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## Washing Paper Stock.

The accompanying figure is a perspective view of an improved machine for washing paper stock, for which a patent was granted to Horace W. Peaslee, on the 20th of last September, and for which patents have also been secured in France, England, &c.

A is the framing of the machine. T is a trough supported by the frame in which a portion of the washing cylinder rotates through the water. B is the washing cylinder; it is made of woven wire work, secured to strong metal rings, one at each end, which are furnished outside with ways that fit grooves in the rollers, D D, running on shafts, E, in suspended bearings, *b b*, fastened to the standards of the frame. These rollers, D, form the bearings in which the cylinder, B, is capable of rotating. A portion of each end ring passes through a circular opening in one of the standards, in which it fits very loosely, so as not to produce friction. The object of these portions of the ring is to bring the open ends of the cylinder flush with, or beyond the outer ends of the standards, and to keep the ends of the troughs almost tightly closed, so that very little, if any, water escapes outside or around the cylinder.

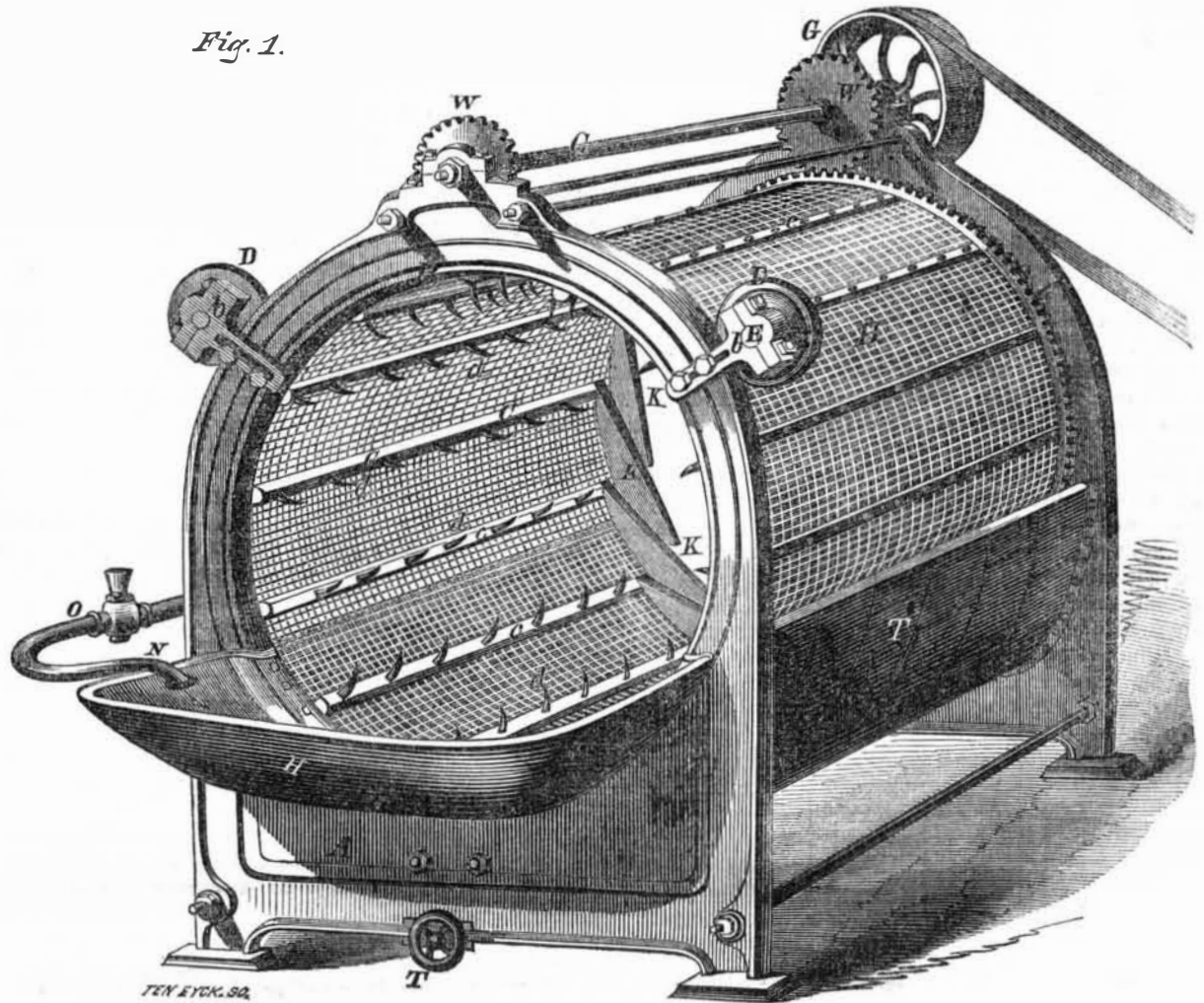
Each ring is furnished with spur teeth all round, to gear with the two spur wheels, W W, of the driving shaft, G. The cylinder is strengthened by wooden ribs, *c c*, which hold the hooks or bent steel teeth, *d d*.—These catch and carry up the rags, or other paper stock, and drop them repeatedly as the cylinder revolves. These hooks are arranged in a spiral line, winding several times round the cylinder, its direction being such as to cause the stock to be carried from the shute end, H, where it is fed in. This shute extends a short distance into the cylinder. At the opposite end of the interior of the cylinder are oblique curb pieces, K K, arranged at equal distances apart. They extend from the inner edge of the end ring a short distance into the cylinder, and are bolted to it. They are of such depth as to prevent the too free escape of water through the end of the cylinder. The spaces between these curb pieces form the channels, and the direction of the obliquity of these pieces is such, that the washed stock which has arrived at the end of the cylinder, rolls down the channels on the ascending side of the cylinder, and is discharged.

