5—a weather-cock, turning on an iron rod.
6—the end of the shaft, for hoisting outside of the house, which is fixed above the collar-beams over the doors, to hoist into either of them, or either story, at either end of the house, as may suit best.
7—the dark squares, showing the ends of the girders.
8—the joists over the water-house.
9—the mill-stones, with the spindles they run on, and the ends of the bridge-trees as they rest on the brays a a. b b show the ends of the brays, that are raised and lowered by the levers c c, called the lighter-staffs, for raising and lowering the running stone.
10—the water-wheel and big cog-wheel.
11—the wall between the water and cog-wheel.
12—the end view of the two side walls of the house.
Plate XXII. is explained in the Preface.

---

## CHAPTER XXIII.

### ARTICLE 158.

### OF SAW-MILLS.

### *Construction of their Water-Wheels.*

The wheels for saw-mills have been variously constructed; the most simple, where water is plenty, and the fall above six feet, is the flutter-wheel; but where water is scarce, or the head insufficient to give flutter-wheels the requisite motion, high wheels, double geared, will be found necessary. Flutter-wheels may be adapted to any head above six feet, by making them low and wide, for low heads, and high and narrow for high ones, so as to have about 120 revolutions, or strokes of the saw in a minute: but rather than double gear, I would be satisfied with 100.