

Because

He wasn't handsome, hadn't fame,
He bore no proud ancestral name,
Four figures, at the very most,
Could sum the wealth he had to boast.
To culture he made slight pretense,
His wit was rather forced and dense;
His chance for winning her seemed slim,
And yet—she fell in love with him!

By no means, now, was he a fool;
He had a courage calm and cool,
And perseverance of the kind
That shuts his eyes and goes it blind;
But peace or strife, or sun, or snow,
Whatever occurs, contrives to go!
Not traits that win a heart, you'll say,
And yet—she married him one day.

"He has his faults, as who has not?"
She said, when friends her reason sought
For wedding him. "His plain, 'tis true,
I see all that as well as you."
For while on wedding him I'm bent,
My love's not blind to such extent
I cannot see his faults and flaws
And yet, I love him—just because!"
—New York Press.

The Ways of Diplomacy

BY GEORGE SHEPPARD

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Marian Loveless was referred to among her acquaintances as the living statue, and with good reason. Beautiful, accomplished, with the figure of a Venus, of perfect health and strength, she had arrived well into her twenties without feeling a tremor of the heart. And it was not that efforts in plenty had not been made to arouse the warmth in her gentle breast, for she had many lovers who had used all their art to inspire the divine passion in her heart.

"I must have been born deficient," she said frankly to one of these in rectifying his suit. "For I certainly do not have any warmer feeling for you, nor any other man than hearty friendship. I admire you, I respect you, I have not a criticism to make of you. But I have no such emotion as you express, nor such as my girl friends tell me of, and of which I read in books. I am lacking somehow. I am sorry, both on your account and on my own. I can not conceive of such a thing as giving up my independence and individuality and merging my life into that of a man. I shall always respect and like you and will be a sister to you."

"Sister!" exclaimed the man, and he went to the Klondike and never saw her again.

And that was the story she was compelled to tell her most ardent wooers.

"I like the men first rate," she said. "Indeed their robust way of looking at things and doing things is quite a relief at times from the petty little ways the women have, and they are very handy in dancing and rowing and driving and running automobiles, and that sort of thing, but to go away and live with and become a part of—I simply cannot understand it."

This was the state of affairs when Gerald Mann appeared on the scene and was attracted by the beauty and the personality of Miss Loveless. When he went slap up against sexlessness, so to speak, he was dumbfounded, then interested. He was a thorough man of the world, widely traveled and of much experience with women. That a woman in perfect health, with red lips and swelling curves and flashing eyes should be perfectly passionless was incredible, preposterous. Hence he was stimulated to try his powers and in the trying he lost his heart.

For the first time in his life Gerald Mann was in love. It was the real thing, too, and a hard attack of it. He struggled violently and ridiculed himself mercilessly over his pre-slumber cigar, but to no avail. He had many affairs and indulged in some engagements, but this was different. This woman he must have to complete his life. There was no question about that.

In the meantime her adamant attitude was not even scratched. Mann rather interested her with his well-stored mind and his knowledge of men and places and things, but that was all. He never quickened her pulses—unless when he put an added dash of recklessness into the speed of his automobile.

Finally, after struggling in the meshes until he was sore and tired, he surrendered and poured out his declaration of love to the object of his desires.

"Oh, dear, how dreadful!" she said calmly. "Just when things were running along so nicely, too, and we were having such jolly times. And now I must lose you."

"Never!" he exclaimed, passionately. "Yes, I will," she replied in a discouraged tone of voice. "I don't

Ridiculed himself mercilessly over his pre-slumber cigar.

know where you will go or what you will do, but you will go away from me. And you know it all the time, too—you knew I had no capacity for love. Why did you do it?"

He breathed some fervent words about it being "written by fate," and ordained from the beginning of time, and that sort of thing, and finally received the inevitable promise of sisterhood.

But Mann was older and more experienced than the others had been and the attack having been deferred

so long may have been more severe. Any way, he refused to go away, or to accept her as a sister. He simply staid on and announced that he would wait for the arousing of her woman's nature which, he averred must come some day.

