the centre of the main axle. By a lever the forks can be adjusted up and down while in motion, and the machine thrown in and out of gear. The forks are provided with springs which prevent breakage from striking obstructions.

Rake.—The horse rake is made to dump either automatically by means of a friction band or a spur wheel on the axle, thrown on by a foot lever, or by a hand lever assisted by a coiled spring. The teeth are made of a fine quality of crucible spring steel, tempered. By the use of this material the Canadian manufacturers can use light weight teeth of less than ½-inch diameter, while on all English makes the teeth are very heavy, being made of wrought steel and not tempered, of various shaped section, and about one inch thick. When the teeth are raised, the gathered hay is forced out by a line of clearing rods. The wheels and axles are of steel. The rakes are made of varying width from 7 to 10 feet, and the teeth are from 3 to 4 inches apart.

Loader.—The hay loader, Fig. 7, Plate 3, is a comparatively recent machine, but its use is being greatly extended every year. Its advantages are many, the principal being, perhaps, that by its use, hay is often secured when ready for the stack, that might otherwise be ruined by the weather. When the hay has been turned and thoroughly dried, it must be collected without loss of time, and the farmer often works far into the night rather than take the chances of losing his crop before morning. Further, the loading of the hay on the waggon is the most laboursome part of haymaking. With the loader it is possible for three men to place a ton of hay on the waggon in five minutes, while it would require the same men fully fifteen minutes to do the work by hand. The machine is attached to the rear of the waggon and operated by the same team that draws the load, adding but slightly to the draught. The driving power comes from the wheels through a ratchet and pawl in the hubs, which may be thrown on and off at will. These drive a cylindrical cage revolving on the axle and carrying six rows of curved teeth which pick up the hay