(No Model.)

S. WHEELER.

WRAPPING OR TOILET PAPER ROLL.

No. 454,316. Patented June 16, 1891.

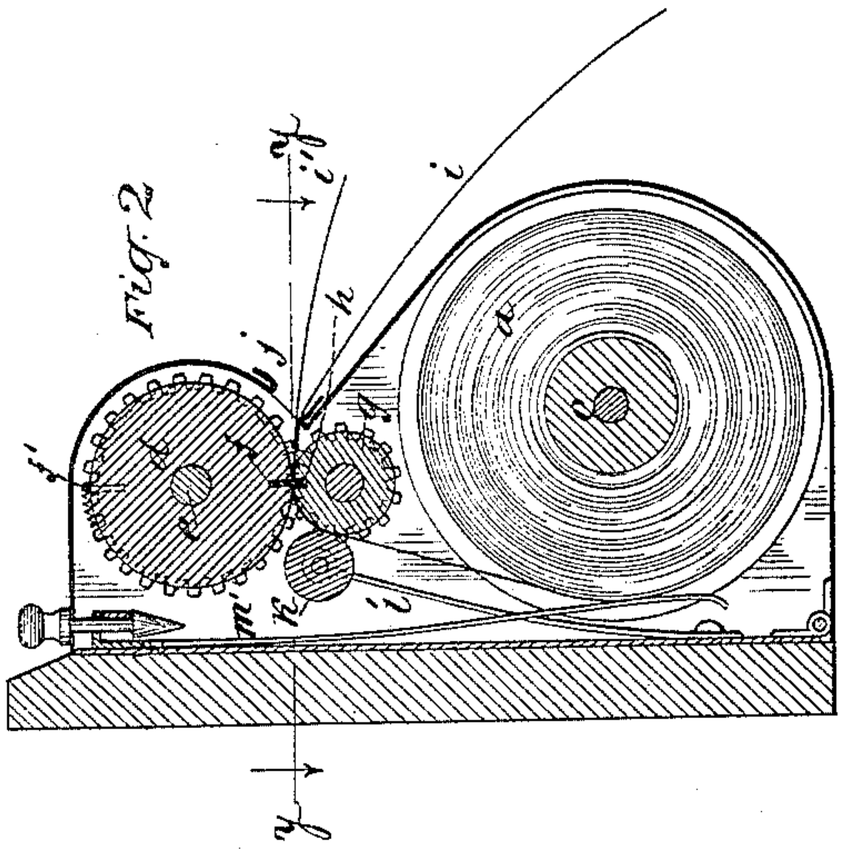

Fig. 2.

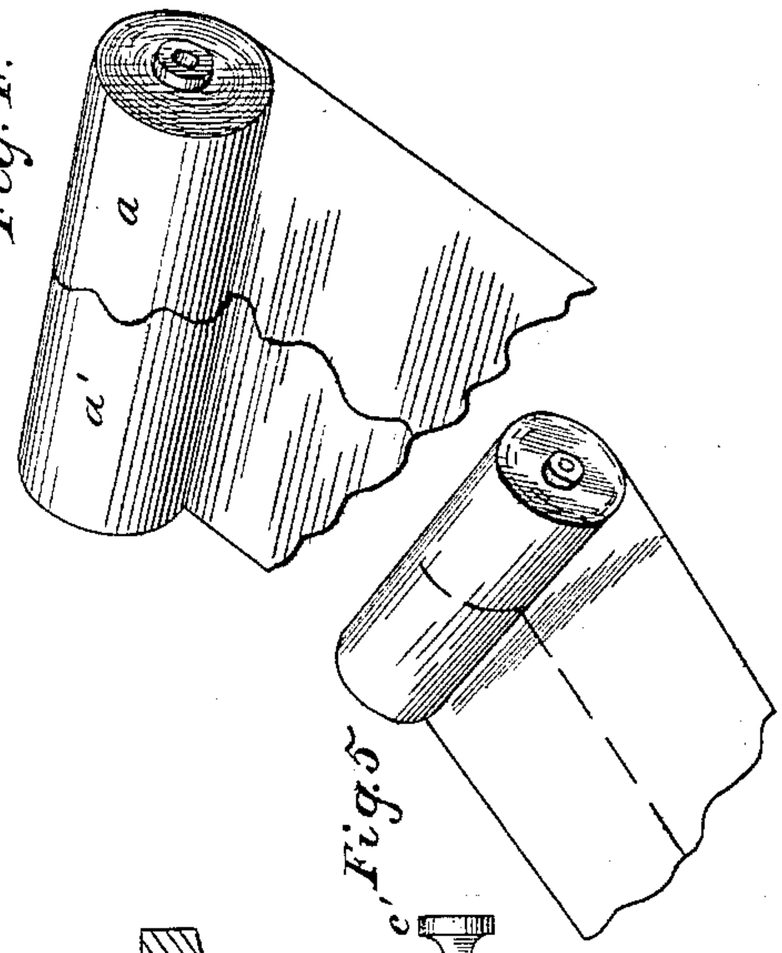

Fig. 4.

