By G. Frederick Wright, A. M. LL. D.

IRRIGATED FROM "ROOF OF WORLD."

many times larger than that of Egypt the Syr Daria also empties into the and equally rich in character, but Aral sea, where its water is evaporatalso surpasses it in the uniformity of ed in connection with that of the Amu conditions which supply the needed Daria. volume of water. The delta and the

largement by artificial means. for a number of years together. This has been designated "the land of the latter difficulty the English govern- thousand springs." ment is endeavoring to correct by the removal of the accumulations through will be remains to be seen.

10,000 feet higher.

The amount of land which is capfig tree 90 bushels of figs.

Kush mountains.

running like a thread through wide deserts, we come to the remarkable oasis of Khiva (occupying a delta nearly as large as that of the Nile), at the southern end of the Aral sea. So completely is this oasis surrounded by deserts that for ages the peop'e have enjoyed immunity from the attacks of outside enemies. The story an army small enough to make its way successfully across the burning sands to penetrate this region from different directions were baffled by these conditions and compelled to turn back after heartrending disaster. At the same time the ruling authorities of Khiva had no restraint upon the barbarities they could practice upon the weaker main stream. It was a simple matter to tap a canal and turn it off in some tremities of starvation

irrigating the fertile province of Ferg. ern world by the magnitude of its hana which last year yielded 3,000,000 results.

So much has been written about | bushels of rice, 8,000,000 bushels of the valley of the Nile and the fertil- wheat and 500,000 bales of cotton, be ity afforded to the delta and to a nar- sides a great amount of other prodrow strip along either bank through ucts. The cities of Tashkent, Chimmeans of irrigation that little atten- kent and Turkestan are in flourishing, tion has been paid to the immensely irrigated areas, watered by branches larger area dependent on irrigation in of the Syr Daria coming down the central Asia; whereas central Asia ex- mountains on the northeast. Tashceeds, not only in the possession of kent has now a population of 160,000. a fertile soil capable of irrigation After a course of 1,200 or 1,500 miles,

Still farther to the northeast numerirrigated belt along the lower Nile ous other streams of considerable size scarcely exceeds 10,000 square miles come down from the northern flank in extent and is incapable of much en- of the Tian Shan mountains and, after distributing alluvial soil at the base of The recent dam at Assoun can add the mountains, disappear in the desert but a few hundred square miles to sands or in Lake Balkash. Among the area already under cultivation. these are the Talas, the Chu (which Moreover, the scurces of the Nile, be- has a length of 700 or 800 miles), the ing far off in equatorial Africa, are Ili, of equal length, and the Seven rivsubject to various vicissitudes, which ers, which have given name to the render the supply of water in the province of Semirechensk. For a dislower Nile somewhat irregular and in- tance of several hundred miles along secure. The waterfall over the drain- this northern base of the Tian Shan age basin differs more or less from mountains there is a broad belt of decade to decade and the outlets to most fertile soil capable of irrigation the great lakes, which serve as reser- with the water from these mountain voirs, occasionally become so clogged streams. The Chu is formed by the by the accumulation of vegetable mat- combination of an innumerable numter as to interrupt the normal flow ber of mountain streams: so that it

From earliest times this belt of ferartificial means. How successful they tile soil has played an important part in the history of the world. Lying midway between the mountains and In central Asia the conditions fa- the arid plains to the north, it has vorable to irrigation are connected been the favorite resort of semiwith the great mountain systems of nomadic tribes, who venture out into the region, three of which meet in the pasture lands of the steppes with the center of the continent to form their flocks and herds in early sumthe elevated tableland of the Pamir. mer, and retreat to the mountain paswhich is aptly styled "the roof of the tures later in the season, while raising world." These mountain systems are rich crops of grain upon the intermethe Hindu Kush, which crosses the diate fertile irrigated belt. The Rus northern borders of Persia and Af- sian military road for several hundred ghanistan; the Tian Shan, which miles in passing through this region stretches away from the Pamir in a encounters not only a line of flourishbroad branching belt to the north- ing cities of present importance, but east, and the Himalaya, which sepa- passes by innumerable mounds of rates India from Thibet. The plateau earth marking a prehistoric civilizaof the Pamir, from which flows in one tion. The abandoned irrigating canals direction the Indus, to irrigate the also speak too plainly of a decadence plains of the Punjab, the Amu Daria resulting from the neglect of oppor-(the ancient Oxus), which irrigates a tunities due to the social and political great belt in western Turkestan, and disorganization which has reigned for the branches of the Tarim, which flow centuries. In the thirteenth century eastward into the desert of Gobi, is the hordes of Jenghiz khan marched upward of 13,000 feet above the sea, leisurely along this belt on their way and is surrounded by various peaks to the conquest of western Asia and of Europe.

