

A. FUNKE.
MACHINE FOR SPINNING PAPER THREADS.
APPLICATION FILED JULY 19, 1909.

974,132.

Patented Nov. 1, 1910.

Fig. 1,

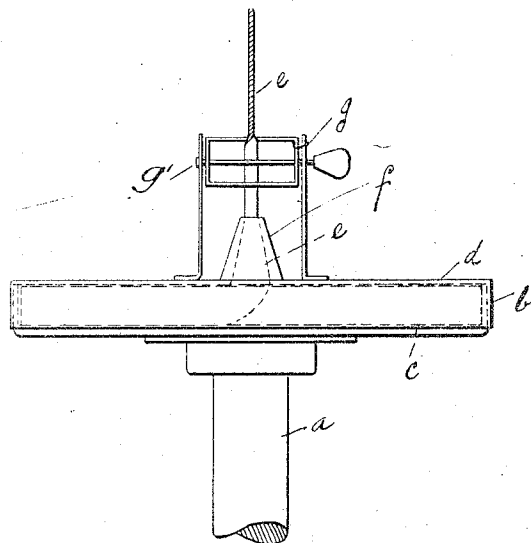
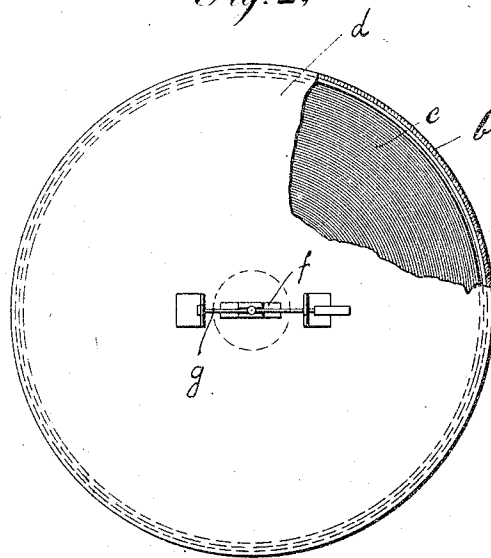


Fig. 2,



Witnesses:
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UNITED STATES PATENT OFFICE.

ANTON FUNKE, OF WESTIG, GERMANY, ASSIGNOR TO THE PAPYRUS ARTIFICIAL
PAPER MANUFACTURING COMPANY, OF HOBOKEN, NEW JERSEY.

MACHINE FOR SPINNING PAPER THREADS.

974,132.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed July 19, 1909. Serial No. 508,378.

To all whom it may concern:

Be it known that I, ANTON FUNKE, a subject of the German Emperor, residing at Westig, Prussia, Germany, have invented certain new and useful Improvements in Machines for Spinning Paper Threads, of which the following is a specification.

The spinning of thread from paper strips is well known. However, it has been hitherto very difficult to form a thread that is uniform, round and durable.

The object of my invention is to provide a spinning machine whereby a thread will be produced that will have the above named qualifications.

To illustrate my invention, reference is had to the accompanying drawing in which similar reference letters denote corresponding parts and in which—

Figure 1 is an elevation and Fig. 2 a plan view of the spinning machine.

Upon the spindle *a* of the machine a dish shaped drum *b* is borne which is adapted to receive the paper roll *c* and which has a centrally apertured cover *d*. The strip of paper *e* from which the thread is to be spun, is drawn from the center of the paper roll *c* upward through the opening of the cover and carried to the spool, so that while the drum revolves the strip is twisted around itself and formed into a thread. In order to prevent a non-uniform, slack twisting thereof and also to prevent the formation of knots, I provide a device, which consists of a hollow body *f*, which is secured to the cover *d* and projects centrally upward above the opening thereof. This hollow body is open on the top and bottom and its upper opening is narrower than that in the bottom. Owing to this, the strip in passing through and outward from the guide *f* is first folded or crinkled in longitudinal direction. This constitutes the preliminary rounding of the strip. However, this guide piece alone would not be sufficient, for the twisting of the strip would begin inside the hollow body or guide, preventing the crinkling or folding of the strip. Therefore, in addition to the body *f*, I provide another device, which consists of a body *g*, in form of a grate, buckle or the like, which is mounted in a frame or standards rigidly secured to the cover *d* and which is adapted to occupy a position above the hollow body

f. This grate is capable of tilting in this frame or standards around its horizontal axis and may be adjusted in the different positions in any suitable manner, as, for instance, by the tightening of a nut *g'*, or the like. The crinkled or folded strip, upon passing out from the body *f* is carried through the said grate so that it alternately passes on one and the other side of the cross-bars constituting the grate or buckle and thence to the spool (not shown). This buckle or grate shaped-body *g* has for its object to diverge the normal direction of the strip, whereby the twisting of the strip will be caused to take place only above the grate or buckle shaped body, permitting the portion of the strip below to receive the prerequisite crinkling or folding. The tension during the twisting of the thread is however as much important as the preliminary rounding thereof effected by the crinkling or folding. This tension is effected at the same time by the grate *g*. By tilting the latter more or less upon its axis the thread is more or less tightened or stretched, so that the tightness of the thread can be easily controlled. The driving of the spindle and the drawing off of the completed thread may be the effect by ordinary means.

What I claim and desire to secure by Letters Patent is:

1. In a machine for spinning paper thread, the combination with a spindle provided with a dish-shaped receptacle which carries the paper roll, of a hollow body open at both ends, upwardly narrowed, which is rigidly connected with the said receptacle and adapted to crinkle or fold longitudinally the paper strip, and an adjustable body supported upon and connected with the said receptacle and adapted to engage the strip above the said hollow body, so as to diverge the strip from its normal direction and thereby cause the twisting thereof after it has been crinkled or folded.

2. In a machine for spinning paper thread, the combination with a spindle provided with a dish-shaped receptacle which carries the paper roll, of a hollow body open at both ends and upwardly narrowed which is rigidly connected with the said receptacle and adapted to crinkle or fold longitudinally the paper strip, and a grate shaped adjustable body connected with the spindle

and adapted to engage the strip above the
said hollow body, so as to diverge the strip
from its normal direction and thereby cause
the twisting thereof after it has been crin-
kled or folded and according to the adjust-
ment of which the strip or thread can be
more or less stretched.

In testimony whereof I affix my signa-
ture in presence of two witnesses.

ANTON FUNKE.

Witnesses:

ELLIS V. LEVY,

MAX D. ORDMANN.