

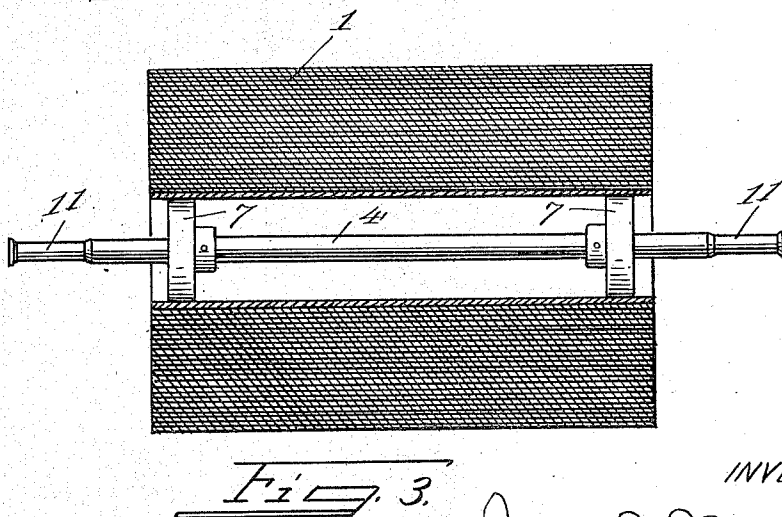
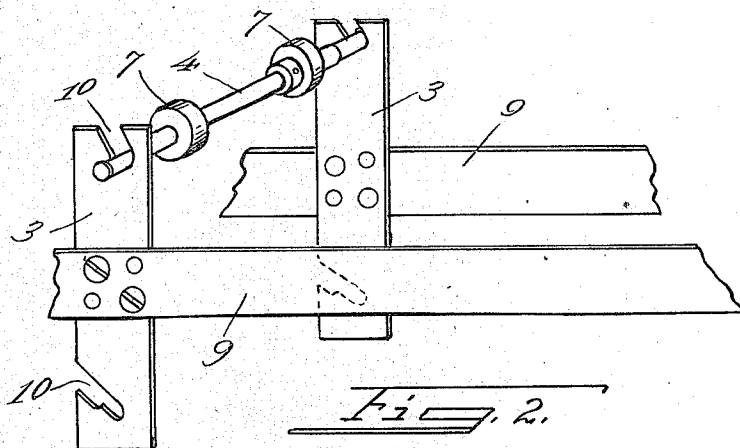
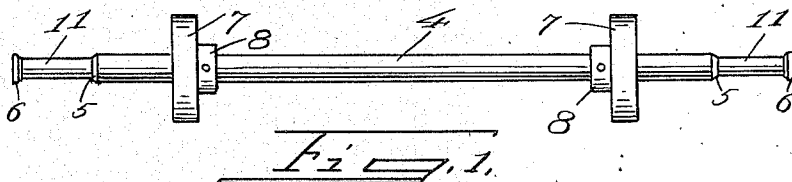
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MANIFOLDING PAPER SPINDLE

Original Filed Nov. 12, 1920



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MANIFOLDING-PAPER SPINDLE.

Original application filed November 12, 1920, Serial No. 423,689. Divided and this application filed September 10, 1923. Serial No. 661,763.

My invention relates to the spindles and paper roll mounting means in autographic registers and other forms of multiple copy or multiple web paper handling machines, such as are used in multigraphing and the like, and is a division of my application, Serial No. 423,689, filed November 12, 1920.

The usual method of providing paper for such machines is to form the same up in rolls, which are mounted in the machines, and replaced with other rolls when used. In the forming of the rolls, the usage has been to insert wooden spools into the roll to serve as a core, and to provide a spindle in the manifolding machine which is fitted to the core roughly, so that by thrusting the spindle through the core, and mounting the spindle, the paper roll will be arranged to unwind as required by the machine.