Things were not wholly comfortable or normal, however, and so far as Mann was concerned, certainly no joys, when he met at his club one day an old friend, an Italian gentleman with whom he had become very well acquainted one summer when he was abroad. The Italian was a musi-



She was all a-tremble.

cian—a violinist of exceptional ability and high reputation. He had come to tour America with his wonderful violin. After greetings had been duly exchanged, the two sat down and had a long chat, renewing the old acquaintance most happily. Mann could not keep back the great change in his life and the disappointment with which he had met. Signor Valletti was all sympathy, but resolutely skeptical regarding the lady's incapacity to experience the gentle joys of love.

"Et eez eempossible," he said. "Et eez reedeuculous. All laidez have zee divine passion. Et eez a part of zeeir divine nature."

"Well, I'd like to find the way to arouse it," growled Mann moodily.

"Have you tried ee zeemagination?" asked Valletti. "Zat is zee key to un-lock zee most guarded heart."

"I've tried everything," replied Mann. "I've bombarded her with the most potent love stories, I've read her the most passionate poems, have taken her to see the strongest plays, piloted her through the most stirring pictures—hang to no avail."

"But zee music—zee vera language of lof—have you tried zat?" asked the Italian.

"Oh, yes, after a fashion," replied Mann, "but the girl is absolutely devoid of musical qualities. She does not sing a note, and does not even thump on the piano. She is utterly indifferent to music."

"No, no, signor," exclaimed the Italian. "Zat is eempossible. No woman eez indifferent to music."

There was a long pause during which Signor Valletti smoked fiercely. Then he said: "My friend—I will arouse zee vom-an nature in zee lady."

He went on to outline his plan and the hopeless lover grasped it as a drowning man at a straw.

So it happened that Miss Marian was invited by Mr. Mann to hear "a violinist—said to be a remarkable player." A manager friend of Mann's had asked him to hear this violinist, it was explained, and give his opinion before a contract was signed. Mann implored Miss Loveless to go with him and aid him with her counsel. Protesting her inefficiency, she yielded to this pleading. It was explained that the new violinist had met with an accident which had temporarily disfigured him and he declined to play before any one unless guarded by a screen. So it had been arranged to hear him in the conservatory of the manager's home, where the player could remain out of sight.

The conservatory was most artfully arranged. The lights were soft and low and the rays of the moon shining through the glass transformed the place into a veritable garden.

They seated themselves on a rustic seat surrounded by flowers and plants, the air sweet with the scent of roses. Presently out of the very stillness and so softly as to be almost a part of it, came the subdued strains of music. They were sweet and restful and seductive. Gradually the music rose in volume and power and took a lighter vein. It spoke of green meadows and sparkling water and leafy shade. Then with a sudden change it leaped into the realm of passion and told the whole story of love. The unseen artist filled the air with love, longing, despair, pleading, delirious joy. Then with a flash the strains turned to a wailing song irresistibly ardent, tender and compelling.

Mann arousing himself from the trance the music had thrown him in-

glanced at Marian. Her eyes were downcast, tears were on her flushed cheeks, she was all a-tremble. He slipped his arm about her. She did not resist.

"Marian, sweetheart," he whispered. "Yes, Gerald—dear," she replied, letting her head sink on his shoulder. Gerald afterward told her that the unseen artist had secured the engagement.

Which was true.

HIGH LEVELS REACHED BY MAN.

Heights That Necessitate Artificial Inhalation of Oxygen.

The highest point at which mountain climbers have stayed for any length of time is 20,992 feet on the Himalayas, where an exploring party painfully stayed for six weeks in 1902. Higher still at 21,910 feet is the extreme point of Mrs. Bullock Workman's ascents, the greatest height reached by a woman. Mr. Bullock Workman kept on to a point 23,393 feet high, which is the greatest height reached by any mountain climber.

The altitudes reached by Mr. and Mrs. Bullock Workman were above those at which M. Berson, the aeronaut, began his artificial inhalation of oxygen. At 26,240 feet the aeronauts in general begin the continued inspiration of oxygen, and neglect of this precaution was responsible for the death of Croce, Spinelli, and Sirel at 28,208 feet, their companion, Tissandier, just escaping by a miracle.

Mount Everest, the highest point of the globe, is only some 700 feet higher, 28,995 feet, and 3,000 feet above that begin the cirrus clouds that are composed of spicules of ice. At 35,424 feet is the highest point ever reached by man. This is the height attained by M. Berson in his balloon on July 31, 1901.

