Results of Deforestration.

"When in our western forests one is constantly impressed by the change in relative humidity wrought wherever the forest has been removed," observes a writer in Popular Science Monthly. "Springs have disappeared and canyon and ravines are now dry where there were formerly perennial streams. Under the leaf mold and other debris of the forest the soil is always moist, while on denuded areas in the same locality it is parched and dry. Everywhere the deep mulch forming the floor of the forest grasps the descending rains and melting snows and guides them into the deeper recesses of the earth. Where the forests have been destroyed, or even the mulch and litter forming the forest floor, as it so often is by fire or the excessive grazing of sheep, the rains for the most part, instead of sinking into the soil, pass over the surface carrying silt and other debris into the streams and reservoirs, causing vital injury to irrigation enterprises. So, also, in the semiarid regions, where there are no forests or where they have been destroyed, the wind has a free sweep, resulting in an enormous increase in evaporation. In some instances the evaporation from a water surface exposed to the free sweep of the wind reaches a maximum of thirteen inches in a single month. In exposed situations snows a foot in depth are frequently lapped up in a single day without even moistening the soil beneath. We do not appreciate how great the necessity for the preservation of the forests is to the irrigable west. Reservoirs for the purpose of impounding water to be used in irrigation have been constructed by private enterprise in many parts of the west, and the possibility of governmental construction of such reservoirs is by no means improbable. Effective reservoirs are not possible in our irrigable regions without due regard for the forests that feed the streams which fill them. Forests everywhere are the great preventers of erosion, and nowhere is this more evident than in our western mountains. The utility of reservoirs, and to a lesser extent of distributing canals and laterals, becomes destroyed as they fill with silt. To prevent this filling the forests must be preserved; they must be protected from fire in so far as an efficient forest service can protect them, and also from grazing wherever it seriously interferes with the effectiveness of the forest floor as a water absorbent."

Cast Steel.

"From the earliest times up to the middle of the eighteenth century the only method by which steel was made was by heating wrought iron in close contact with charcoal or some carbonaceous material," says the International Monthly. "In 1741 Daniel Huntsman, a clockmaker of Handsworth, near Sheffield, England, made practicable a process of making steel in small crucibles. At first the contents of the different crucibles were not sufficiently uniform in composition to allow of mixing, and the size of steel castings or forgings was limited to the amount of steel contained in one crucible. Later, however, as skill in refining became more expert, the contents of many crucibles were poured into a ladle and the resultant mixture cast into moulds of suitable shape for use in the trades. The most successful pioneer in developing the crucible steel industry was Alfred Krupp, of Essen, Germany, who, with his descendants, have always led their competitors in size and excellence of castings and forgings of this metal. At the International exhibition in London in 1851 this manufacturer exhibited a cast-steel ingot weighing two and one-quarter tons, this being by far the largest casting made up to that time. He progressed rapidly after this, and at successive world's expositions—at Paris in 1855, at London in 1862, at Paris again in 1867 and at Vienna in 1873—exhibited ingots weighing respectively ten, twenty, forty and fifty-two and one-half tons. Since then the weights of ingots at these works have nearly doubled the amount last mentioned. When it is borne in mind that the contents of over 4,000 crucibles are necessary to furnish the metal for the largest ingots, the great skill attained in the manipulation of material and men will be appreciated.

Never build upon a possibility. Thereby you will be saved much disappointment.