

MICHIGAN FARMER

AND STATE JOURNAL OF AGRICULTURE.

DETROIT, AUG. 19, 1893.

THE HOUSEHOLD---Supplement.

THE GIRL WITH SAILOR HAT.

The girl with the sailor hat
Is natty, and trim and neat;
In her suit of blue
She is fair to view
As she trips a-down the street.
I watch her as she goes by
And my heart goes pit-a-pat,
No girl I see
So pleases me
As the girl with the sailor hat.
But the girl with the sailor hat
Is as coy as she is demure;
Full well she knows
How my poor heart goes
As I look at her, I'm sure.
She knows she bewitches me,
But what does she care for that?
There's another young man
Involved in the plan
Of the girl with the sailor hat.

A MIDSUMMER REVERIE.

It was only a bit of thistledown, borne by the dust-laden breeze through the open window, hovering a moment over my desk, touching a flying pencil's tip and as if satisfied the thought that guided it was too light to bear investigation, dancing airily away up and down and about, and finally into a dark corner to rest awhile, to grow gray and heavy with dust, then, its delicate periphery crushed into shapelessness, all its zephyr-like grace forgotten, be swept, a bit of nothing, into the ashes. Only a bit of thistledown, type of aimlessness, yet the pencil stopped and I leaned back in the big office chair, while memory summoned a panorama of pictures of days that are not.

With the eyes that are within I saw stubble fields over which the August sunshine lay in sheets of shimmering heat, all the air full of mellow, hazy, midsummer glow. A great tree, three bonnetless, sun-flushed girls, a half eaten melon—and tell-tale tracks from a near-by cornfield, whose whispers passed down nodding ranks seemed to hint of lawless foragers—a sun-browned lad with laughter lurking in hazel-brown eyes stealing softly near, and with a shriek and a shake startling the pillagers and sending a drift of silvery thistledown over them, to float away and up, while he appropriated the fractional melon with zest born of toil and heat.

I see again the gleaming whiteness of reaped fields; an old fence half buried in moss-grown stones overrun with tangled brier bush, where clusters of

glossy satin-skinned fruit hid themselves in crevices and angles and were not found without peril of thorns and snakes. Beyond the fence a bit of marsh land, its lush grasses nodding and bending under the wandering breeze, and set among them great stalks of tawny, tigerish-spotted meadow lilies, rioting like tropical queens in the fierce heat. A thin slip of a girl leans upon the fence, sun bonnet pushed back from care-free face as she looks along the shining lines of steely light that lead past her far, far beyond their apparent union, into an unknown world. A rumble, a roar, a rush, a whirl of dust; and a demon of iron and steel with heart of fire and vaporous breath, and throttled by one whose calm, steadfast gaze is ever forward, thunders down the glittering path and is out of sight in an instant. There's a glimpse of faces at the windows as they pass in swift procession; a child's curls, a grey-beard's wrinkles, the "drummer's" smugness, and once a haughty, supercilious woman's glance, lingering half contemptuously on the homely watcher as if wondering how and why such as she existed.

Only the four o'clock express; yet the wonder in the girl's heart was ever, "Where are they going? What their errand? Business, pleasure; to a wedding, to the gloom of death; to the next town, across a continent; the honest man, and the fugitive never looking back least he shall see the shadow of his crime overtaking him—all bent on their own desires, their own plans and ambitions; atoms that meet but never mingle, ships that pass, but never signal each other! What is beyond, in that world to which these flying people go?" Ah! the railroad is truly "a common carrier," and each traveler carries his unchecked baggage in his heart—cares that if tangible would outweigh the railroad's limit; joy, lighter than thistledown; grief, the weight that kills.

It is a nook in the woods, next time memory changes the vision—a great oak that had been an hundred years ago, growing, shading a spot with background of tangled vine and brush and carpeted with soft, thick, velvet-like moss, deeper and more elastic than the pile of the finest Axminster ever woven. It is later in the season; September's peculiar haze, its hint of the year's

fruition, is in the air. The fields are faintly green with new-sown wheat, the corn is ripe and dry and shudders in the wind as if it felt the cutter's knife. Great sheaves of golden rod and wild aster and a pail piled high with wild fox grapes tell how these three girls again have spent the short, sunny afternoon. Lips and fingers are stained with purple dye. One idly picks a satin-sheathed milkweed's seedy coat apart, another, lying lazily on Nature's soft divan, looks up into "the pensive sky," murmuring

"When o'er the mountain steep
The hazy noontide creeps,
And the shrill cricket sleeps
Under the grass;
When soft the shadows lie,
And clouds sail o'er the sky,
And idle winds go by"—

and a sudden shower of just gathered hazel-nuts falls from an ample apron; the smooth clean stones that have served at many a former "crack" are brought from their hiding place—for this is the favorite haunt in idle afternoons—and juicy husk and brown nut are crushed while stained fingers—that do not mind the stain—pick out the savory meats.