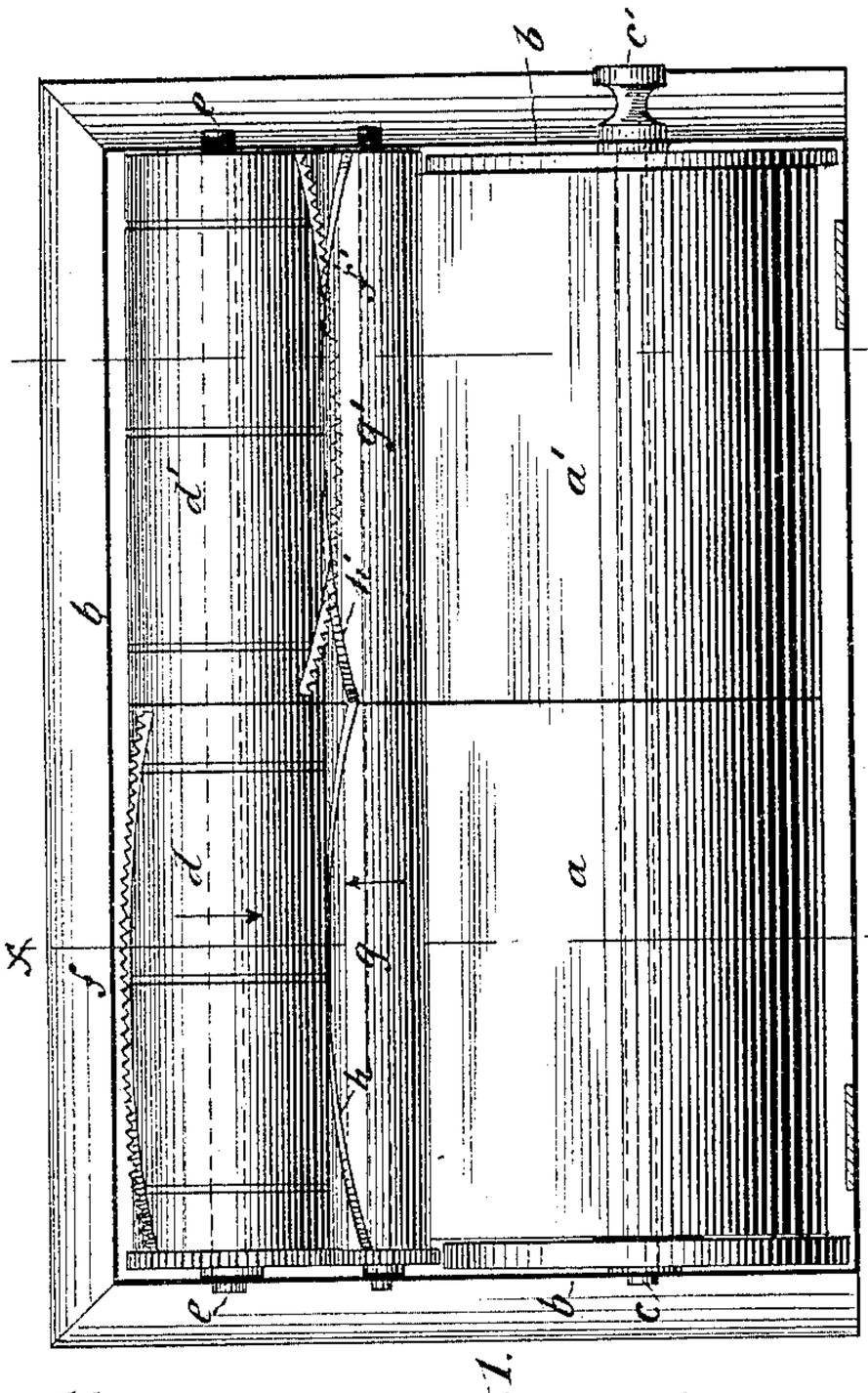

Fig. 1.

