

stone or heavy weight, he drives the bar in under the thing to be moved or lifted, the *lever* becoming in this case one of the *second kind* where the weight is between the fulcrum and the power.

Now come we to the beautiful mechanism of the hand : this of itself the most complex and universal piece of machinery. There is no end to the multifarious uses to which it can be applied. You can take a *pinch* of any substance as between the forefinger and the thumb, or increase the pinch by using with the thumb two, three or the four fingers—a hand full, or hold your hand palm up and make a *scoop* of it—turn it the other way and use it as a *scraper* or after sowing seeds, use the opened fingers as a *rake*, the thumb and finger the while or at intervals performing the duty of a *crusher* of the larger or coarser soils or humps.

Close your fingers and they will hold water while you *scoop* it up to drink from as on a survey or a pic-nic. Again with the thumb and finger you can *knot* the end of a piece of thread or twine or tie two ends together—thread a needle, push the needle half-way through the material to be sewed, catch it on the other side and pull it through the balance of the way.

Look at the simultaneous action of all the fingers at playing a piano, a flute or any stringed instrument, or one with keys—work the type-writer—look at your hand in writing, drawing, painting, weeding, plucking fruit or berries.

See the freedom of motion of the hand about the wrist due to the same play between the carpals and their ligaments, as of the tarsals of the foot already noticed. The hand can, as the whole arm at the shoulder, describe quite a circle and can make a perfect one, as in free hand drawing when the fore arm and a fortiori the whole arm is enlisted in the process.

See the strength of the hand and fingers in handling heavy weights ; the cramping, vise-like action of the thumb and fingers in holding, by mere force of friction such a weight as it can bear. Why, the very finger ends and nails can catch and hold and handle a barrel or a firkin by the edges of its hoops.

You can finger out the single handed alphabet for the dumb and separate the fingers into two's, or into one and three and working from either side—bend all the fingers or any one or more of them either at the knuckles or at the articulation between the