Then the present crowded back, as a fire engine clattered noisily down the street, its horses on a gallop, the gong crying "beware," the firemen getting into their helmets as they ride; and the reverie was over, the curtain between past and present down again.

After all, how truly is the thistledown the simile of the aimless, careless, idle life some human beings lead! These little silky spheres set out on their voyage with a cargo—a ballast of fruitful purpose, a mission which is the end of their creation. Sometimes they drift safely to a shelter where the ground is rich and mellow, sometimes they strand on arid rocks, are caught in webs and cracks and crannies where no soil is; sometimes there's "no good in them"—there's nothing to grow, they sail about and seem to be fulfilling their work, when it's really all a sham—there's nothing to bear fruit. Then it is they are gayest, wander farthest, get in the most unexpected places. Some people are like thistledown too, in that when the breeze is fair and the sky clear they sail on gayly and happily enough. But when the rain of trouble comes, or they are driven in rough ways, they are overweighted and are never heard of

after; and others are like the unambitious bit that settles in a quiet place and gets dusty and dull and is presently forgotten. All so like poor humanity, isn't it?

BEATRIX.

THE SAME ROPE FOR BOTH.

Perhaps, while the curtains are being drawn on the subject of the "woman's movement," I will be just in time to put my head out and have my say; for being on the shelf doesn't count these days.

It is wonderfully amusing to see how agitated most men are over this question, and the degree of fear they experience regarding its development. This, more than the actual qualifications of the fair sex.

They apprehend that women will realize too fully their bands of bondage are broken and will heap coals as of fire on their heads for that involuntary servitude of which man is the actual cause.

Let them feel that the reaction will satisfy the eternal fitness of things by bringing man to the marrow-bones.

Let the unregenerated man (though he has plenty of company) believe that half the object and all the glory of this movement is the opportunity to show men what women are and can do, and as long as he believes it only half the object, we will make him admit that all the glory is rightly due them.

The pet peacock in a man's make-up struts about as serenely and spreads its plumage just as widely, when a bad point is gained as when a good one—but on the other hand, its plumage will fall when any moral fault or defect is approached, and beneath its feet crush out iniquity.

A gentleman (or one who at least claimed to be) very indecorously affirmed to a prominent W. C. T. U. worker, especially interested in the "Y." branch, "that it was chiefly this class of women—cranks—that were particularly interested in the woman's movement; he also asserted that you could "spot" them any where, as they were, usually, very "mouthy," so very desirous of wearing the "pants," and so "greedy of popular applause."

Their efforts and success were all "bosh" in his eyes.

The lady thus addressed did not display any gift of speech—or any ignorance; she merely affirmed that she was willing to suffer any persecution that might be heaped on her for the sake of the cause; and as she pressed the white ribbon against her bosom, offered up a silent prayer that this organization would be given sufficient wisdom to regard things aright, never fearing to do their duty, never faltering by the way-side, and might still prove a blessing to this universe.

This gentleman, evidently far from being learned, was not from the country, but from farther back, and as the remnant of his listeners leaned back in

their chairs as he concluded his remarks they were trying to solve this problem in their minds—of what use is such a man to a party? But he can vote.

If this large body of temperance women, with all its different branches included, are classed as "cranks," so desirous of gaining fame, it would be well to remember that "True fame is the light of heaven. It cometh from afar; it shines powerfully and brightly, but not always without shadows, which interpose but do not destroy; eclipse but do not extinguish."

How much sympathy men need; for when a rope is out stretched for their safety, instead of grasping it as do travelers in crossing the Mer de Glace, they pass on heedless of the danger surrounding them, only to slip, not however beyond recovery, but to such an extent that after life cannot ever be quite the same.