Altogether these vast areas in cenable of being made fertile by these tral Asia which are capable of irrigamountain streams of central Asia is tion afford most attractive conditions sufficient to support the population of for human life. Since the soil has not many an empire. To limit ourselves been leached by constant rains, the to western Turukestan alone, we find fertile elements remain in concenthe Atrek river emptying into the trated from, so as to afford crops far southeastern corner of the Caspian greater than can be produced by the sea, watering an area of marvelous broad cultivation necessary to obtain baste the edge over the joining. Stitch pattern may not be wasted in a seam. of the Parthian empire, a region fall is such as it is over the larger the applied hem, one at the extreme which the ancient historian, Strabo, part of Europe and the eastern United edge and the other about one-quarter said was most highly favored of States. One acre of the irrigated silt of an inch from it. Press this flat, heaven, and where, according to him, at the base of the Tian Shan moun- and you have a trimming as well as a single vine had been known to pro- tains is worth three acres of the aver- an added length. duce nine gallons of wine and a single age soil on farms in the middle states of America. Prof. Hilgard has recent-Passing eastward, the Tejend river, ly commented upon this richness of coming down through the heart of the soil in accounting for the fact that Turkestan and after irrigating the un- all of the early centers of civilization surpassed plains about Herat, disap- were in irrigated areas. Instances of pears in an oasis of great fertility and this are the valleys of the Nile, the extent in the desert of Kara Kum, Euphrates and, he might have added, upon the north side of the Hindu of the Murghab, the Oxus, the Zerafshan and the Jaxartes. When the ag-To say nothing of the middle portion of the valley, which is bordered of the water supply furnished by the only by a narrow strip of arable land, tains, he cannot fail to be thankful that he is not dependent upon fitful showers of rain for the growth of his crops, but can look with unfailing confidence to the murmuring streams which flow through the irrigated canals which distribute the life-giving element far and wide.

Another advantage of this irrigated of the Russian conquest of Khiva, which relieves the inhabitants from ago, is one of the most thrilling and fear of the loss of crops by mildew tragic in all history. An attacking winter weather, to utilize the warmth army large enough to be effective was pretty sure to die in the desert of thirst before reaching the oasis; while the warmen of the direct rays of the sun in securing their bodily comfort. The demand for field to drive one of the desert of the demand for field to drive one of the desert of the demand for field to drive one of the desert of the demand for field to drive one of the desert of the demand for field to drive one of the drive one of the drive one of the drive one of the drive of the drive one of the drive one of the drive mand for fuel to drive away the discomforts of winter is thus reduced to was too small to accomplish anything in Tashkent occupies several miles of at its journey's end. Time after time the ordinary streets, which during the summer months are made comfortable by a shading of matting stretched across a network of beams which cover the roadway. With this perpetual sunshine, abundance of pure water, great fertility of soil, the line of cities along the base of the Tian tribes which were dependent upon ircan be imagined.

