

the depths thereof by all the powers of human force and engineering skill, the treasures of useful and precious metals, the salts, and minerals of every description hidden therein, require an enormous expenditure of labor and material. Iron, in its multitudinous uses as implements, working and crushing machinery, enters largely into the business of mining. Powder, lumber, every substance connected with machinery, every comfort and luxury demanded by prosperous miners, the many businesses consequent upon mining, all give employment to the manufactories of the center of supply. The metals and minerals in turn demand the erection of metallurgical works and the labors of assayers and refiners, and these require and enable the manufacture of acids and combinations of untold number, and thus, in the circuit, from the minerals arises the most extensive system of manufactures, creative of the greatest wealth. The mines of England, iron, coal, tin and copper predominating, have been the foundation of her manufactures, and as a consequence, of her commerce, making her the richest nation on the globe.

Important as mining is, it is by no means the only resource of the Pacific Coast demanding and fostering manufactures. Agriculture, although its pursuit is not so destructive of material as mining, is one of the most reliable dependencies of a country, and a sure foundation of wealth. The great prosperity and power of the American Union is based on agriculture, the principal states having the cultivation of the soil for their chief resource. From such a source, the grandest manufactures have arisen, building noble cities, and creating a commerce reaching to every portion of the globe. The capacity of our Western slope for agriculture is almost without limit, and, adding the products of the forests, and of the flocks and herds, the vastness of which cannot be denied, and the future of our manufactures may be faintly limned.

Coal, which is an important element in England's manufacturing system, is found in California, and in great quantities at various localities on the Coast. Added to this source of power, there are, for interior manufactures, streams without number and with power beyond estimate. But in the great cities, manufactories do like to congregate, and with the present excellence of steam machinery, the power of the engine is preferred to that of the swift-running water. From this fact, San Francisco has become the center of manufactures, and as a consequence may be expected to continue so and increase in importance with the growth of the country.

The manufacturing establishments of this city, now in operation, number upwards of eight hundred, employing a capital of \$17,000,000, consuming annually material of the value of \$23,000,000, and producing goods worth \$45,000,000. The present state of this great interest can only be told in figures, but a grand exposition will be made at the Mechanics Institute Fair in September next, which is awaited with bright anticipation.

The growth of the system to this magnitude within the few years that manufacturing has been successfully inaugurated, shows the great importance of the interest, and presages well for the future. These comprise a great variety and produce a vast amount of articles of necessity, comfort and luxury, satisfying the wants, fancies and vices of the people of the city and interior, as well as some things for exportation. The importation of large quantities of goods which could as well be made here, is proof that our home manufacturing establishments have not reached their limit, and that a broad and inviting field is open for more. When, at a former day, it was customary to send wheat of California growth to the mills of the Atlantic coast to be ground into flour and returned, or when our wool was sent abroad to be returned as blankets and

other fabrics, there may have been more business for shipping and labor at the wharves, but there could be no general and lasting prosperity. Some, there are, who deplore the extent to which manufactures have arisen and oppose most bitterly their further encouragement; but such a course can only be urged by the most narrow minds, and prompted by purely selfish motives. It is now generally realized that manufacturing is to be one of the most important interests of San Francisco, from the material of home production and from the fertile islands of the Pacific. The cheapness of labor, abundance of capital, and energy of enterprise in rival cities will be no obstacle to her advancement. The resources of the country are such in both material to be manufactured and subsistence for operatives, that there can be no question of the ability to compete with any people of any section of the world. The prolific soil of California produces food for the manufacturing centers of the old world, produces all the material to be made into articles of use, and all the elements of wealth, thus showing the capacity of the country to make for itself all that is consumed by the inhabitants. Gold and silver and jewels we take from the earth, wine and silk and delicious fruits are the product of our wide spread vineyards and orchard groves. All luxuries and necessities which elsewhere are gathered from many lands we have from our own resources. To make all, the manufacturer has, besides the material at hand, the additional advantage of the isolation of the Pacific Coast, giving the tariff of freight in their favor.

A point is made by the opponents of manufactures, that less ships enter the port than when we did nothing else than extract gold from the convenient placer, and wool, hides and wheat were the shipments, but examination shows that prosperity is greater, comfort more general, and wealth enhanced with less imports and less product of gold. To extend manufactures should be the aim of capital and be encouraged by every class desiring the prosperity of the country. The many millions of dollars lying in the banks of this city waiting to be loaned on real estate at a high rate of interest, would serve its fortunate owners and the general public far better were it invested in the manufacture of articles of home consumption. The policy which forces us to send abroad for the great number of things of common use, not only represses advancement but is most ruinous. It would be equally consistent in sending our horses to Pennsylvania to be shod, or to England, where the iron is produced, as to send our wool to be made into clothing, our lead to be made into paint, our rags to be made into paper, our wheat or corn to be made into starch, or of exporting many other products and importing them as manufactured for consumption at greatly increased cost, giving employment to the labor and capital of other countries at our own expense.

The most important, as well as the earliest of our manufactures, are the workers of iron and other metals. Blacksmithing is one of the most ancient and honorable of the class of metal workers, requiring strength and some knowledge of arts and sciences in its successful accomplishment. In the early days of civilization, those nobles and knights who achieved the greatest triumphs in war and in the chase, were their own armorers and horse shoers, and thus established the art and gave the foundation for the numerous family of Smiths. There are some eighty such establishments in this city, using a large capital and employing a great number of men. Of other branches of metal workers, there are upwards of ninety establishments, of which twenty-eight are foundries, machine shops, boiler works, etc., five brass foundries, six tin works, five tool manufactories, four cutlery establishments, three file cutting houses, one of mathematical instruments, manufactories of springs, of screen work, of screw bolts, of