sieve. A species of film is formed, which though not a hundredth of an inch in thickness and largely saturated with water, has sufficient body to answer every purpose. It is next made to pass between a series of wooden rollers, which gradually consolidate and compress its fibres and free it of all the surplus water. By means of heated rollers, through which it is caused to pass, every particle of moisture is at length removed, and it is calendered by being pressed between heavy polished iron rollers. The positions of two small revolving wheels, with cutting services, between which it is caused to move, regulate its width as required, and it is finally wound upon reels, from which it may be cut off into sheets of any length.

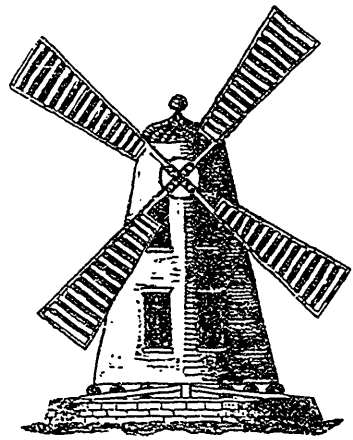
The entire operation is so simple that the visitor who has an opportunity of inspecting it cannot fail to comprehend it almost instantly. The machinery, nevertheless, requires to be of exceeding accuracy, and is accordingly rather expensive. Its capacity admits of the production of 9,000 pounds of paper per day, but only about three-fourths of that amount is at present manufactured, or between 180,000 and 190,000 pounds per month. Two thousand tons of straw are yearly consumed here in the manufacture of paper. But forty per cent. of this, however, is available as fibre. The balance passes off into glutinous matter and silica, neither of which being convertible into dollars and cents represents an appreciable value. This immense waste in the raw material is, however, fully compensated for in the advantages of the product. Compared with paper made from rags, straw paper has more body for the same weight, is better adapted for fast presses, and it will not readily tear, and calenders much more smoothly. As to whether it can be produced at a cheaper rate, we shall not take it upon ourselves to state. There are probably not over half a dozen factories in the United States engaged in making it. Two or three of them are situated in New York, and another in Cincinnati. There is but one newspaper establishment in Philadelphia which uses straw paper for printing purposes.

NEW WINDMILL POWER FOR GRINDING, &c.

Patented by R. H. Oates, Toronto, 9th August, 1861.

The principal of this invention is, that the Mill House revolves on a Circular Foundation, so as to keep the sails toward the wind; the sails being self-adjusting will cause the Machinery to run as steady in Squalls or a Storm, as in moderate wind. It is estimated that a Grist Mill on this plan can be built and completed for about $2,000, with two run of Burr Stones, two Bolts, &c.

Description of Building.—"Build a circular stone foundation, say 32 feet diameter, two feet thick, two feet above, and as much below the ground as will keep it from being affected by frost. On the top of this, place a circular piece of timber 12 inches square, frame into this two cross braces same size, crossing each other exactly in the centre of the circle. Bolt this wooden circular plate secure by wrought iron bolts coming up through the stone foundation. On the top of this timber circle, bolt or spike on a circular cast iron plate, half an inch thick and four inches broad; on the centre of the cross formed by the two braces, place a cast iron centre post 10 or 12 inches in diameter three feet high with a flange at the bottom two inches thick and 18 inches diameter, with 8 bolt holes, 1¼ inch diameter. This flange is sunk flush into the timber and bolted fast by 8 wrought iron bolts 1¼ inch diameter. Twelve inches above the flange a collar is cast on, and 15 inches above the collar is a key hole with key and washer. The Mill House is 18 feet square at the base and 9 feet square at the top; the posts are from 25 to 30 feet high.



One corner of the Mill House is the weather corner, out through this corner and as near the top as possible comes the wind shaft to carry the sails. This weather corner rests on the collar of the iron centre post. The main body of the Mill House from side corner to side corner with 9 cast iron wheels 12 inches diameter and 4 inches thick underneath, rest on the circular iron plate track. The lee corner over-hanging the circular foundation about 8 feet. The iron centre post will come up through an iron ring in the lower floor just inside of the weather corner with washer and key above said floor.

Advantages of this Plan.—The Mill House swings on the circular base round the iron centre post as the wind changes, like a ship at anchor. This is an advantage over the old Post Mill which has to be shifted by hand. The Mill with a revolving top is self-acting in part by the help of a small fantail wheel to bring the sails to the wind when wrong, but at times, in sudden squalls, this fantail wheel does not operate quickly enough, and the sails are blown off; in consequence the Miller has to be very watchful of the weather, or his Mill will meet with serious accidents. While a Miller in a Mill on my plan, need not trouble himself about the weather, let it come as it may, the Mill takes care of itself. Its advantage over Water Mills is, that you can build this Mill where you please, and its advantages over Steam being that the driving power costs nothing.