"What we want to-day is a trained army of young women, who will stand side by side with the young men, as they tread the dangerous pathway; to make them feel that in no way can they be safe, unless they both lay hold of the same rope; demand of them the same careful step, least their slightest misstep or fall indirectly bears upon or mars you."

When a young man, after having been prayerfully and carefully guided by a mother, leaves that home to go out into society, he finds the whole atmosphere changed. But in a short time he finds it easier to drift with the current than to pull against it. He does not consider it manly to adhere too closely to his mother's principles.

Right here I agree with George, that girls may be responsible for men's vices. The girl believes that the habits actually sinful for her are very excusable in her men friends, so the profanity that is laughed at, the tobacco that is considered elegant, the social glass and game of cards, all of which go to make a young man manly, become part of his nature.

But I believe as does a writer in the *HOUSEHOLD*, August 5th, that the time is coming when the intelligent and refined girl will demand in the man who seeks her hand in marriage the purity of heart and life, the mental, moral, and physical development which he demands of her.

MT. CLEMENS.

LITTLE NAN.

CONSOLATION IN FLOWERS.

Now when the fields and gardens are parched and faded so one sees little but brown in the landscape, we prize the few flowers that withstand drouth and extremes of temperature as we do those friends who endure faithfully through life's changes. My mind has taken this train of thought from gathering a bouquet which is composed principally of perennials.

Although late for them they are now the better part of the flowers, as annuals

must wait for rain. Perennial peas, hollyhocks, like roses in tints, and delphinium, perennial phlox, sprays of honeysuckle, tiger lilies and double corn lilies compose the pair of bouquets for my friend and I; and to relieve any appearance of coarseness sprays of perennial asperula with its fine white flowers are mingled so as to appear like a mist over all.

Those blue larkspurs—and what a heavenly shade of blue!—have their counterparts still blooming in the valley of the Nile precisely as they did fifty centuries ago, when they were placed upon the bodies of loved ones with tearful tenderness no doubt. Hollyhocks and chrysanthemums were used later with fruits and grain in a similar manner.

It seems a natural impulse of the human heart, and as old as the hills, to express or typify grief or joy through flowers. Cold indeed must be the sensibilities that cannot feel their influence and appreciate their companionship.

In my most tender memories of the past are mingled those of my flowers and the enjoyment my friends derived from them. My heart has ever gone out in thankfulness for them as a special blessing to mankind.

FENTON.

MRS. M. A. FULLER.

A RIVER REGATTA.

Last Saturday afternoon I sat on the balcony of the Detroit Boat Club's pretty home on Belle Isle, waiting for Dame Nature to smooth the wrinkles off the river's face and let the North American Amateur Rowing Association finish up its regatta—commemorative of its silver anniversary. It was a long wait, for the big ripples became crested with white foam and the wind persisted in rising instead of going down, so that it was nearly five when the racing began. But the crowd waited, and so did I. The island's shores were black with people and they waited also. In the meantime we were not entirely without amusement. Rowboats propelled by the skilled and the unskilled oarsman darted about, while pretty Dulcineas dabbled ringed fingers in the water and made believe steer. Some of them appeared profoundly unconscious of observation; others assumed an "I don't think I'm pretty, but you can look at me if you want to" expression. The man who had made the original discovery that an umbrella can be used as a sail if the breeze is strong and you hold tight sailed gayly past, and liked the fun so well that he rowed back up stream to do it again and kept it up until his umbrella turned wrong side out, which so discouraged him that he vanished.

A swift and saucy steam yacht darted about like an overgrown water-spider, now speeding up the course and then swinging under the bridge and back again, and every little while calling attention to herself by shrill screams

which said as plainly as words, "Just look at me! Can't I go fast?" A "war canoe," loaded with valiant braves and painted squaws came across from the other shore. All the yachts were dressed up in their best suits of flags; and altogether it was a pretty and novel sight, especially to unaccustomed eyes.

I was amused by the "balcony scenes," too. I am always interested in hearing "our best society" drop its r's. The young woman who sat next me in an immaculate yachting suit I thought a pleasant contrast to her over-dressed neighbor in silk, velvet and lace. When she leaned across me to remark to an acquaintance, "It's kinder rough, hain't it?" my interest died out. The hatchet-faced, iron gray woman who thinks she can wear a broad-brimmed sailor because they are the fashion was out; and so was a fat woman who seemed to have forgotten where she was going and had turned in the front of her gown to an evening dress limit and planted a bunch of sweet peas so that they stuck out at an angle of forty-five degrees. That style of woman is fatiguing.

