

(No Model.)

S. WHEELER.
TOILET PAPER ROLL.

No. 422,866.

Patented Mar. 4, 1890.

FIG. 1.

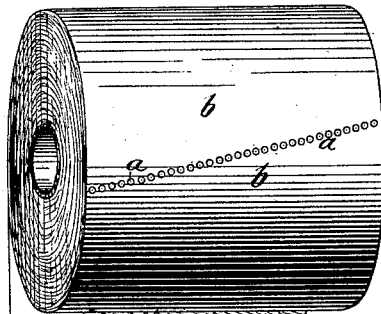


FIG. 2.

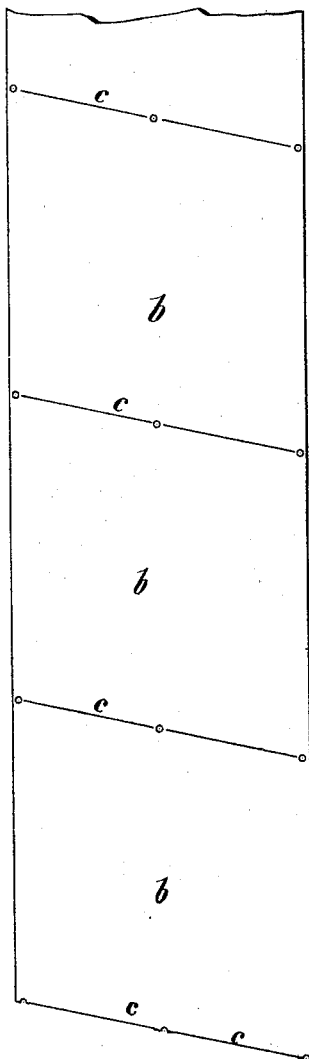


FIG. 3.

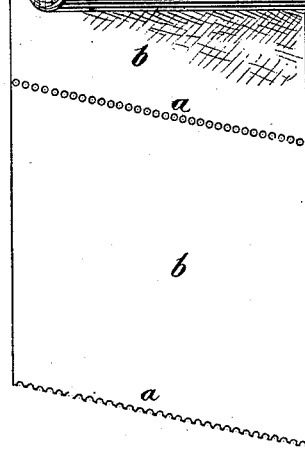
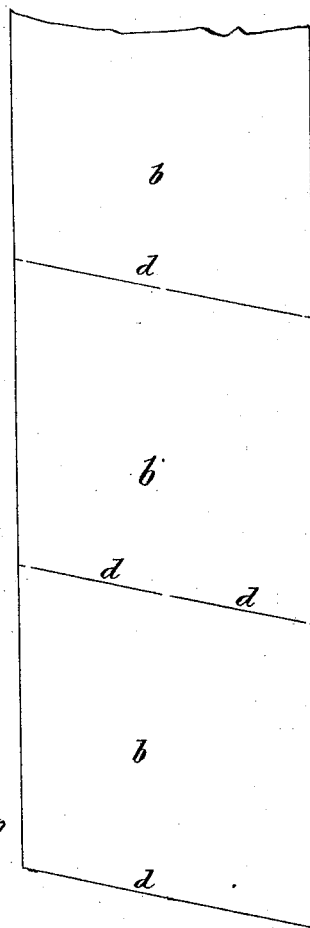
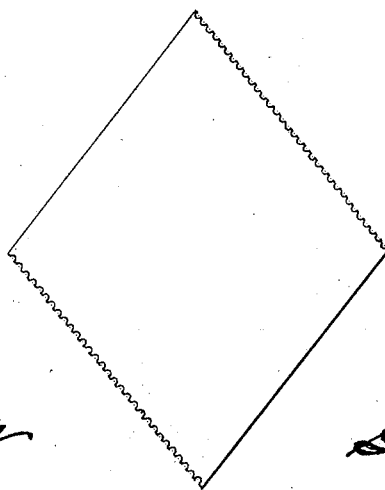


FIG. 4.



WITNESSES:

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TOILET-PAPER ROLL.

SPECIFICATION forming part of Letters Patent No. 422,866, dated March 4, 1890.

Application filed October 21, 1889. Serial No. 327,628. (No model.)

To all whom it may concern:

Be it known that I, SETH WHEELER, a citizen of the United States, and a resident of the city and county of Albany, in the State of New York, have invented an Improvement in Toilet-Paper Rolls, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to a roll of paper from which sheets may be torn of more economical shape than those heretofore found in roll form.

It consists in a roll of paper formed from a web having straight parallel edges, which is perforated, incised, or otherwise weakened obliquely.

Rolls of toilet-paper containing a web capable of being separated into sheets by reason of perforations, incisions, or other lines of weakness made therein, either by creasing or by the use of chemical means, have heretofore had the perforations, incisions, or other indications of points where the sheets are to be taken off so placed on the web that the sheets produced were not of economical shape for use. There is in them always a resultant waste of paper. By taking off a sheet, however, from a web which has its lines of weakness extending obliquely across the paper a more economical sheet is produced than heretofore; also one where with a minimum amount of paper there is also perfect safety in the use of the sheet. If one of my improved sheets is held in the hand, with the long points placed in the direction of the length of the hand, it will be seen that it is superior in this respect to the usual—say five by seven—sheet as ordinarily used, being, in fact, equivalent to a five-and-one-half-by-eight sheet. Yet there is not so much paper in my improved sheet by about thirty per cent. as in the five-by-sevensheet, (which latter is the size of sheet generally used.) There is also a saving in the reduced space occupied by a given number of sheets. For instance, one thousand sheets of the ordinary perforated paper of the size mentioned above—namely, five by seven inches—will make a roll three and three-fourths inches in diameter and five inches long, while a roll con-

taining the same number of diamond-shaped sheets, each sheet five and one-half by eight inches in size, will measure less than four and one-half inches long and three inches in diameter.

In the drawings, Figure 1 is a roll of toilet-paper made according to my invention having oblique lines of perforations. Fig. 2 is a detached portion of a similar roll having perforations and incisions combined. Fig. 3 is a detached portion of a similar roll having incisions only. Fig. 4 is a sheet detached from the roll.

a a a, &c., are lines of perforations made obliquely across the web of paper.

b b b, &c., are the sheets not detached from the web of paper. These oblique lines of perforations may be used on what is called the "composite roll," (for which I have an application for Letters Patent pending,) or they may be used on rolls having superposed webs of paper.

In Fig. 2 the oblique lines of weakness *c c c*, &c., are perforations and incisions combined.

In Fig. 3 the lines of weakness are incisions *d d d*, &c., only.

In Fig. 4 is seen a detached diamond form of sheet. This gives the elongated points. It will be observed from the measurements thereon that there is a considerable gain in the length of the sheet, as before described. This results from severing the sheet from the roll obliquely and gives a most economical and convenient sheet. It is obvious this may be less perfectly accomplished by alternating oblique with straight or curved lines, or both, across the web; but I prefer the use of oblique lines alone as being the most simple and practicable.

I claim—

A roll of paper the web forming which has straight parallel edges and oblique lines of weakness transversely dividing it into diamond-shaped sheets, substantially as described.

SETH WHEELER.

Witnesses:

E. B. WHEELER,
S. B. WHEELER.