There are several bad features to this practice. In the first place the wooden spools or hollow cores are expensive when considered in large numbers, and are supplied at the printing point, so that they are usually thrown away by the user. In the second place the bore of the spools does not always run true, and does not fit the spindles in the same manner, so that an uneven unrolling may result, thereby hindering the perfect aligning of the machine and its feed of paper generally. More often the wooden spools or cores become broken, or are pulled out and thrown away by the customer before installing the paper, thereby giving a loosely hung roll on the spindle, which will not give proper operation.

My invention is quite different from any other paper mounting devices, such as are used on large paper re-wind machines and the like, since my object is to mount a roll of paper on a removable spindle, so that the removal and installation are quick and easy, and without any desire of clamping the roll tight to the spindle.

I avoid the difficulties above noted, and have as the object of my invention the provision of a paper mounting spindle for rolls of paper in multi-copy machines, which has fixedly secured thereto one or more filler disks which will fit within the hollow center of a roll of manifolding paper. No wooden spools need be furnished, and the filler disks are such as to be quickly and accurately thrust into the hollow center of a paper roll, thereby holding it so as to feed

properly when revolved together with the spindle.

It is manifest that the saving in material, and the avoidance of the difficulties hitherto noted, make of such an invention, as herein stated, a decided contribution to the art.

I accomplish the objects above set forth by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings:

Figure 1 is a side elevation of my novel spindle.

Figure 2 is a perspective partial view showing the spindle without a roll of paper thereon, mounted in a manifolding machine rack.

Figure 3 is a section taken lengthwise through a roll of paper with the spindle in place therein.

As a paper mounting rack, I show merely the two uprights 3, 3, and the frame bars 9, said standards having slanting notches 10 formed therein to receive the ends of the paper roll spindle. I show a roll of paper 1, formed of a single web of paper wound into a compact roll on the mandrel of a suitable winding machine.

The spindle, in its preferred form has a main body 4, of suitable length to accommodate the roll of paper to be used, and having reduced ends 11, formed between two shoulders 5 and 6, at the said spindle ends. In the form shown the body portion has mounted intermediate its ends a pair of disks 7, 7, which as shown, have collars 8, pinned to the spindle. Some other and cheaper means of equipping the spindles with the disks can, of course, be provided, such as staking or crimping them on.

The width of the disks is not of great importance or the number, although two I find sufficient. The disks are of the size of the center of a completed roll of paper, and hence are adapted to be thrust into the roll in installing the same in the rack.

The whole device may be made of metal, and is permanent and fool-proof. With it, it is not possible to hang a roll of paper loosely on the spindle. The reduced ends are the only portions of the spindles which have to be machined and the shoulder prevents excessive endwise movement of the spindles when in place.

Having thus described my invention, what

I claim as new and desire to secure by Letters Patent, is:—

1. A spindle for paper rolls in manifold-
ing machines comprising a metallic pin, and
spaced cylindrical filler disks thereon, adapt-
ed to serve as the core of a paper roll mount-
ed upon said pin, said pin having its ends
formed with shoulders to prevent excessive
side slippage of the same in an open journal
and the disks secured fast to the pin.

2. A spindle for paper rolls in manifold-
ing machines comprising a metallic pin and
spaced cylindrical filler disks mounted on the
pin and adapted to serve as a sustaining
core for a paper roll mounted over the pin,
said filler disks permanently united with the
pin.

3. A spindle for paper rolls in manifold-

ing machines comprising a metallic pin and
spaced cylindrical filler disks mounted on the
pin and adapted to serve as a sustaining core
for a paper roll mounted over the pin, said
filler disks permanently united with the pin,
and formed of metal.

4. A spindle for paper rolls in manifold-
ing machines comprising a metallic pin and
spaced cylindrical filler members thereon of
greater diameter than the pin, and approxi-
mately of the internal diameter of a roll of
paper to be mounted over said pin, said
filler members being united with the pin so
as to form a part thereof, and adapted to
serve as a sustaining core for a roll of paper
mounted on the pin.

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