

## CARP CULTURE.

From a series of articles now being printed in the *Pacific Rural Press* on carp culture, we make the following extracts on the construction of fish ponds:

I will give a general rule that will apply to ponds of all sizes from 1,000 acres to one rod square, and that is in selecting a site for ponds of considerable size these points ought to be observed:

1. Is there a sufficient supply of water in the dry season? 2. Is the ground, soil and water favorable for fish culture? 3. It is important to examine the land minutely, in order to find what the components are. 4. It ought also to be decided from the commencement how large the establishment is intended to be; whether only for private use and pleasure, or at wholesale for the production of the fish as an article of trade.

A rocky, gravelly ground is not good for

the Union, it is necessary to ascertain whether they can be put into the proper condition for regular culture. This can only be done if the influx of water can be regulated and the entire drainage of the pond made possible. Trunks of trees should be taken out of them, and when they are too deep they should be filled up, or, if this cannot be done, they should be brought into connection with the above described sewers on the bottom of the pond. If this is not done too many fish will remain in these holes when the pond is drained, and this will lessen the profits to a great extent.

To carry on carp culture in a regular and judicious manner, several ponds are required, according to the various purposes they are destined for: First, the hatching pond; second, the breeding pond, or pond for small fish; third, the culture or regular carp pond.

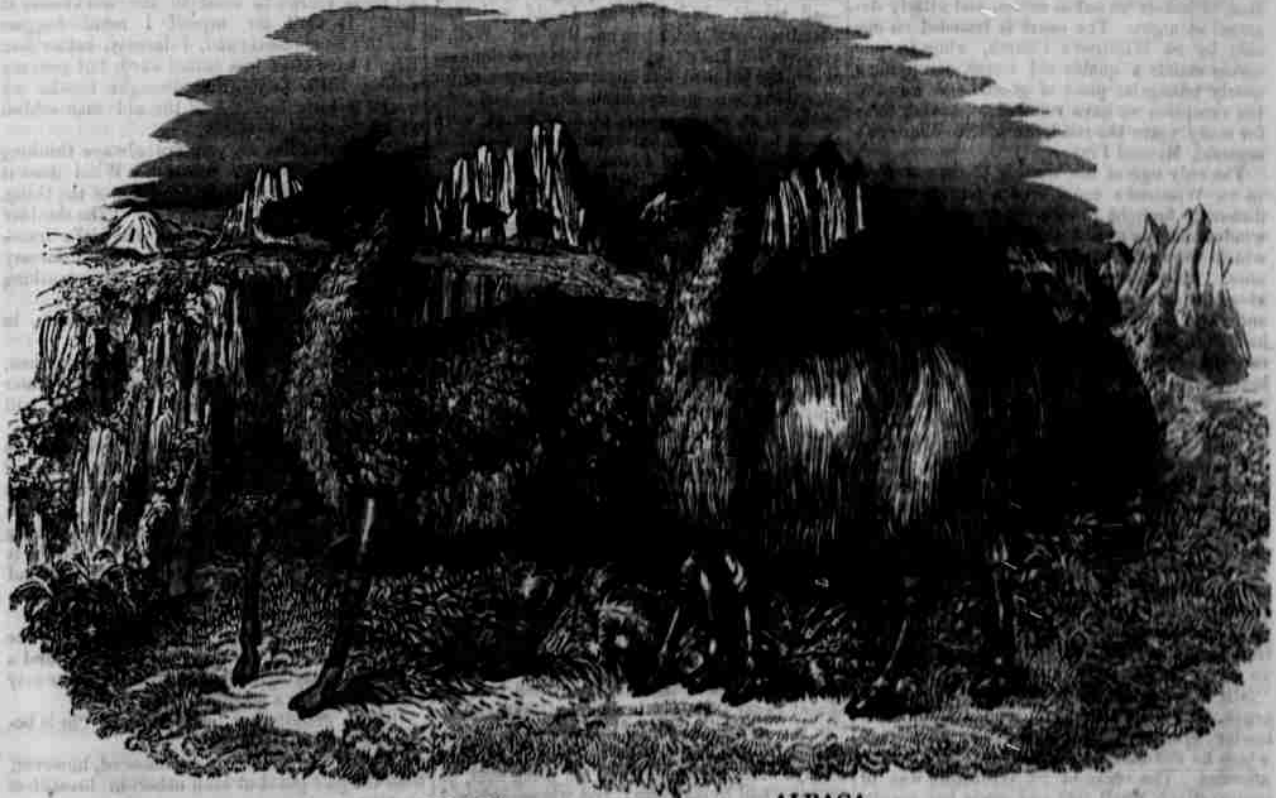
**A NEW METAL.**—M. Delafontaine announces the discovery of philippium, a new metal. He has obtained from gadolinite an oxide of a really new metal, to which he gives the name of

