ance of a plate, exhibiting the plan of elevation, n⁰ 1. the ground plan, n⁰ 2. and the 3d ſhowing its eſſential parts in a distinct manner, we hope it will be eaſily understood by all our readers who have not had an opportunity of ſeeing it. The power employed for turning that part of the machine which ſeparates the corn from the straw is produced by four wheels (when moved by horſes), the teeth of which move in one another and turn the drum, on which four ſcutchers are fixed. The ſheaves are introduced between two fluted rollers, which hold them firm, and draw them in gradually, while the ſcutchers strike off the grain from the straw as it passes through. This will ſuffice for a general idea of this machine. We will now be more parti­cular.

The large ſpur-wheel A, n⁰ 1. and *2.* which has 276 cogs, is horizontal, and moves the pinion B, which has 14 teeth. The pinion B moves the crown wheel C, which has 84 teeth ; the wheel G moves a second pinion D, which has 16 teeth ; and the pinion D moves the drum HIKL. The drum is a hol­low cylinder three feet and an half diameter, and placed ho­rizontally ; on the outside of which the ſcutchers are fixed by strong ſcrew bolts. The ſcutchers conſist of four pieces of wood, faced on one side with a thin plate of iron, placed at an equal diſtance from each other, and at right angles to the axis of the drum.

The ſheaves are ſpread on an inclined board F, n⁰ 3. from which they are introduced between two fluted rollers GG made of caſt iron, about three inches and an half in diame­ter, and making about 35 revolutions in a minute. As theſe rollers are only about three quarters of an inch diſtant from the ſcutchers or leaves of the drum HIKL, they ſerve to hold the ſheaves faſt, while the ſeutchers *a, b, c, d,* moving with prodigious velocity, ſeparate the grain com­pletely from the straw, and at the ſame time throw out both grain and straw upon the concave rack M, lying horizon­tally with slender parallel ribs, ſo that the corn passes through them into a hopper N placed below. From the hopper it passes through a harp or riddle O into a pair of fanners P, from which, in the moſt improved machines, it comes out clean and fit for the market. The straw, after being thrown by the ſcutchers a, *b, c, d,* into the rack, is removed from it by a rake QRST into a place contiguous V. The rake conſiſts of four thin pieces of wood or leaves ; on the end of each of theſe leaves is ranged a row of teeth *e,f, g, h* five inches long. The rake moves in a circular manner in the concave rack, while the teeth catch hold of the straw, and throw it out of the rack. Theſe are all the eſſential parts of the machine ; the rest may be eaſily understood by the re­ferences to the Plate. W is the horſe-courſe, n⁰ 1, which is 27 feet diameter. X is the pillar for ſupporting the beams on which the axle of the spur-wheel is fixed. YYY are three ſpindles for moving the two fluted rollers, the rake, and fanners. To the deſcription now given we have only to add, that the drum has a covering of wood Z at a ſmall diſtance above it, for the purpoſe of keeping the ſheaves close to the ſcutchers.

The advantages of this machine are many. As the drum makes 300 revolutions in a minute, the four scutchers to­gether make 1200 strokes in the ſame ſpace of time. From ſuch power and velocity, it is evident that much work muſt be performed. When the horſes go at the rate of two and one-third miles *per* hour, ſrom three to six bolls will be thraſhed ; but as the quantity thraſhed will be leſs when the straw is long than when it is ſhort, we ſhall take the ave­rage at four bolls. One gentleman, whoſe veracity and ac­curacy we can depend on, aſſures us, that his mill thraſhed 63 bolls in a day; by which, we ſuppoſe, he meant 10 hours. To prove the ſuperior advantage of this machine to the com­mon method of thraſhing with flails, a gentleman ordered two equal quantities of oats to be thraſhed by the mill and by flails. When the coin was cleaned and meaſured, he ob­tained 1/16th more from the ſheaves thraſhed by the mill than from thoſe thraſhed by the flail. We are alſo informed by another gentleman who has studied this machine with much attention, and calculated its advantages with care, that, in­dependently of having the corn much cleaner ſeparated from the straw than is uſually done by flails, there is a ſaving of 30 or 40 *per cent,* in the expence of thraſhing.

The number of perſons requiſite for attending the mill when working is six : One perſon drives the horſes ; a se­cond hands the ſheaves to a third, who unties them, while a fourth ſpreads them on the inclined boards and preſſes them gently between the rollers ; a fifth perſon is neceſſary to riddle the corn as it falls from the fanners, and a ſixth to remove the ſtraw @@(a).

This machine can be moved equally well by water, wind, or horſes. Mr Meikle has made such improvements on the wind-mill as to render it much more manageable and conve­nient than formerly ; and we are informed many wind-mills are now erecting in different parts of the country. As to the comparative expence of theſe different machines, the erection of the horſe machine is leaſt ; but then the expence of employing horſes muſt be taken into conſideration. One of this kind may be erected tor L.70. A water mill will cost L. 10 more on account of the expence of the water­wheel. A wind mill will cost from L. *200* to L. 300 Sterling.

THRAVE *of Corn,* an expreſſion denoting 24 ſheaves, or four ſhocks of six ſheaves to the ſhock ; though in ſome countries they only reckon 12 sheaves to the thrave.

THRASYBULUS, a renowned Athenian general and patriot, the deliverer of his country from the yoke of the 30 tyrants, lived about 294 B. C@@\*.

THRASYMENUS lacus (anc. geog.), a lake of Etru­ria, near Perusia, and not far from the fiber, fatal to the Romans in the Punic war. Now *II Lagο de Perugia* on the Eccleſiastical State.

THREAD, a ſmall line made up of a number of fine fibres of any vegetable or animal ſubſtance, ſuch as flax, cotton, or ſilk ; from which it takes its name of linen, cot­ton, or ſilk thread.

*Dyeing Thread Black.* Linen and cotton thread may be dyed of a durable and deep black by ſolution of iron in sour beer, in which the linen is to be steeped for ſome time, and afterwards boiled in madder. See the article Dyeing, n⁰ 87.

Thread may be eaſily bleached by the oxygenated muria­tic acid diſcovered by Mr Scheele. This acid whitens cloth remarkably well, but it is still more advantageous for bleaching thread. Μ. Welter has formed at Lisle, with two partners, an eſtabliſhment for bleaching thread with great ſucceſs, and he has already begun ſome others. He

@@@[m]\* See Attica, n⁰ 199-174.

@@@(a) We add, on the authority of an experienced farmer, that of the six perſons neceſſary to attend the thraſhing ma­chine, only two can in juſtice be charged to the account of the machine ; namely, the perſon who manages the horſes, and the one who feeds the machine : For in the uſual mode of thraſhing by the flail, it requires the same number of perſons as the thraſhing machine does to clear as equal quantity of corn from the chaff in the same time.