As one looks out to the north from other direction and thus speedily rethis irrigated belt and sees the glimduce a portion of the people to the ex- mering mirage of the desert, with camels approaching, seeming to wade Going still farther to the northeast, knee-deep in water, and then turns one comes to the Zerafshan, whose to the south and beholds the mountain name is derived from the golden sands peaks from 15,000 to 20,000 feet in which it brings down from the moun- height glittering in their snowy mantains in which it rises. This stream tles, he can but be thrilled with the would be an important tributary of the thought that here extremes meet, and Amu Daria if its water was not utilized that midway between them nature is in irrigating the fertile plains around most lavish with everything which Samarkand and Bokhara, two cities of makes life attractive. The only drawgreat importance at the present time, back has been that man throughout but of still greater renown in the past. this region has been exceedingly vile. Under the name of Maracanda, Sa- There can be no prosperity in an irrimarkand was occupied by Alexander gated region except there is a strong the Great for a period of two years, and just central government, which and was made the center of his efforts can protect the rights of the weak to conquer the warlike tribes living and secure to them all their fair proto the north. At the time of the con- portion of the life-giving water which quest by Jenghiz khan, in the thir- nature has provided in but limited teenth century, the city is reputed to quantities. The advent of British rule have had 1,000,000 inhabitants. Two in Egypt has thus well nigh doubled hundred years later, under Tamerlane, the productiveness of the irrigated the city blossomed out in such archi- belt that lines the banks of the Nile. tectural magnificence that it was well The advent of Russia into central styled "the eye of the world." These Asia, permitting control by a central magnificent buildings vie in their government of the entire drainage ruins with those of Greece and Egypt basins of these irrigated areas, bids in magnificence, beauty and interest. fair to open up anew a career of pros-Still farther to the northeast the perity in this vast and little known Syr Daria (the ancient Jaxartes) rolls region which shall surpass the glory down from the Tian Shan mountains, of former times and astonish the mod

Pretty Summer Models



On the right is a handsome frock of voile. Next is the model for a sum mer frock of white silk serge with bit bodice over a blouse of white chif-

WHEN SHORTENING A SKIRT. PLAITINGS RETURN TO FAVOR

Should Always Be Done from the Bot- Advent of Fussy Dresses of a Former tom-Two Methods That Are Recommended.

To shorten a skirt do so from the ance of the piece up on the right side. frills, whether gathered or plaited, Fold in half an inch at the edge, and they are felled to the gown so that the munerative results where the rain- a double row of stitching, sewing on Taffeta ribbon, too, is frequently con-

A SIMPLE BODICE.



For either cloth, serge, or linen, this design is suited; it is very plain, and has a yoke and under-sleeve of tucked net two rows of Russian braid to match outline the yoke; the braid on the right side is continued down center of front in scallops, with a button sewn in each scallop; the edge of the lace is pressed it will have none upper sleeve is cut and trimmed to of that shiny appearance that ironed match

braid, one dozen buttons.

A Parasol Like an Awning.

One of the latest and greatest oddi-(like oriental models) and cut in one squares of the old-fashioned India brequin, which, joined together at the ton gowns last summer, and became seams, falls down to the depth of popular for house furnishings. It was seven or eight inches and is trimmed made into cushions, into covers, into with fringes an inch wide. As the curtains for colonial rooms. parasol is opened and held up for use one recognizes the suggestion of an carried in the country and at summer awning somewhat, and no doubt it resorts. The squares are put togethprotects the eyes and complexion ad- er by hand, and the round top part mirably.-Vogue.

A Smart Belt Buckle.

If you are a young girl and wish to

long and three to four inches wide, buttonhole. It goes well with all the are handsomely carved, and fashion- dull shades of yellow, including sul able. Some are provided with slides. but the majority have prongs through which the belting is drawn.

To avoid making the belting ragged where it is pulled through it is well "clocks," are generally the most sat to nunch eyelets and overcast them. | isfactory for every day.

Period Are Responsible for Revival.

