reduced, but the kinetic energy of discharge is increased. Similarly, if the bucket angle β be fixed, an increase in α reduces the peripheral speed for entry without shock. At the same time, it increases the relative velocities, and may increase or diminish the discharge velocity depending on the angles. Assuming the relative velocity at discharge to be ·9 times that at entrance, the following tables show how the peripheral speed, the losses, and the efficiency vary :—

$\beta = 30°$.

α	15°	20°	10°
$u_2 \div v_1$	·518	·350	·689
${}_2v_r \div v_1$	·518	·680	·347
$v_3 \div v_1$	·137	·290	395
Loss in buckets as fraction of $v_1^2 \div 2g$	·052	·088	·023
Loss at discharge as fraction of $v_1^2 \div 2g$	·019	·084	·156
η	·929	·828	·821

$\beta = 45°$.

α.	15°	20°	22°	25°	30°
$u_2 \div v_1$	·707	·598	·556	·495	·368
${}_2v_r \div v_1$	·367	·483	·525	·590	·707
$v_3 \div v_1$	·394	·205	·158	·148	·147
Loss in buckets as fraction of $v_1^2 \div 2g$	·025	·048	·052	·068	·095
Loss at discharge as fraction of $v_1^2 \div 2g$	·155	·042	·025	·022	·022
η	·820	·910	·923	·910	·883