly bearing on our local conditions to show that there is in this respect a chance for considerable improvement at the presfor considerable improvement at the pres-ent time in Pittsburg and Aliegneny. As the subject is one of general interest, and as all permanent smoke shatement is depend-ent on the public demand for it, you will probably pardon as for giving some histori-cal and technical details with which most of you are immiliar. It is a matter of common remark that the few years of comparative freedom from coal smoke due to the use of natural gas have given the people of this community a strong desire to avoid the evil now menacing us from the rapidly increasing consumption of

desire to avoid the orth own meaning is from the rapidly increasing consumption of sort coal. It is, therefore, not so sarprising that the English people of the fourteenth eentury should have enacted a law making it a capital offense to burn coal and pollute the atmosphere within the precinets of London.

the atmosphere within the precincts of London. Over three centuries were required to re-move the prejudice of the English people against the use of soft coal. It is related that an ambussador at Paris, early in the present contury, sent out invitations for a large paris, but was astonished to find that none but gentlemen attended. The indice declined to come because they had heard that His Lordship used English coal to warm his house. Even at the present day in Paris very little coal is used, the price of gas coke being kept so as to make it cheaper than coal. The result is that while Paris even in rainy and forgy weather is well-lighted dur-ing the day, London, at noon, is sometimes shrouded in the darkness of night. What England Has Done.

What England Has Done.

Nevertheless, during the present century. England has done considerable to abate the nuisance. In August, 1852, Parliament passed a bill "to abate the nuisance arising from

a bill "to abate the nuisance arising from the smoke of furnaces in the metropolis and from steam versels above London Bridge." This act applied only to London. It pro-vided for official inspection under the au-tority of the Commissioner of Police. A flustrating the great advantage of photos the commissioner of Police. The state of the commissioner of the state photos of our English historia, "A clean shirt, which formerly lasted only one day, now lasts four days in good condition." Thous a contury ago our own Franklin was production and prevention. Although his withings deal more with "smoky" than with "smoking" offinneys, yet he describes two "moke-consuming" stoves designed by him self. One was shaped like a wave placed on a pedestal. It wascompleted in 171 and satstantly and to spread it in thin layers over stantiy and to spead it in this layers over the fire. There are several very good stokers now on the market which accom-plish the desired result with greater or less success, according as they are permitted to feed the coal slowly or rapidly. If the feed-ing is made slow enough the suppression of

together: they are combined, forming a class of compounds known as hydro-carbons, of which matural gas and petroleum are familiar examples. Now, hydrogen ignites at a lower temper-atore than carbon. Moreover, being a gas it mixes readily with the air, and hence is more combustible than carbon. When a hydro-carbon is heated to a temperature considerably above a red heat it begins to separate into gaseous hydrogen and solid earbon, the chemical oxidation which con-situtes combustion cannot take place until this preliminary separation begins. Now it will be seen that if the supply of air is number of combustion will result; but if the air supply is not ample or, what amounts to the same thing, i the air is not nearly in-stantaneously mixed with the vapor of the hydro-carbon, the form of small particles, which, while hot, radiate light, but which soon fleat outside the borders or the flame, con fleat outside the borders or the flame, con fleat outside the borders or the flame, con dustide the borders or the flame, con fleat outside the borders or the flame, con fleat outside the borders or the flame, con fleat outside the borders or the flame, con down and appear as soot and smoke. Improper supply of air is then the cole

Improper supply of air is then the sole

Mixing the Air With the Gases.

gases below the igniting point, and conse quently imperfect combustion, with the pro

Bollers Must Not Be Crowded.

Were the latter to return to coal and the manufactories to their former smoke emission, we can readily imagine the increased blackness of the skies. Allegheny would itkewise suffer, though possibly to a less extent. We must confess that up to the present time, outside of coke or a gaseous fuel, there has appeared no practical solution of the smoke problem in dwellings, although with a return to soft coal they will increase the quantity of smoke as the city grows. Steam bollers are probably the principal cause of smoke in the city. But there appears to be no reason why they should not be rendered almost smokeless except for a few minutes daily. As many are put in buildings erected in the heart of the city, where their fires emit dense volumes or proper stoking apparatus, furnaces or fluen, the durate space are concerned. Locomotives and steamboats are importants moke producers here. The latter have furnaces which can be treated like the treated like the or ordinary stationary bollers.