The tiny knife plaitings only an bottom, either by making tucks or cut- inch in width are again coming to ting off the number of inches from the front with the revival of the fussy the ground to make it the desired dresses of the 1830 period. They be length. When a skirt is to be length- long to the era of the little roses, narened, do not attempt to piece it at the row fringes and puffs. The selvedge top. One way to lengthen the skirt is of chiffon cloth cut off and sent to the to turn it off evenly from the floor, plaiter's or else done with patience at measure the difference between the home will save the whole hemming length desired and that which the process. The French also double chifskirt has after it is trimmed evenly. fon before it is plaited, to avoid hem-Cut a piece of material twice the num- ming. The selvedge of some silks may ber of inches in width required to be used in the same way, and when make the desired length, and as many the band of a different color along the inches around as the skirt measures. edge happens to be in harmony or in Allow one-half inch on all seams. Join good contrast it has even been chosen this extra piece to the skirt proper, as a decoration for the dress, and alwith the seam on the right side. Press lowed to go into the frill. Tiny knife t flat with the edge down. Turn the plaitings are made of lace insertions added piece up on the right side. because the straight edge forms a Measure from the waist line down the more even line than the scallop of length of the skirt, and turn the bal- lace. When insertions are used for

verted into knife plaitings.

Coloring Canvas Shoes. The "matching" idea is so strong

just now that girls may like to know that white canvas shoes may be colored to match any costume. The process of dyeing will shrink the shoes. but they may be successfully painted with good water-color paint

Mount the shoes on trees. If you do not own shoe-trees, stuff the shoes evenly with tissue paper. Then ap. ply the paint with a good-sized bristle brush or a sponge.

Care should be taken to prepare sufficient paint before commencing the painting; the canvas being very absorbent, you will need a generous amount. As an even tint depends upon expeditious work, you can readily see the disadvantage of having to stop in the midst of the operation to mix more paint.

Chamois Gloves.

Chamois gloves are again gaining popularity. They look well in warm weather and are not half as extravagant as kid ones. They come in white and several shades of yellow. The wise girl keeps two pairs of these going at once, and each day washes one pair that they may be dry to wear the following day. To wash them cold water must be used and white soap. Warm or hot water shirvels and hardens them.

Put the gloves on and give them a thorough washing as you would your hands. Do not put them near the heat while drying.

Irish Lace Collars.

When you wash your Irish lace co!lar, you should always press it while it is lying right side downward upon a Turkish towel four times folded.

This makes a soft surface, and when laces gradually acquire. Before wash-Materials required: 11/2 yard 44 ing any lace all possible holes should inches wide, one-half dozen yards be carefully mended with No. 150 cot-

India Print Parasols.

There has been a wide demand all ties in parasols has a modified flat top over the country for a year for with each gore is a proportionate lam- print. It was used extensively on cot-

> Now it is used for sunshades to b€ of the parasol is made of scrim.

The Popular Mimosa.

The quaint flower which, with the be up-to-date, save your pennies to violet has stood for trembling shybuy a belt buckle, in Dutch silver. ness, is the popular flower of the mo-They are the present aspiration of every ment abroad. It is used on every manner of hat with green foliage. It They vary from six to eight inches is worn on the corsage and in the phur, and, therefore, is a boon to the milliner.

Stockings of lisle, with self-colored

SHEEP AND PASTURES ARE CLOSELY ALLIED

Latter is Absolutely Necessary for Successful Raising of Former.-Numerous Crops May Be Grown.

Pastures and successful sheep rais- | free from worms if the same land is ing are so closely allied that it may used for pasture continuously. Worms almost be said the one can not exist and their eggs that are passed from in the absence of the other. Certainly the sheep, cling to the grass and are it is true that sheep are not being ready to be again taken into the sysgrown as economically and advantage- tem. How can we be rid of them if ously as they can be nor are sheep are left to eat this infested Weekly. maximum benefits to the crop? Change of pasture from season soil being realized, unless pastures to season, and from year to year is abare provided to furnish feed for the solutely imperative to successful sheep from early spring until late fall. sheep growing and one of the chief The man who is seeking the very advantages of such a system of pas cheapest sort of feed for his sheep turage as the one outlined lies in the finds it in pastures, writes D. A. Gaum- fact that sheep are kept upon a single

the next best thing and that is fence,

The alleged cost of fencing is the

hedge behind which many seek to

hide in excusing themselves for not

fact, figures show that practically any-

years as the life of the fence. Cer-

tainly this sum cannot be regarded as

prohibitive. As compared with the

cheap and excellent feeds it makes it

possible to use, it is not worthy of

Clean Wheat.

quently as to whether cockle can be

entirely and completely separated

from wheat by any kind of fanning

mill that has yet been introduced. It

is at least questionable if any fanning

mill certainly and assuredly takes all

the cockle out of wheat without caus-

ing so much of the crop to be blown

over the sieve that the operation

would not be completely satisfactory.