WAS TOO MUCH TO LOOK FOR.

Couldn't Expect Man to Let Religion Interfere With Business.

Representative Underwood of Alabama has a story of a man in a town of that State who derived a considerable income from the rental of shanties to negroes. This man bore the reputation of being hard in his business dealings.

One day two negroes were talking of him, when one of them, with reference to the reported "conversion" of the subject of their conversation, asked:

"Do his gittin' religion make any difference in him?"

"Ya-as, indeed!" exclaimed the other colored man, "it do make a dem difference. When he kick one o' dem colud' men out now, he tell him how much it grieve him to disturb him—an' he use to be rough in his manner."

"But he kick dem out jest de same," observed the first speaker.

"Yes, he kick dem out jest de same," agreed the second. "But den," he added musingly, "yo' kin skeerly expect a man to carry his religion so fur as to interfere with his business." The Sunday Magazine.

Frost Makes Fat Turkeys.

"Cold weather makes fat turkeys," said the poultryer, "because in a warm fall the ground keeps soft, the vegetation lingers on and the fields are full of worms and bugs. What's the result? The turkeys from sunrise till dark tramp the tempting fields on long forages, eating the worms and bugs, which thin them, and walking all their soft and fine flesh into tough, stringy muscle."

"A cold fall, with early frosts and snows, freezes the ground and kills the bugs. Then the turkeys are not tempted to wander. They loaf in the farm yard, gorge an abundance of grain and put on flesh like a middle-aged woman at a seashore hotel. But in a warm fall, hunting the irresistible bug, the turkeys do their fifteen or twenty miles regularly every day and become athletes. For athletic turkeys there is no public demand."

Healthful Sleep.
The influence which surrounds children at night should be most carefully looked after, that they be healthful. The portion of time given by children to sleep is very important, for the body continues to grow during this time. Impure air exerts a greater influence upon children than upon grown people, and a lack of perfect ventilation in the sleeping room will often account for a cross, peevish child in the morning. As far as possible children should be allowed to have separate beds, and on no account should a child ever occupy the same bed with an aged person. If this is allowed the child will be the loser in the way of vitality.—Seattle Times.

Advance.

"In the old days," observes the man with the dyed whiskers, "the physicians believed that blood letting was a sovereign remedy for whatever ailed a patient. They would bleed him for gunshot wounds or anything else."

"So I have had," comments the man with the hay fever.

"But, of course, as human knowledge broadened, the medical profession came to the knowledge that—"

"That if a man needed to be bled they didn't have to stick a scalpel into his arm," finished the man who had gone to fifteen specialists to be cured of rheumatism.

Who Can Answer?

Why does the dog turn round and round before his sleeping posture's found?
Why are the young colts legs so long?
How does the cricket pipe his song?
Fleeting the springtime cherry tree,
Blossoms or leaves do first we see?
From which side does one milk a cow?
Why do the sun-dogs storm away?
Why does the rabbit, in a chase,
Proffer uphill to lead the race?
What are the cat-tribes' whiskers for?
Why does the rat have tall galore?
When cows and horses reek, my dears,
Which is the end that first uprears?
Why does the whale proceed to spout?
How do the lobster's eyes "stick out"?
On which side of the tree-trunk grows
The moss—and why, do you suppose?
Why is the ocean salt, and why?
Does it not o'erflow nor yet run dry?
Its volume changes, not at all?
But was the rivers great or small.
—Edwin L. Sabin.

A Home Remedy for Asthma.

One tablespoonful of honey.
One tablespoonful of vinegar.
Twenty-four drops of aromatic ammonia.
Give a teaspoonful every five minutes until relieved. An ointment made from honey and rye meal is an excellent remedy for carbuncles or boils.

Fashion

Creamy Mint Tablets.

These are not difficult to make—and as delicious as any bought for sixty cents a pound. One pound of pulverized or confectioners' sugar, three tablespoonfuls of water, and five drops of oil of peppermint. Essence of peppermint will not do. Mix half the sugar with the water in a porcelain lined saucpan, put on the fire and stir until it boils up. Take at once from the fire, and stir into it the rest of the sugar and the peppermint. When thoroughly mixed return to the fire and let it boil up once again. Remove from the fire and pour into little tin patty pans or drop on greased paper in wafers the size of a silver dollar. The pans should not be greased. If the candy is allowed to more than just boil it will show clear and be quite spoiled. When properly made it is a creamy white confection, and is very wholesome.

