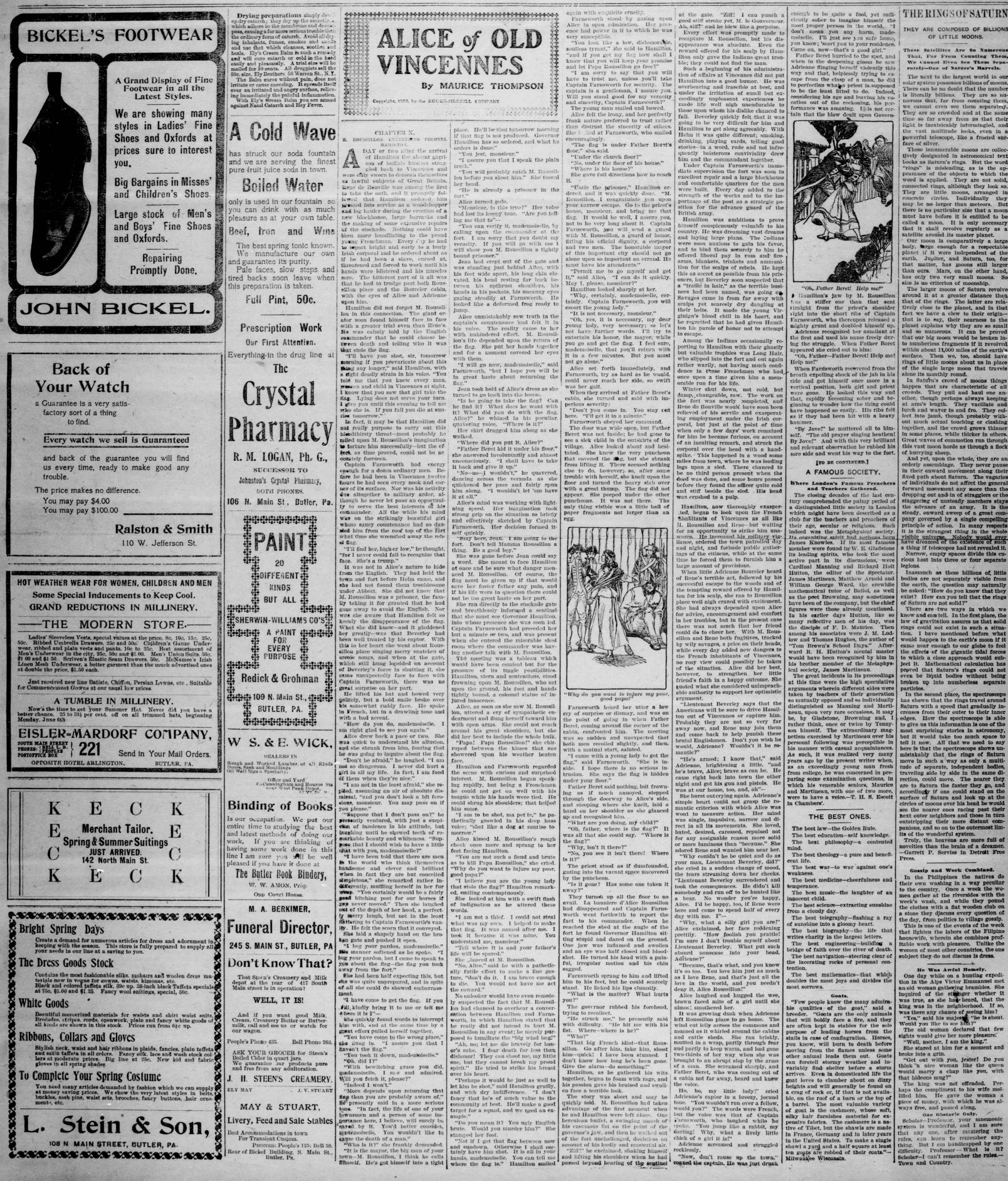
THE BUTLER CITIZEN.

VOL. XXXXI.

BUTLER, PA., THURSDAY, JUNE 9, 1904.



No. 22.

THEY ARE COMPOSED OF BILLIONS OF LITTLE MOONS.

These Satellites Are So Numerou That, Far From Counting Them, We Cannot Even See Them Separately-One of Nature's Marvels.

