

CHAPTER X.

MISCELLANEOUS MECHANISMS.

§ 51.—THE “SIMPLE MACHINES.”

IN the older books on Mechanics, before the development of the system of machine analysis which we have used, and which is essentially due to Professor Reuleaux, the actual machines of the engineer are generally taken as being represented by certain combinations called “simple machines.” Out of these, as elements, it is more or less consistently assumed that actual machines are built up. It is not worth while here to discuss a theory so hopelessly inconsistent with facts as this.¹ It will be right, however, to notice what is the real position of the “simple machines” as mechanisms.

The **lever** and the **wheel and axle** are, in reality, kinematically identical. Each is often figured in an impossible fashion, the lever as a bar, resting quite unconstrainedly on a triangular fulcrum, the wheel and axle as a single body poised, unsupported, in mid air. To form part

¹ It is a matter for great regret that the study of these “simple machines” should still be sanctioned and encouraged by the examinations of the University of London, which have so important an influence on the direction of teaching in their own subjects.