The New Turbans.

Some of the most stunning turbans show for their only trimming breasts and velvet ribbon. This season brings us the most perfect range of colors of all sorts, and the breasts are equally attractive in red, lavender, pale blue, pink, all sorts of delicate greens, peacock, and many grades of red and the all-white breast. It is said that the great favor which was shown to the white wing last season has been responsible for the confidence placed in breasts for this season.

The white-winged hat was so unusually becoming that manufacturers are banking on a similar demand this fall. One of the most attractive new effects in wings is made up of the owl feathers. Two large, soft wings spring from a well-tufted owl head, and give the effect of a breast more than of the wing.

Lucious Baked Ham.

An exceptionally fine English recipe for baked ham is this: Soak the ham, and after wiping it dry cover it entirely with a thick paste made of flour and water. Wrap in greased paper, tying it in several places to prevent it from slipping. Put the ham in a baking tin and cook in a well-heated oven, basting it frequently over the paper with warm dripping. If the paper should get at all burned place another thick sheet over it. When the ham is done remove the paper and paste, strip off the rind, and as soon as the ham is sufficiently cool brush it with several coats of glaze, which is granulated sugar, boiling water and white of egg, and put it away to get thoroughly cold. A fairly small ham should be selected for cooking in the oven, and one weighing five pounds four hours should be allowed.

White Embroidery.

White all-over embroidery is an inexpensive and pretty choice for a little jacket to be worn with everything, and in these days of lingerie trimmings is as adaptable to winter materials as to summer. One of the prettiest little empire rigs had a jacket of simple white embroidery edged with an embroidery founce put on full, and the kind that washes well. It was worn over a full but absolutely plain empire dress and the sash, which was tied high under the arms, with bow in the back, was of Dresden ribbon with broad black satin edge.

Modish White Hat.

Very pretty hats are shown in soft white felt, trimmed in folds of gold gauze and in wings of mottled white and dead-leaf brown. This color combination appears in one hat, whose brim turns sharply on right side. The idea is French and the light neutral colorings of wings and felt make the models more appropriate at this early date than the darker and warmer looking felts and velvets.

Girl's Apron.

One of the prettiest little models we have shown for a long time is the box-plaited mode having the straps over the shoulder. While it is very plain, yet it has a style to it not found in the everyday aprons. The front has three box plaits and the back only two. The use of the belt is optional, as the garment is fitted by underarm seams. It is quite pretty without the belt. The apron fits the figure closely, and with the exception of the yoke completely covers the dress. This will make a charming little apron for



school wear, and then, too, it isn't like every other girl's. Cross-barred neck, lawn, gingham, dimity, percale or calico are excellent apron materials.

Winter Millinery.

Winter millinery consists principally of contrasting tints, and the darker felts have touches of very light or bright coloring. A shaded brown toque has brown quills and a huge cluster of dahlia blossoms in vivid zeltroppe tints, and another of darker brown, mixed with chenille, is covered with bold twists of banana yellow

low panne and brown speckled quills. Emerald green is too becoming to be lightly laid aside, and a charming toque of black is wreathed with twists of green velvet on a raised bandeau, and there are green wings tilting backward, and apparently holding a sweeping green paradise osprey. The upturned black brim takes off the really smart and stylish.

White Theater Waist.

Blouse of white silk, shirred at the top to a yoke of lace or guipure, forming large scallops and ornaments with knots of ribbon. Below the blouse is arranged in box plaits, under which passes a drapery of white mousseline de soie, encircling it and forming large knots between the plaits.

The elbow sleeves are made and



trimmed to correspond, and finished with ruffles of the silk headed by draperies of the mousseline de soie.

Ever Popular Tan.

