ascent of the beam, and standing still during its descent, when another ratchet-wheel is moved by an intervening wheel in the same direction as the first, and thus the two communicate a continued rotative motion to the axis on which they are placed, which is thence transmitted by a large-toothed wheel to a smaller wheel or pinion, on the shaft of which is a fly, to accumulate momentum, and a crank proposed to be applied to work ventilators, and to many other useful purposes. The fly, by accumulating in itself the power of the machine during the time it was acted upon, would continue in motion, and urge forward the machinery whilst the steam-engine was going through its inactive returning-stroke. This will be the case, provided that the resistance exerted by the working-machine during the whole period of the working and returning-stroke of the steam-engine, together with the friction of both, does not exceed the whole pressure exerted by the steam-engine during its working-stroke; and provided that the momentum of the fly, arising from its great weight and velocity, be very great, so that the resistance of the work during one returning-stroke of the steam-engine do not make any very sensible diminution of the velocity of the fly. This is evidently possible and easy. The fly may be made of any magnitude; and being exactly balanced round its axis, it will soon acquire any velocity consistent with the motion of the steam-engine. During the working-stroke of the engine it is uniformly accelerated, and by its acquired momentum it produces in the beam the movement of the returning-stroke; but in doing this, its momentum is shared with the inert matter of the steam-engine, and consequently its velocity diminished, but not entirely taken away. The next working-stroke, therefore, by pressing on it afresh, increases its remaining velocity by a quantity nearly equal to the whole that it acquired during the first stroke. We say *nearly*, but not quite equal, because the time of the second working-stroke must be shorter than that of the first, on account of the velocity already in the machine. In this manner the fly will be more and