The cylinder is kept plentifully supplied with water by pipe, O. It is thrown on the stock by nozzle, N, as it enters the shute, H.

The pipe, *o*, runs along the outside of the cylinder, and is perforated with small holes to throw a number of strong jets into the cylinder on the stock along its whole length. The trough, T, is kept nearly filled with water. The stock is fed continually into the shute, H, in such quantities as to keep the cylinder about one-third full. As soon as the stock enters the cylinder it is caught by the hooks and carried up to meet the jets of water, which enter the ascending side of the cylinder, after which, by its continued ascent, it is dripped until it reaches the top of

## MACHINE FOR WASHING PAPER STOCK.

Fig. 1.



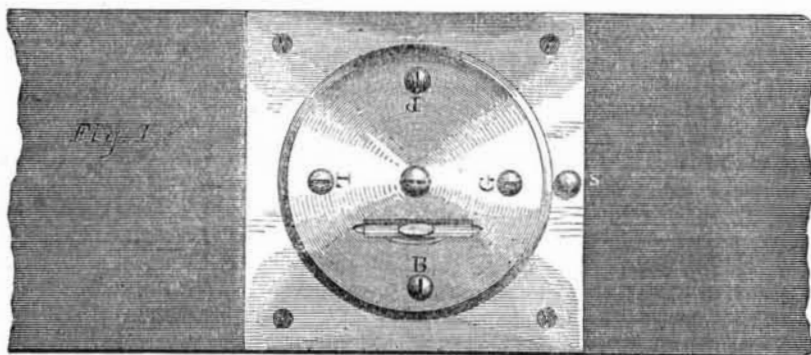
the cylinder, when it drops down into the water to be caught again by another hook, and submitted to the same operation a number of times before it reaches the end of the cylinder. This washing operation may be repeated a number of times in the same machine, or different machines may work after one another. The flooding of the cylinder with water is regulated by a sluice at the discharge end. The hooks, *d d*, may be set in straight lines, but in that case, the cylinder would require to be set in an inclined

position. The object of placing the hooks spirally, is to avoid hanging the cylinder on an incline, so as to maintain the same depth of water throughout in its lower part, when revolving in the trough. The oblique curbs, K, are arranged in continuous and close succession around the discharge end of the cylinder, and the passages between them form channels (no spouts are required as in other washing machines,) which discharge the stock towards the center of the trough.—These curbs in no way interfere with the reg-

ular discharge of the stock; they tend to produce a regular and uniform washing of stock, and an evenly slow escape of the water. They perform important offices. Were it not for these, the stock would be passed too rapidly through the cylinder, as the hooks, *d d*, could not act so freely and perfectly. One of these machines will be exhibited in Paris at the Industrial Exhibition.

More information may be obtained by letter addressed to the Backus & Peaslee, assignees, No. 289 Pearl street, this city.

## REVOLVING SPIRIT LEVEL.



The annexed figures represent an improvement in spirit levels, for which a patent was granted to H. W. Evans, of Philadelphia, on the 13th of Feb. last.

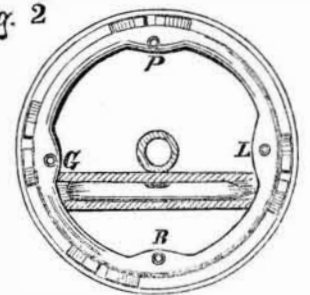
Fig. 1 is a top view of the instrument, and figure 2 is an under view of the revolving disk. The nature of the improvement consists in constructing a revolving spirit level so that it can be used for leveling, plumbing, grading, and battering; and by graduating the revolving plate it makes a convenient and compact slope-level. In fig. 1, the central disk revolves on the central pin, which is its axis. On the under side of this disk the tube with the spirit bubble is secured.—The box containing the seat for the revol-

ving disk is made of brass and let into the wood, and secured by screws. A spring, of which the pin, S, is the head, projects into the box, and catches into stops shown in fig. 2, at the back of the several letters.

OPERATION—The letters on the plate, fig. 1, stand for the objects the instrument is devised to accomplish. By pressing on spring head, S, and turning the disk until L is caught by the spring, the instrument will be set for a level; by bringing round P to the head of the spring, S, the instrument will be set with the bubble transverse to its length, and will answer for a plumb rule. When G and B are turned next to S, it can be set to any required grade or batter, be-

cause the spirit tube can be turned to any angle, and set there. By pressing on the spring, S, the disk or plate is left free to revolve on its axis, and can be set to L, P, G, or B, as may be required, alternately.

Fig. 2



Every person acquainted with the use of a level, will at once perceive the advantage of this one. The claim of the patent will be found on page 190, this Vol. SCIENTIFIC AMERICAN.

More information may be obtained by letter addressed to Mr. Evans, at No. 529, North 15th street, Philadelphia.

Muntz Metal.

We have been informed that the government has ordered commissioners to investigate the materials employed for the sheathing of ships and bolts, such as Muntz metal.