Tan and ecru have held the very center of the stage so long that one hesitates to see them driven out and the news that tan is the fashionable Paris color is welcomed by many. The French are so fond of the biscuit and the yellow shades. They like the burnt bread tones and the shade of tan which they call mode color. They admire all the brownish, soft castor shades and they like nothing better than the cafe-au-lait tones which are fashionable in Paris and will always be. The French love all the coffee tints. They find them adaptable and becoming and they find that they combine well with other colors, which is always a very great point in dress. It makes it just so much the more economical. Get something that will combine well, so any student of dress economy will tell you. And what goes better with everything than tan?

A Novel Ribbon Case.

Young women employed in typewriting have invented a novel and most convenient form of ribbon box. The reels on which the typewriting ribbons are wound, when empty, are used in the same way for dress ribbons, a purpose to which they are equally adapted. A dozen or more of these reels fit snugly into a bureau box, and each is dedicated to a certain width and color of ribbon.

The reels can be painted white, pale blue or pink, to match the lining of the case, and thus rendered pretty as well as useful.

A ribbon wound carefully on a reel gives twice the wear of the one that is thrown carelessly into the bureau drawer when removed from hair or collar.

Trailing Sleeves.

To make one of the trailing sleeves select a bishop sleeve pattern of the largest variety, and one which allows for lengthwise tucks. Run the tucks down within a few inches of the bottom. Sew the seam down to a little above the elbow and then cut away about two inches of the material the rest of the way down on each side of the seam. An inch wide heading is put around to finish the sleeve where it is cut off, and ribbon is run through this which ties around the arm and draws the long hanging part up into a full dangle, which hangs at the back of the arm. If the sleeve is cut to allow it cross-wise tucks may also be run across the bottom edge.

New Coat Ornamentation.

In some of the latest of the three piece costumes there is a new touch to the little short coats which is both pretty and practical. Where a lingerie frill is introduced around the edge of the coat it is attached to a white lawn lining which is made up separately and tacked to the inside of the coat. The frill, which consists of a straight lawn ruffle only two inches wide including a little valenciennes edge, only projects slightly, and the whole thing comes out to be washed and ironed. Made of a fairly good quality of lawn, it does much better than silk in standing the wear and tear which is allotted the lining of even the simplest little coat.

Old-Fashioned Gloria Returns.

A new offering in a silk and wool mixture, despite its up-to-date name, is nothing more nor less than the old-fashioned gloria, which, by the way, is an economical investment. It shows striking plaids, softened by hair lines, and is very wide, cutting to excellent advantage when the circular skirt is desired. Very few plain silks with saltpeper, and the effects of the explosion produced are considered most extraordinary.—Harper's Weekly.

Shawls in Trouseaux.

Many trousseaux are including shawls among their treasures, for it is the thing now to collect shawls and the wedding present is often in that form. The Spanish and Chinese ones of embroidered silk crepe with deep fringes are the handsomest, and adapt themselves best to graceful arrangements when worn with tea gowns or as evening wrappings. But the spangled and tinsel embroidered Syrian scarfs are also very charming, composing a very smart shoulder drape and seeming more unusual.

SHOWING THE WORLD'S PROGRESS

Irrigation Means Millions.

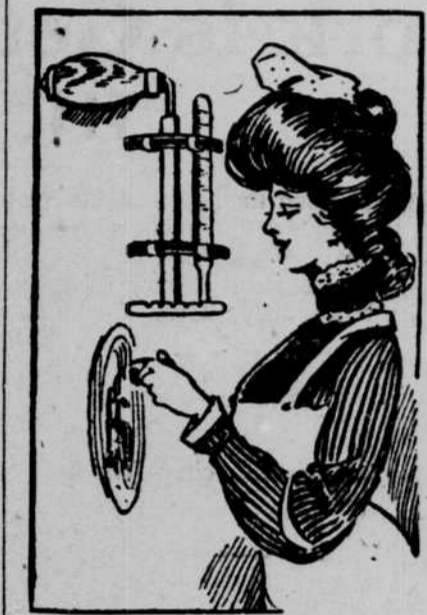
Redemption by irrigation, is the cry of 100,000,000 acres of arid America, whose lowest worth is estimated at \$10,000,000, and, saved will offer living room to over 20,000,000 additional inhabitants. In the government project at Yuma Cal., it will cost \$3,000,000 to bring this project to the self-supporting point. To fully develop the system until it shall reclaim the 1,200,000 acres proposed will cost \$22,000,000. There will be an extensive canal system over the entire reclaimed country, nearly 2,000 square miles. These canals will furnish waterways for traffic and pleasure boats. The waterfall will furnish all necessary water power, for mills, factories and electric lighting, all as a by-product without diminishing the value of the water to the crops. At the lowest possible price this land will bring \$120,000,000, the electrical energy \$100,000,000, the navigation \$10,000,000, making a total of \$320,000,000 of value for an investment of \$22,000,000.