## THE LLAMA AND ALPACA.

We give on this page, pictures of two ruminant animals which are agreeable and even attractive in appearance, are inoffensive in their habits and are useful to man.

The wool of the llama is made into cords and sacks, and of these again are made various stuffs; and in Mexico the bones are converted into instruments for weaving the wool. But the European sheep is gradually taking the place of the llama, even in Peru.

The alpaca inhabits the more elevated ranges of South America, living almost on the borders of perpetual snow. The Peruvians keep vast flocks of them for their long, silky fleeces, which for luster rival that of the Angora goats. The "alpaca cloth," of the dry goods trade, is made of this material. It is principally used for woman's clothing; but is now largely used for



LLAMA.

ALPACA.

carp culture. Ground with a considerable mixture of loam, clay and humus is good.

If the size of the pond has been decided on, the leveling of the bottom is required to assist in the determination of the depth of the ditches, collector and outlet to be dug. A ditch should run through the center of the pond, and be from two to three feet deep, and four or five wide. In ponds of considerable size there should be cross ditches. At the lower end of this ditch there is what is called the "collector," which is a place dug out large enough to hold all the fish in the pond. This should be one foot deeper than the ditch, and from this the sluice box runs through the dam.

In the erection of the required dam it is most important that it be made of the very best material, so as to make it secure against the destructive influence of the water. It ought to be three times as wide at its base as it is high, and as the top as wide as it is high. The interior, or water-side, should be less inclined than the exterior one.

If it be designed to make use of natural ponds, of which there are numbers in every State in

"Philippium" (Pp.), in honor of M. Philippe Plantamour, of Geneva, the friend and student of Berzelius. Supposing "philippine" to be a protoxide, its approximate equivalent is between 90 and 95. M. Delafontaine describes in the *Comptes Rendus* some properties of its formate, sulphate, nitrate, etc. "Philippium" gives well-marked characteristic bands in the spectroscope.

**OZONE IN DISEASE.**—Dr. Reiter, in his essay on diphtheria, referring to the rapid rusting of iron in the open air as an indication of the presence of ozone, says: "When I have a patient recovering from a severe illness, on whom organic mischief seems to have been spared, but the recuperative force appears held down by humidity and a clouded sky, my first sight of the rails of our railways reddened with oxide fills me with a hopeful expectation of recovery where life has been trembling in the balance, that has rarely been disappointed."

covering umbrellas. In texture it is finer and more durable than cotton, and is much cheaper than silk.

**LIFE OF STEEL RAILS.**—The *Railroad Gazette* says: The life of steel rails on a trunk line is said to be turning out to be from five to ten years, and the wear of the rails bought of late years indicates that the shorter rather than the longer period named will be their average life. The traffic is probably four or five times as great as the average of American railroads, but still the wear is more rapid than was expected, and more so, indeed, than experience with the rails first laid gave reason to expect. That is, steel rails appear not to be made so durable now as they used to be, and the roads are beginning to see the necessity of making and insisting upon the fulfillment of certain pretty strict specifications as to the quality of the steel in the rails delivered to them. Hitherto there seems to have been no very definite idea of the qualities required for the most durable rail; but there begins to be some knowledge on the subject.