The next to the largest world in our solar system possesses billions of moons. There can be no doubt that the number is literally billions. They are so nuwe cannot even see them separately. They are so crowded and at the same time so far away from us that their light is inextricably intermingled, and the vast multitude looks, even in a powerful telescope, like a frosted sur

These innumerable moons are collect tively designated in astronomical text books as Saturn's rings. But the word "rings" is misleading, as is the ap-pearance of the objects to which the word is applied. They are not solid, connected rings, although they look so. They are little moons, arranged in concrete circles. Individually they may be no larger than meteors. But there is no particular size that a moon must have before it is entitled to be called a moon. It is only necessary that it shall revolve regularly as a satellite around its master planet.

satellite around its master planet. Our moon is comparatively a large body, mrge enough for a respectable planet if it were independent of the earth. Jupiter, and Saturn, too, for that matter, has moons still larger than ours. Mars, on the other hand, has only two very small moons. So size is us criterion of moonshin

The larger moons of Saturn revolve around it at a greater distance than that of the rings. The latter are rela-tively close to the planet, and in that fact we have a clew to their origin-that is to say, their nearness to the planet explains why they are so small and so numerous. It can be proved that our big moon would be broken in to numberless fragments if it revolved within about 11,000 miles of the earth's surface. Then we, too, should have rings of little moons about us in place

happen that are characteristic of all crowds. They pull and haul one another, though perhaps always keeping at arm's length. They vacillate and lurch and wayer to and fro. They collect into jams, though probably with-out much actual touching or clashing together, and the crowd grows thinner in some places, while thicker in others. Great waves of commotion run through

this vast moon horde as through a flock this vast moon horde as through a flock of hurrying sheep. And yet, upon the whole, they are an orderly assemblage. They never pause in their onward movement along their fixed path about Saturn. The vagaries of individuals do not affect the general formard theorement and more than the

or individuals do not affect the general forward movement any more than the dropping out and in of stragglers or the staggering of unsteady marchers stays the advance of an army. It is the steady, onward sweep of a great com-pany governed by a single compelling principle of action. In many respects it is the strangest thing in the whole it is the strangest thing in the whole visible universe. Nobody would ever have dreamed of the existence of such a thing if telescopes had not revealed it. Narrow, empty spaces divide this cu-rious host into three or four separate legions Inasmuch as these bill

bodies are not separately visible from the earth, the question may naturally be asked: "How do you know that they exist? How can you tell that the rings of Saturn are not solid?" There are two ways in which we know and can tell. In the first place, the law of gravitation assures us that solid tion. I have mentioned before what would happen to the earth's moon if it came near enough to our globe to feel the effects of the gigantic tidal forces to which a close approach would sub-ject it. Mathematical calculation has proved that Saturn's rings could not even be liquid bodies without being broken up into numberless separate In the second place, the spectro has shown that the rings travel around Saturn with a speed that gradually increases from their outer to their inner edges. How the spectroscope is able tude of separate, independent bodies traveling side by side in the same di rection, could move. The nearer they, are to Saturn the faster they go, and accordingly if one could stand on the surface of Saturn and look up at the circles of moons over his head he would see the nearer ones racing past their hext outer neighbors and those in turn outstripping their more distant companions, and so on to the outermost lim-



Truly, the heavens are more full of novelties than the brain of a dreamer. -Garrett P. Serviss in Detroit Free

Gossip and Work Combined.

In the Philippines the natives do their own washing in a way peculiar to the country. Once a week the wo-men gather at the riversides with the week's wash, and while they pound the clothes with a flat wooden club on a stone they discuss every question of the day, from politics to village gossip. This is one of the events of the week that lighten the labors of the Filipino housewife, wherein she combines prof-itable work with pleasure. Unlike the women of most other countries, the one subject they do not discuss is dress.

He Was Awful Homely. One day while on a hunting expedi-tion in the Alps Victor Emmanuel met an old woman gathering brambles. She inquired of the stringer whether it was true, as she have heard, that the king was in the neighborhood. If so, was there any chance of seeing him? "Yes," said his majeste, "he is about. Would you like to see him?" The old woman declared that few sights would give her more pleasure?

"Well, mother, I am the king." She stared at him for a moment and

The king was not offended. Perhaps the compliment to his wife mol-lified him. He gave the woman a ways free, and passed along.

One Obstacle Only. Scholar-Professor, your mnemonic system is wonderful, and I am sure rules, can learn to remember any-thing. But I am handicapped by one difficulty. Professor -- What is it? Scholar-I can't remember the rules.--Town and Country.