How to Erase Floor Spots.

To avoid the appearance of grease spots upon hardwood floors subject the wood to a process of polishing by applying a mixture composed of equal parts of linseed oil and turpentine, combined with Japan drier. The drier must not be omitted or the oil will continue with the wax. After allowing this mixture to dry over night all the pores of the wood may be filled with one of the prepared fillers. The polish is more even if this is done. When the floor is thoroughly dry it is ready for the paste of wax and turpentine, which may be applied with a flannel cloth, rubbing with the grain of the wood. After this is thoroughly dry apply another coating of the paste, rubbing in as before. After which polish with weighted brushes and woolen rags.

To Help the Nurse.

After years of patient endurance, the hospital nurse is to be relieved of that irksome, arm-racking task of shaking down the mercurial columns in clinical thermometers, a mechanical device having just been perfected for this purpose. Heretofore the nurse has had to hold the thermometer in her hand and sling her whole



To Manipulate the Thermometer.

arm, repeating the operation many times to effect the fall of the column below the normal point. The instrument that has been devised for the purpose is extremely simple, but it permits the result to be obtained with much less physical exertion and with more certainty and greater rapidity. A handle carries a tubular shank bent at right angles and provided with discs adapted to receive and hold the thermometers, it being possible to manipulate several at one time. After the thermometer is securely fastened in place a whirling movement is given the handle, which quickly accomplishes the much-desired result.

One Fifty-millionth of an Inch.

In recent science nothing is more remarkable than the refinement which has been made in instrumental measurements. Dr. P. E. Shaw recently explained to the Royal Society an electrical micrometer which, it is stated, can be made to measure the two-millionth of a millimeter, or the fifty-millionth of an inch. This measurement, the smallest ever yet made, was in connection with the movements of a telephone diaphragm. The problem was to find what movement of the diaphragm produces a sound which is only just audible. The measurement was effected by means of an electric current connected with the micrometer and telephone.—London Standard.

A New High Explosive.

To supplant dynamite, explosive gelatine, and other high explosives there has recently been invented and tested in Bavaria a new substance known as "vigortite." The results of experiments seem to indicate that "vigortite" is ten times as active as any explosive now known, while it does not explode either by friction or impact. Also, it is not affected by damp or frost, and when ignited in the open air does not explode, but merely burns. It is formed from a z-n-vitron compound, which is combined with saltpeper, and the effects of the explosion produced are considered most extraordinary.—Harper's Weekly.

12,000 Miles of Cars for Grain.

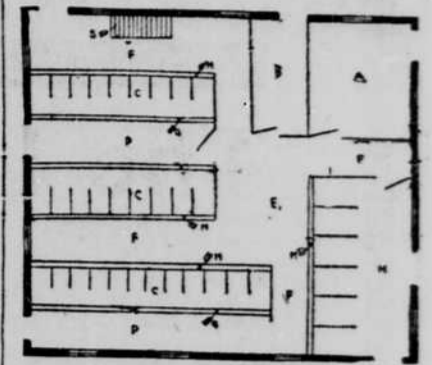
Over 12,000 miles of cars Uncle Sam needs for this year's grain traffic, and he will still have remaining two-thirds of his fat crops in corn, oats, wheat, barley, and rye, which never will see a freight car. The remaining two-thirds will be hauled to local mills in wagons or be consumed by live stock on the farms. The corn crop alone would call for a train 21,000 miles in length. The wheat and oats crops of Minnesota and the Dakotas are estimated at 326,000,000 bushels, while the yield of corn is placed at 546,000,000 bushels.

FOR STABLE UNDER THE BARN.

Please publish a plan of a stable under a barn 56x66 feet. In this I should like a moderately large pen for loose cattle. Would a well of cement or stone be the stronger? How many barrels of cement and how much gravel would the walls require?