But at last our patience was rewarded and the water calmed enough to allow the ten-oared barges to come to the line. Two crews entered, and twenty oars were poised ready for the signal gun, and descended like one upon the instant. Steady, strong strokes, as regular and even as clock-work, made the barges fairly fly through the water. Coming back down the course they were so closely matched it was hard to tell which led; one crew seemed to be rowing in sun-lit water, there was a flash from shining oars each time they were dipped, while their opponents in shadow seemed a phantom crew pursuing them. A great shout and any number of unearthly "toots" saluted the Wolverines, of this city, as they passed the red buoy a good length or more in advance of the Tecumsehs, of Walkerville, Ont., and the defeated crew good-naturedly gave their opponents a cheer as soon as they got their wind.

Then another long, long wait and the tandem canoe crews, three in number, "came to the scratch." Although I do know a canoe from a double scull, I confess a tandem canoe puzzled me. Guided by what I know about tandem teams, I guessed at it and concluded two canoes must be attached in line, with an oar in each. But it wasn't that way at all. The two oarsmen were in one canoe, and as they couldn't by any chance kneel side by side, of course they knelt "tandem." One crew wore horizontally-striped bathing suits, and as they rowed away I couldn't help feeling as if a couple of convicts were escaping and I ought to give the alarm. A crew managed to tip over on the home stretch, and as one might as well try to climb into an egg-shell as an overturned canoe, a row-boat obligingly went to their rescue. The Argonauts, of Toronto, distanced their competitors, rowing in reg-

ular Indian fashion, kneeling on one knee and sending the frail craft forward with long, even, powerful strokes, "the get there stroke" every time.

Then came a game of water polo, the most amusing event of the day. Water polo seems to combine the most prominent features of a game of foot-ball and a prolonged bath. Two goals 50 feet apart were staked out in the water, and seven young men—quite young—ranged themselves at each. A man rowed out and tossed a rubber ball midway between the two. Black, brown and blonde heads began surging toward it. The first who got it kept it and swam toward the opposite goal, while the other side beset his path with watery obstacles. When he saw he was about to lose it, he threw it to another, and so on, the aim being to touch the opposing side's goal with the ball. There was a pretty bit of strategy used once or twice. The out-fielder (I don't suppose that's technical, but it's the best term I know) had the ball and of course the others were making best time toward him. While he swam with might and main toward the goal, he was guarded by one who kept between him and the rest, and when danger was imminent, there was an aquatic earthquake that was not only funny but disconcerting. Arms waving like a windmill's splashed water in every direction and gave the possessor of the ball a chance—if too hard pressed, to pass it on to another's guardianship. When swimming in, after the goal was touched, the boys gave an impromptu swimming exhibition.

One dived, and stayed under so long I began to think the morning papers would have an item; another turned a somersault, a third floated, his head and his toes alone visible, and yet another lay upon the water as if in a cradle, face turned a little on one side, and lazily came down with the current until with one quick motion he sent himself to the landing place and climbed out, very wet indeed. BEATRIX.

THE WOMAN IN POLITICS.

The clamor of an aggressive minority has precipitated upon the women of Michigan a new duty and an additional responsibility, that of municipal suffrage. The question arises, what are we to do with it.

I am often astonished at the superficial views of women who want to vote, relative to the extent and outcome of the privilege. Nobody ever questioned the expedience of women's suffrage that some dear little woman didn't jump up to say she's sure she could go to the polls with her husband or father and vote and it wouldn't hurt her a bit. And when you have patiently stated your case, and explained that the ballot is a ticket that admits her to the vast field of political strife and intrigue, with leave to meddle in it all, and carries no reserved seat privileges, she calmly

reiterates from the depths of her profound ignorance that she is sure it wouldn't hurt her to vote; and you stand appalled at the hopelessness of conveying any adequate idea of the abyss opening before her in face of such placid self-satisfaction. It is useless to explain that the mere act of casting the ballot is nothing, but that the danger lurks in the world it opens. No man was ever made purer or nobler or more honest by getting into politics; on the contrary, thousands have gone to moral and financial ruin in the political battlefield. Men who have gone into the political arena with clean hands and a determination to make and preserve an honorable record have been wax in the grasp of politicians and skillfully made to do the very things they most despised in order not to be the defeated candidate. Good men have been made moral cowards through desire for reelection. They have not dared do what they both knew and said was right, because they feared political friends and enemies. Nothing kills moral courage in a man so quickly as to put him in office. And it is into such a sea of turbulence and rottenness that women wish to plunge!