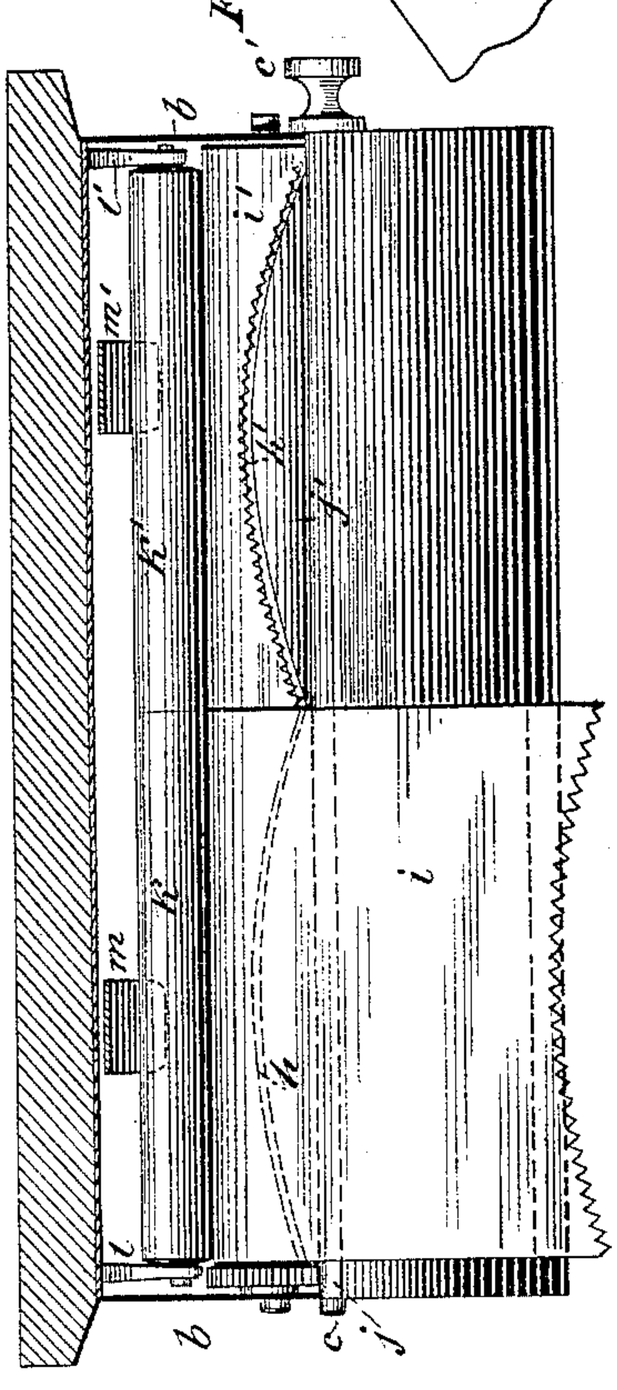

Fig. 3.

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WRAPPING OR TOILET PAPER ROLL.

SPECIFICATION forming part of Letters Patent No. 454,316, dated June 16, 1891.

Application filed July 22, 1889. Serial No. 318,199. (No model.)

To all whom it may concern:

Be it known that I, SETH WHEELER, of the city of Albany, in the State of New York, have invented certain new and useful Improvements in Wrapping or Toilet Paper Rolls, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention consists, principally, in a combination of two or more rolls of toilet or wrapping paper upon a common center, from which sheets may be drawn alternately, the pulling off of a sheet from one roll serving to advance the other roll to a position in which another sheet may be readily grasped when another piece of paper is required, and the latter in its turn to advance the roll from which the first sheet was drawn, and so on until the rolls are used up. This combination, which I term a "composite roll," consists of two or more rolls of paper arranged upon a common center and united in such manner that, motion being imparted to one by a pull on one end of the paper, both rolls will move simultaneously and in unison. The uniting of the ends of two or more rolls to accomplish this result may be done in various ways. In the description and drawings I explain several methods of uniting the ends of the rolls, any one of which is effective, but the invention is not limited to any one. The object is to produce a "composite roll," so called, consisting of two or more rolls on the same center or axis, from which the paper may be alternately drawn, the ends of the paper being always left the one in advance of the other, and a pull on the paper by the hand enables the user always withdraw a sheet without manipulating the fixture with the other hand.

In the drawings, Figure 1 is a rear view of a fixture, the back being removed, showing a composite roll composed of two rolls and the cutting mechanism of the fixture or cabinet. Fig. 2 is a sectional view taken on the line $x\ x$ of Fig. 1, looking in the direction of the arrow. Fig. 3 is a sectional plan view taken in the line $y\ y$ of Fig. 2. Fig. 4 is a perspective view of the composite roll having connecting interlocking edges removed from the fixture but of reduced size. Fig. 5 is a perspective view of the composite roll, showing an incised line of division of the different members.

