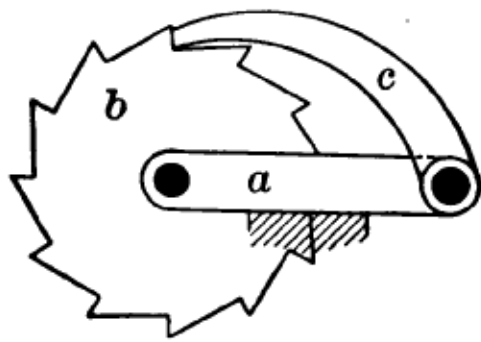


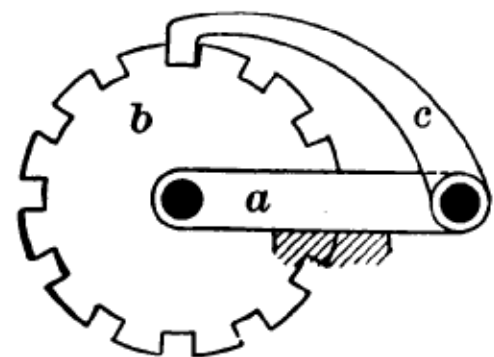
CHAPTER IX.

RATCHET MECHANISMS AND ESCAPEMENTS.

75. Ratchet-gearing.—We have so far considered mechanisms in which relative motion of the various links is possible at any instant, so that no link is definitely held or checked by another. We have now to study the action of *Ratchet-gearing*, which may be said to be gearing so arranged that certain links are temporarily or periodically locked together or connected during the action of the mechanism. This locking or checking of relative motion may be so effected that relative motion of the two links is only possible in one sense or direction (when the gear is called by Reuleaux a *Running-ratchet Train*), or movement in both directions may be rendered impossible when the ratchet acts, in which case the gear is known as a *Stationary-ratchet Train*. Fig. 150 shows the two kinds of ratchet-train in their typical



Running.



Stationary.

FIG. 150.

forms. Each consists of a frame or arm *a*, a ratchet-wheel *b*, and a ratchet or click *c*. In the first figure *b* is evidently capable of left-handed rotation only, so long as the ratchet *c* (sometimes called a *pawl*) is resting against its teeth. In the second figure motion is only possible when the pawl is