Isn't it bad enough to have half the population in it?

But women, they say, are to reform all this, purify politics, make elections honest, and public office a people's trust instead of a private snap.

But, do we see any change in political methods inaugurated by women in those States where they have their fingers in the political pot? The woman in politics promises to make Kansas more notorious than grasshoppers, drouth or a Populist governor. Look at the record Mrs. Lease made for herself in invective and bulldozing last fall! Hear the defeated Mrs. Eli Potter declare her determination to capture the State Convention this fall or "wade in blood up to her eyelids!" Are these the methods women are to employ for purification and uplifting of politics, and this the class of women who are to lead us to political victory?

The female politician is already evidenced among us. Overwhelming in aggressiveness as in avoidupois, she talks municipal politics on street-corners and announces the women will "knife" this candidate and "do up" the other at the polls this fall. Her loud-tongued tirades disgust both sexes with the idea that womanly women are to be represented by her and subject to her influence and dictation. She it is who always talks most loudly of what women will do for women when "we bear a hand on public questions, and the average woman feels inclined to pray with Henry IV. of England: "Lord deliver me from my friends; I can take care of my enemies myself!"

Political manipulators of the other sex are striving to "catch on" with grace and Glad-to-see-you-here expres-

also, which is, after all, a misfit. The "dear ladies" promise to give them no end of trouble with their anxiety to "know all about everything;" but votes are at stake and men with consciences as elastic as a wad of taffy pose as regular Tarveydrops in morals, and are volunteering their valuable services as instructors in political science and methods to those organizations for the study of their new responsibility which women are forming in cities and towns all over the State. The blatant demagogue who serves either party according to his pay, and the political shyster whose party uses him for its dirty work are treated with deference by women at whom they sneer in private as "old cats" and "female grenadiers," and who outstep them in intelligence and education as the Jungfrau might look down upon an ant-hill! If I had a voice in the councils of my countrywomen I would warn them to beware, most of all, of the man who tells them they are to be "the salvation of the country." He's "talking through his hat," and no one knows it better than he himself, and he's the man who will have a political axe to grind and wants the women to turn the grindstone.

All these considerations do not alter the fact that, the right conferred, it becomes the imperative duty of the intelligent, right thinking woman to exercise it. The ignorant, the indifferent and the vicious, like the male element of that class, will be managed by the professional politician, and will vote every time. So must the right-minded woman—to counteract their influence, which we may be sure will be called out. Otherwise, matters become worse than before.

I frankly confess that it is with deep-set reluctance I give this counsel. My own impulse, and I doubt not that of many other women who were convinced the country was safe even if they didn't meddle in its affairs, is to utterly ignore the newly conferred "privilege," which we do not regard as such. But, is it right, and is it safe? A vast contingent of indifferent, irresponsible, new-made voters is at the mercy of political intriguants. The better element cannot afford to let these represent "the women's vote," of which so much is expected.

Women must inform themselves on topics relating to public welfare, that they may vote intelligently. Ambitious individuals will no doubt strive to organize a "woman's party," representing to us the benefits of organized effort. It is safe to say that not for a long time yet can women hope to accomplish anything independently, as a party. It would be a very acceptable method no doubt of effectually disposing of the feminine vote so it wouldn't count, but women must not be snared by that bait. Men and measures, not party or preference, should be accorded first place. Let us not be too eager to get women into

office, simply because of eligibility, but rather give notice that the candidate who hopes to secure the women's vote must be a morally clean and honest man; not what Carlyle calls "an eloquent palaverer," whose compliments are as insincere as his heart, or a demagogue who stirs up strife at so much a speech.