But clean seed can soon be got in

another way. The farmer can sow

an acre or two for seed and handpick

the cockle out of it, when it is in

bloom. In this way clean seed will

be obtained. If the seed from year to

year is from the wheat thus grown,

the fields will soon be free from

cockle. Of course, with the fanning

mill alone the cockle may be reduced

to a small amount, but it is question-

able if every grain can be removed.

How Color Affects Growth.

mille Flammarion put seedlings of the

sensitive plant into four different

houses-an ordinary conservatory, a

blue house, an ordinary greenhouse

and a red house. After a few months

waiting he found the little plants in

the blue house practically just as he

had put them in. They seemingly had

fallen asleep and remained unchanged.

In the green glass house they had

grown more than in the ordinary

glass house, but they were weedy and

poor. In the red house the seedlings

nourished and well developed, 15

times as big as the normal plant. In

the red light the plant had become

hyper-sensitive. It was found that the

blue light retards the processes of de

Learning from the experience of

cay as well as those of growth.

Color agriculture is the latest. Ca-

The question has been raised fre-

The man who is attempting to grow

sheep and hogs.

consideration.



A Picturesque Pasture.

nitz, in the Illuminated World Life. piece of land but a few days or a few They are productive and cost nothing months at a time. but the price of the seed, and the la- It would pay to have every field in bor of producing them. All the labor the farm fenced, as there is scarcely of harvesting and storing and feeding a crop grown that at some time or Starch were used. In order to get the these crops is saved; the sheep get other does not furnish feed for sheep. desired stiffness, it is usually necesall the good of the crop, and they get Most farmers, however, do not find

to be outdone. Not alone are they cheap, but they for sheep. Succulent, palatable, bulky enough, yet possessed of all the nutriment needed. No feed could be more readily digested than these pasture crops for the cell walls surrounding the nutrients are thin and tender and readily broken down. Sheep are foragers by nature and pasture furnishes for them not alone the ideal feed but using pastures. Yet as a matter of | fully expensive. likewise the ideal conditions. Never are they so contented nor so healthy where in the northwest, a five acre as when given the freedom of a five field can be fenced at an annual cost or ten acre plot over which to play of \$8.50 or \$1.70 an acre, allowing ten

and feed.

Science has long since taught us that grass and root crops must be grown, if soil fertility is to be maintained. In the end all profits must come from the soil whether its products are marketed in the mineral, vegetable, or animal form, and to keep sheep without pasture is making a big his land yielding large and increas. mistake. He is not growing his sheep ing crops annually should be every as economically and as well farmer's first business. How better might, nor is he realizing the maxican he subserve this end than by mum benefits to his soil as a result growing grass crops to improve the of his sheep industry. physical condition and give humus to



Good Friends.

the soil, and feeding them to sheep that will not alone make good use of them, but will likewise help to improve fertility by scattering their manure about the fields where it is needed, and by eating up the noxious weeds that sap the life of the crops? We should have fewer run down and weed overgrown crops to-day if pasture crops had been grown, and sheep kept to eat them down.

For the sake of saving a few dollars in fence, many farmers use the same piece of land from month to month and from year to year, for pasture. Now the money they save in had become positive giants, well fence, they more than lose by worms in their sheep. There is no disease to-day that so threatens the future of the sheep industry as do worms. Our flocks must be purged of worms or we must quit the business. It was estimated that in one state alone, 85,000 sheep succumbed to the ravages of worms in the year 1903. It is impos- others is like having a baby hand you sible even to hope to have your sheep | candy.

tained in a dry lot and their ration

MANAGEMENT OF

Unique As Well As Useful Idea Concerning Little Pigs.

of the Nebraska state board of agriculture, the author says:

It is best to wean pigs when they are two months old, but wean them slowly. By this time they have been or should have been running four weeks on alfalfa pasture with their mothers. Some morning when they start for the pasture let the sows find the gate closed, but with a creep under it to permit the pigs to go out.