$a\ a'$ are the two rolls forming the composite roll held in the frame b of the fixture on the rod $c\ c'$. Above this composite roll is a cutting mechanism constructed as follows: Two measuring-cylinders $d\ d'$ are journaled at $e\ e$. On these measuring-cylinders are knives or cutters $f\ f'$.

$g\ g'$ are counter-rollers placed immediately beneath the measuring-cylinders and containing-grooves $h\ h'$, into which the knives $f\ f'$ pass on the severance of sheets of paper. These measuring-cylinders and counter-rollers are so geared together that the measuring-cylinders will make one revolution to the counter-roller's two, and they move in unison and so that when the knife f' has passed into the groove h' of the roller g', and thereby severed a sheet of paper, the knife f of the other measuring-cylinder d will be half-way in its revolution, and thereby be advancing paper from roll of paper a, ready to be taken hold of by the hand and be pulled around so that the knife f will complete its revolution by being brought into the groove h, and thus cause the severance of a sheet of paper from roll a. It is obvious that the knife f' on measuring-cylinder d' will then have reached its greatest distance from the roll g', and thus have unwound a sufficient amount of paper, so that the end of the paper from the roll a' can be grasped by the hand until it is severed by the knife f'. The ends of the paper from the rolls $a\ a'$ pass up, respectively, to and between the measuring-cylinders $d\ g$ and $d'\ g'$.

i is the end of the paper coming from roll a, and, as shown in the drawings, the paper is about half-way advanced and ready to be pulled forward by the hand to get a sufficient amount for severance. The position of the knife f is therefore at the farthest point away from the roller g, and will advance as the end of the sheet i is pulled until the sheet is severed. By that time the end i' of the roll a' will have assumed the same position, also the knife f', so that the end i' can then be pulled, and thus make the measuring-cylinder d and knife f' revolve and cause another sheet to be severed. It will thus be seen that a pull

upon either sheet through the slots *j j'* of the fixture will cause the composite roll to rotate; also the cylinders *d d'* and counter-rollers *g g'*.

In order to keep the paper from falling from between the rollers immediately after separation of a sheet and from buckling or rucking up as it is passing from the composite roll *a a'*, I attach pressure-rollers *k k'* to the back of the fixture by means of steel springs *l l'*. The rollers *k k'* press onto the paper as it is passing between the cutting-cylinders *d d'* and counter-rollers *g g'*, and thus preserve a steady and sure delivery of the paper between these instrumentalities and out through the slots *j j'* of the fixture.

To preserve a steady and even delivery of the paper from the composite rolls *a a'* and to avoid any slacking of the paper in the roll during the operation of the fixture, I make use of pressure-springs *m m'*, attached to the back of the fixture at one end and bearing onto the rolls *a a'* at the other.

In the manufacture of the composite roll the inner ends of the web may first be secured to a straw-board or other suitable tube and then wound to the desired size, or the rolls may be first wound upon a removable shaft and the tube inserted and properly secured to the rolls after the removal of the shaft, or the webs may be secured to and wound upon a permanent shaft and the shaft then attached to the fixture or cabinet without the use of the tube. I, however, prefer the use of the tube as a more economical construction.

I may observe that in the manufacture of this composite roll the web forming the same may be wound from rolls of the width of the individual members composing them, or the web may be taken from a parent roll equal in width of web to that of the composite roll, the web being divided in the process of winding by rotary slitters in the usual manner.

The composite roll may be formed as follows: by binding the ends of the several rolls firmly together by means of one central tube; by the application of a moderately-adhesive material to the abutting ends of the rolls; by interlocking the connecting edges of the members of the composite roll. This is done by dividing the web as it comes from the parent roll in a curved or waved line, Fig. 4, instead of a straight line. The effect is when so cut and rewound the edges of the rolls interlock in a very effective manner, avoiding thereby all possibility of slipping of the convolutions upon each other and uniting the rolls firmly together. An angular or zigzag line may be substituted for the curved one and will have the same effect. Instead of a curved or waved line a broken or incised line, as shown in Fig. 5, may be effected. In this case the connection which unites the webs is so slight as to readily separate as the web is unwound, yet quite sufficient in the aggregate to unite the rolls and insure unity of movement.

It is obvious that the composite roll may be made by combining two or more of the connecting means above noted, thereby insuring the most perfect connection between the several rolls.

I claim—

1. A composite roll of wrapping or toilet paper the individual rolls of which are united substantially as described, whereby the drawing off of the paper from either roll will unwind the paper of the other roll, as set forth.

2. A composite roll of wrapping or toilet paper the individual rolls of which are united by the interlocking of their convolutions, substantially as described.

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