To build a concrete wall 8 feet high and one foot thick, with a footing course under of this barn, there would be required of Portland cement 71 barrels, gravel 70 yards, stone fillers 20 yards, and labor six men for twelve days. For floors for same, there would be required Portland cement 43 barrels, gravel 35 yards, small stones 8 yards, and labor six men for five days.

A concrete wall one foot thick is as strong and will turn as much frost as a stone wall one foot six inches thick. In building basement walls for a barn the selection of material generally depends on which kind is the handiest. For instance, if stone is near where



Ground Floor Plan of Barn 56x66 Ft. A—Pen 18x20 ft. for loose cattle; B—Box stall 18x20 ft.; C—Cow stable with stalls 3 ft. 6 in. x 6 ft. long; D—Feed room; E—Feed alleys; G—Gutters behind stalls; H—Horse stable 18x20 ft.; M—Mangers; S—Stairway leading to barn above.

The building is to be built, and gravel is hard to get, would advise building a stone wall. But concrete makes by far the dryer wall and is therefore the better for farm buildings. A basement laid out according to the accompanying plan would accommodate the stock of an ordinary 100-acre farm.

Hydraulic Ram.

A spring comes from a rocky bank and runs down a slope toward the river. It is sufficient to fill a 1 1/2-inch pipe and does not freeze in winter. House is situated on higher ground, about fifty feet above spring. What is the best means of getting water from spring to house?

A ram would work quite satisfactorily in the circumstances here described. To raise water a total height of fifty feet, a fall of five or six feet is sufficient, and it would not be worth while to secure a fall of more than ten feet in any event. The supply pipe from the spring to the machine should be laid on the slope at about one in six so that for a six foot fall the supply pipe should be thirty-six feet in length. From the machine to the river good drainage should be provided to carry off the waste water. If, as the correspondent states, the flow of water will fill a one and a half inch pipe, and if he wishes a large quantity of water pumped, it would be advisable to secure a No. 4 or No. 5 machine. No. 4 uses eight gallons of water per minute, and requires a 1 1/2-inch drive pipe and a 1/2 or 3/4-inch discharge pipe. A No. 5 uses fourteen gallons of water per minute and requires a 2-inch drive pipe and a 1-inch discharge pipe.

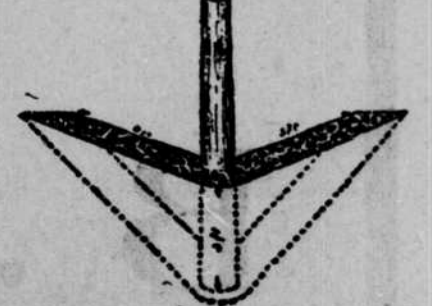
Power from a Running Stream.

I have a small creek that will keep a flume 12 inches wide and 6 inches running half full all the time. I can get 2 feet of fall. How much power could I get with a waterwheel and what sort of wheel should I build?

With a two-foot fall a breast wheel would probably be the most satisfactory. At the same time only a small quantity of power, probably about one-fifth of a horse power, can be gained from the amount of water specified here, assuming the velocity of the water in the flume to be two feet per second. As it is not likely the correspondent would go to the trouble to construct a wheel for this small amount of power, it is not necessary to give a description of the wheel that would serve the purpose.

Cement-Anchored Corner Post.

To fix a corner post so that it will not yield, dig a hole as wide as a spade three feet deep at corner, sloping in two directions in line of fence. Second select a good-sized post, cut from green timber, and set it big end down in center of post hole. Third, buy a sack of Portland cement. Make a mortar, with three parts sand to one of cement, and fill the hole with stones laid in this mortar, keeping all holes well filled with the mortar and well rammed in. Let the post stand



for four or five days before stretching wire. One sack of cement will set one post off rightly done."

Raising water for irrigation.

I have a garden on an island of about two acres. I should like to learn of an inexpensive method of raising water into the land for irrigation during a dry period. The banks are from ten to twelve feet high. Could a modern spraying outfit, with hose attached be utilized for the purpose?

A large spray pump might be used as a force pump to raise the water provided one has plenty of power to run it. Here would be a very suitable place for a small windmill by means of which a reservoir or tank could be kept well filled with water, practically without labor.