Outside let the little pigs find a trough full of nourishing, appetizing food and they will fill themselves up alfalfa pasture. The sows are re in the leading business.—The Meddler ACO."The Candy Men"Council

suddenly changed to an exclusive dry YOUNG SHOTES corn and water diet, which has a tendency to check the flow of milk.

After a while you will hear that peculiar grunt which you have so often heard from the sow and the little pigs will hear it, and they know what it means and they will come tumbling The following is a rather unique as over one another, squealing for their well as useful idea concerning the breakfast-the old sow wants to be weaning of pigs without apparent dan- milked. They push under the creep ger of injuring either the litter or the the sow throws herself upon her side mother. As quoted in the last report and the little fellows commence busi ness, but they have to give it up if about two minutes. They are already full from the trough and from the al falfa and have to suspend operations

owing to the lack of capacity. If this plan is followed in a week or 10 days the sow will have dried completely up and the pigs will have been weaned without either of them knowing that any change has taken place.

Only Chance. The young man leads his bride to on it and then start, as usual, for the the altar, but that's as far as he goes

THE OBJECT HE HAD IN VIEW

Farmer Had Not Much Expectation of Turkeys, But He Was Not

Losing Anything. A Rhode Island farmer set a bantam hen on 14 turkey eggs, and great was the scandal thereof throughout the neighborhood. Friends from far and near dropped in for to see and

for to admire the freakish feat. "Sa-ay, Silas," asked envious Hiram Haggers, "haow many turkeys d' yew cal'late ter git outer them aigs?"

"Oh. shucks!" Silas answered. "I ain't cal'latin' t' git many turkeys. I jest admire t' see that pesky little critter a-spreadin' herself."-Harper's

WAS HE RIGHT.



Mrs. Rant-Do you think men are nore clever than women? Mr. Rant-Some men are.

Mrs. Rant-Who are they? Mr. Rant-Single men.

Law of Attraction.

The attractions of men to women and women to men are full of the most perplexing inconsistencies and contradictions imaginable. It is, for instance, a physical law that magnetism is not simple attraction of one thing for another, but the difference of two opposing forces of attraction and repulsion, of which the former is the greater. The same law holds in relation to the attraction of men and women for each other, in which, as a rule, the masculine is the superior force.-T. P.'s Weekly, London.

Laundry work at home would be much more satisfactory if the right sary to use so much starch that the it in the field where it grows. For themselves in a position to do this, beauty and fineness of the fabric is cheapness of feed, pastures are not but they can, every one of them, do hidden behind a paste of varying thickness, which not only destroys the say, three, five or ten acre fields, and appearance, but also affects the wearfurnish the most desirable sort of feed practice upon these a three year roling quality of the goods. This troutation which will give a pasture crop ble can be entirely overcome by using each year, or if they prefer, sow them Defiance Starch, as it can be applied all to pasture, and alternate them be- much more thinly because of its greattween hogs, sheep and cattle, or just | er strength than other makes.

The Real Friction.

Actor's Wife -- Do you know, my dear, this massage treatment is dread-Actor (tragically)-Ay, there's the

Smokers find Lewis' Single Binder 5e eigar better quality than most 10c cigars.

He never has a message who does not know how to listen.

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For Benefit of Women who Suffer from Female Ills

Minneapolis, Minn .- "I was a great sufferer from female troubles which caused a weakness and broken down condition of the system. I read so nuch of what Lydia

E. Pinkham's Vegetable Compound had done for other suffering women felt sure it would help me, and I must say it did help me wonderfully. My pains all left me, I

grew stronger, and within three months I was a perfectly well woman. "I want this letter made public to show the benefit women may derive from Lydia E. Pinkham's Vegetable Compound."—Mrs. John G. Moldan, 2115 Second St., North, Minneapolis,

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tressing ills peculiar to their sex should not lose sight of these facts or doubt the ability of Lydia E. Pinkham's Vegetable Compound to restore their

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