What Can Be Done.

cause of the production of black smoke. But there is another kind, a light yellow smoke which is produced from another We cannot hope to tree our city from al But there is another which is produced from another cause. If oil or fat is dropped on the top of a stove which is barely red-hot, much light white smoke will result, but there will be no fiame and no combustion; this is because the oil is vaporized, or in technical lan-guage, suffers cestructive distiliation. All the elements of the oil are still present and if a lighted match is applied to the column of smoke it will ignite and burn with a bright finme. Similarly, when bluminous coal is charged on the top of a fire it cannot all be heared instantaneously, but portions of it will suffer desiractive distiliation as it gradually approaches a dead hear, and a thick yellow smoke will be given off iron all parts of the freshly added fael where the temperature is not high enough to ignite it. This yellow smoke consists mainly of small globules of oily and tarry bodies, which give to coal smoke its adhesive and greasy character. the smoke now poured from stacks and chimneys. But it is within the range of present possibilities to abate the greater part of the nuisance. To this end we would recommend that the Women's Health Pro-tective Association or some similar organ-ization continue their efforts toward smoke prevention by educating the community in its principles and advocating the use of smokeless fuels in dwellings, and the best stokers or other devices in manufactures and steam plants; that our City Councils should pass an ordinance for the abatement of the smoke nuisified, insisting on the ab-sence of dense smoke from stationary, steamboat and locomotive boilers, except when frees are started, but recognizing the necessities of puddling and other iurnaces which require a small excess of carbon for proper working; that one of the duties of building inspectors or of persons appointed for the purpose should be to see that newly erected buildings have properly designed flues and furnaces with particular reference to economical combustion and the non-emis-sion of smoke. recommend that the Women's Health Prowhich give to coal smoke its affective and greasy character. It we could always have a flame playing over all portions of the top of a fire, and at the same time an ample supply of hot air thoroughly mixed with the unel gases, there would never be any notable quantity of either yellow or black smoke passing up the chimney. Theoretically the complete aboli-tion of smoke can be secured by having a top flame and a top supply of hot air, but just here is where the practical difficulties begin, for however ample may be the admis-sion of air to the ashipit, and however well cleared may be the surace of the grate bars, the passage of air through four or five inches of meandescent fuel completely de-prives it of free oxygen, so there is none available to ignite the freshly charged coal. sion of smoke.

Horses and Mules.

Horses and Mules. Seventy-five head of draught and general purpose horses just arrived at the Arnheim Live Stock Company, Limited. Stable, 52 Second avenue, Fittsburg, Pa. Among the lot are several matched teams of draught horses, weighing from 1,450 to 1,700 pounds cacut; some extra good road-sters and coach teams and Canada cobs. Anyone wishing to purchase a horse should not fall and call, as the Arnheim Live Stock Company, Limited, guarantees to seil better quality for less money than any other deal-ers in Pennsylvania. Their mule yards are filled with 100 head of choice mules, from the smallest pit to the neavy draught mule. Coal and coke operators, please give them a call. But air admitted simply through slits in the fire door, while helping to keep up a top flame, yet being cold and impertectly dis-ributed, will chill some portions of the fuel