Woman's strongest lever for good in the world has been and is her power in uplifting public sentiment. Her work in that direction she herself most often under-estimates, thinking it slow and not sufficiently aggressive. The W. C. T. U. has been the *raison d'être* of obtaining laws requiring the physiological effects of liquor to be taught in the schools of all but six States, and this without a vote, simply through the creation of a sentiment requiring it. Let us not let go this strong power for the weaker lever of law. A law that is in advance of public sentiment is practically a dead letter on the statute books, because it is never enforced. I am not afraid to say that we have too much law now; and that it would be a good thing for the country if the enactments that cumber its law books and interfere with each other (so that lawyers can always find a loophole of escape for a culprit—if he has money enough to make it an object) were expunged and replaced by half the number, or less, founded on justice and sound sense, plainly stated and rigidly enforced.

What women will do with their new right is a conundrum to all of us. Great things are certainly expected of her.

BEATRIX.

PEACHES.

The peach crop this year, all the papers and fruit men tell us, is to be a large and fine one, and for that reason those of us who are usually obliged to make believe we don't care much about peaches because they taste so strongly of money we cannot afford to buy them, expect to "have some."

In the first place, there is no way in which the fine flavor of a well ripened peach is so appreciated as when it is eaten out of hand. No lessons are needed to dispose of it acceptably. Next of course comes peaches-and-cream. Pare and halve the peaches; arrange them, hollows upward, in a glass dish, and sift sugar over each layer. I've known people turn cream over the fruit and let it stand till ready to serve—don't do that. Pass the cream pitcher—then the cream doesn't have a chance to curdle. Never insult fruit of any kind by using even whitey-brown sugar with it; use always powdered or granulated sugar.

Here are some recipes to use when you are tired of peaches-and-cream:

PEACH PUDDING.—Pare and quarter peaches; put them into a deep baking dish and be liberal about it, too. Sift two teaspoonfuls baking powder into a quart of flour, add a scant teaspoonful of salt. Rub two tablespoonfuls of butter into the flour. With sweet milk

make a batter soft enough so you can spread it over the peaches, covering them nicely. Bake till the peaches are done. Run a knife round the rim of the dish to loosen the crust, then invert the dish over a plate. The peaches will be on top. Sprinkle with sugar and serve with cream.

PEACH PIE.—Make a rich crust and line a pie-tin. Fill with quartered peaches, strew sugar over, and sprinkle with a very little flour; add a tablespoonful of water unless the peaches are very juicy. Cover with an upper crust and bake slowly. All fruit pies need thin crusts and slow, even baking. For a peach meringue pie omit the top crust, and spread, after the pie is done, with a meringue made of the beaten whites of two eggs and two tablespoonfuls of sugar, browning in the oven.

PEACH TAPIOCA.—One cup of tapioca soaked three or four hours, heat to the boiling point and sweeten. Pare the peaches and lay them, whole, in a deep dish and cover with sugar. Turn the tapioca over them and bake in a moderate oven one hour.

PEACH SHORTCAKE.—Make a rich, soft biscuit dough and bake in two layers after rolling lightly. Place your sliced and sweetened peaches between the layers, after spreading the lower with butter. Sift sugar over and serve with cream. Or the cake may be baked in one layer and divided with a hot knife.

Baked peaches are said to be good, and of fine flavor. They should not be over ripe and must be sprinkled with sugar when partly done.

THE prevailing drouth seems to affect copy as well as crops. And the Editor off for Chicago next week, with two issues to be made up ready for the printer!

Useful Recipes.

WHORTLEBERRY PUDDING.—One quart of berries, one quart of milk, one and a half pints of stale bread broken up fine, two eggs, a pinch of salt, four tablespoonfuls of sugar. Flavor with a little nutmeg. The bread should be soaked in milk for an hour or two until very soft; add the other ingredients well beaten together and the berries the last. Bake slowly for three-quarters of an hour. Serve with a sauce made with one-half cup of butter, one cup of sugar and one-half cup of milk and vanilla to flavor. Beat the butter to a cream, add the sugar and then the milk. Set the bowl in a pan or kettle of boiling water and stir until it is light and creamy.

AN EASY WAY TO CAN CORN.—Choose sweet corn just right for the table; cut it from the cob; fill the cans half full; pound it down till quite milky, then fill up with corn and again pound it until the milk runs over the top. Put on the covers, loosely; set the cans on a folded cloth on the bottom of a boiler or kettle and fill with cold water two-thirds up to the top of the cans, put on the cover and boil three hours. Screw the covers down tight and boil two hours longer. Have good cans and good rubbers and keep the cans in a dark place and it will not spoil.