Captain Andrews in England,

rases below the igniting point, and conse-quently imperfect combustion, with the pro-duction of black smoke, will result. Hence, an essential requirement of devices for smoke-prevention is: an ample, timely and thorough mixture of air with the combust-ible gases distilling from the fuel. The style of iurnace known as the "regen-entive" is the best khown pian for pre-heating the air which is to be supplied to the fuel through the air door. It, nowever, is not suited for boilers and for many other applications of fuel. The former are prob-ably the greatest smoke producers in Pitts-burg and Aliegheny and are daily becoming more numerous, owing to the increasing use of steam for elevators, heating, lighting and Mont of their smoke is due to badly con-stored furnaces and to the fact that the boild the greatest is isometimes ad-mitted through openings in the brickwork at the side of the fire, or through slits in the fire bridge. This is a partial remedy only, because the air is rarely sufficiently heated or mixed thoroughly enough with the dis-tilling products of the coal. Boilers Mats Not Be Crowded. Captain Andrews in England. A dispatch from London announces the arrival there of Captain William A. Andrews with his little dory, the Sapolio, in which he recently crossed the ocean from Atlantic City, X. J., to Huelva, Spain. The captain in-tends to exhibit his boat through the streets of London. He has crossed the ocean three times in the smallest boats that ever made the passage. The Sapolio is only 14 feet 6 inches in length, with a breadth of beam of only 5 feet 5 inches. Her depth is less than 3 feet.

Special Notice,

Special Notice. We have just opened up a large line of din-ner sets, chamber sets, bric-a-brac, etc., di-rect from leading potteries of Europe, which we are offering to the trade at very low prices in connection with our fire sale, which is now going on. Now is your chance to bny your Christmas presents cheap. All goods first-class. T. G. Evans & Co., Market and Third avenue.

Take Your Pick

Of any suit or overcoat in our entire grand stock on Thursday for \$16. Wait for Thurs-day. P. C. C. C., cor. Grant and Diamoud streets. These are mechanical arrangements, more or less complicated and costly, designed to supply the fuel not intermittently but con

THE best way to clean your lace curtains is to take them to Preifer's. Tel. 443 Smithfield street. 8469 100 Federal street, Allegheny. 1954 1913 Carson street, Southside.

eed- Courtars line of men's winter underwear m of at James H. Aiken & Co.'s, 100 Fifth avenue,





ACTUAL RESULTS

Try them

stainless; from 35c to 75c.

CHILDREN'S WOOLEN HOSIERY:

Children's Black Ribbed Wool Hose, all sizes from 5 to 81/2; our regular 25c quality at 20c.

Several numbers extra quality All-Wool Hose, sizes from 5 to 91/2, at 25c. Black Cashmere Hose I and I ribbed, seamless, double knees, all sizes, at 35c.

Children's Heavy Black Cashmere Hose, fashioned, all sizes, 35c. Black Cashmere Bicycle Hose, extra heavy, extra long, at 40c. Extra heavy Black Cashmere Hose, very serviceable, at 50c.

- Children's Genuine English Black Ribbed Cashmere Hose, 4 threads, spliced knees and heels; worth 75c. We sell them as an advertisement only at 5oc.
- Children's Medium-Weight English Ribbed Black Cashmere Hose, all sizes, at 5oc.
- Black Hose, positively fast dye, guaranteed all wool, at 40c and 50c. Extra fine Black Cashmere Hose, 35c, 40c and 50c, according to size. Children's English Black Cashmere Hose, spliced knees, at 50c, 55c and 6oc, according to size.
- Misses' Ribbed Black Cashmere Hose, spliced knees, 50c, 60c, 70c and 80c, according to size. Misses' Black Silk Hose from \$1 to \$1.75, according to size.



Infants' Black Cotton Socks, 25c. Infants' Black Cotton Three-Fourth Hose, 38c.

Infants' Black Cashmere Three-Fourth Hose, 38c, 50c, 56c and upw'd. Infants' Black Cashmere Hose, 18c, 25c, 4oc and upward. Infants' White Cashmere Hose, 38c, 50c, 56c and upward.



How to Make One Pair of Stockings Wear as Long as Flve.

The advent of our "STANDARD KNEE PROTECTORS" will be apreciated by parents. That something of the kind is needed has long been admitted, and there have been many attempts to fill this want, but all made hitherto have been so clumsy and unsightly that their use has been very limited. THESE KNEE PROTECTORS are made of strong and durable Jersey Cloth or Leather; are adjusted to the knee in a simple manner, and fit so perfectly that the above objection to their use is entirely obviated.

PRICES: { Stockinette Knee Protectors, 25c a Pair. Leather Knee Protectors, 38c a Pair.



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family to give. Something that will give tone to the new household and will stay in the family for generations.



Oak Silver Chests.

They make a splendid gift for the

