

No. 771,224.

PATENTED OCT. 4, 1904.

C. J. BELLAMY.
COPYING PLATEN.
APPLICATION FILED NOV. 9, 1903.

NO MODEL.

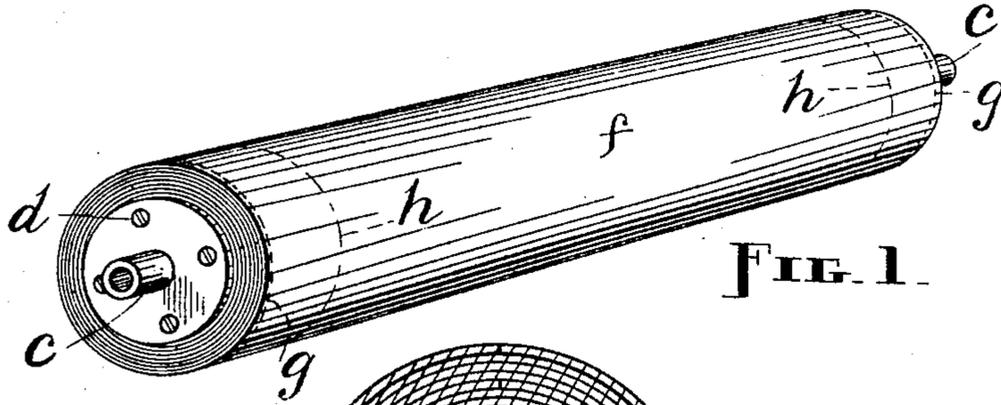


FIG. 1.

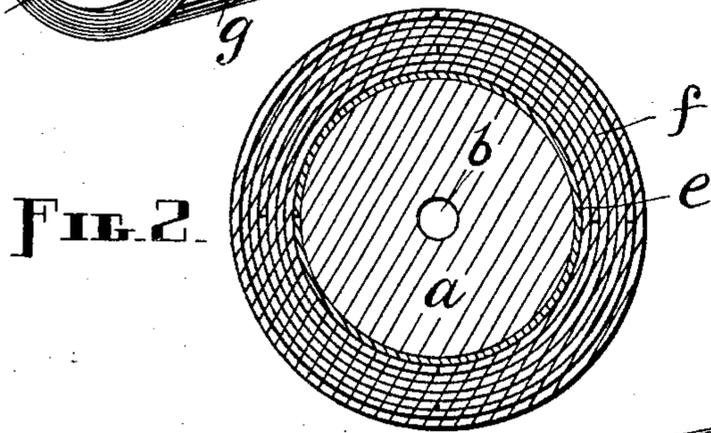


FIG. 2.

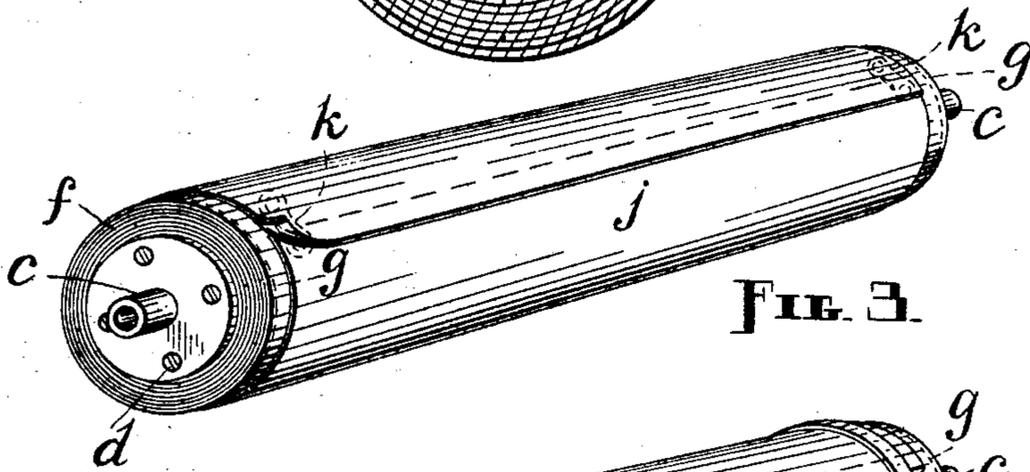


FIG. 3.

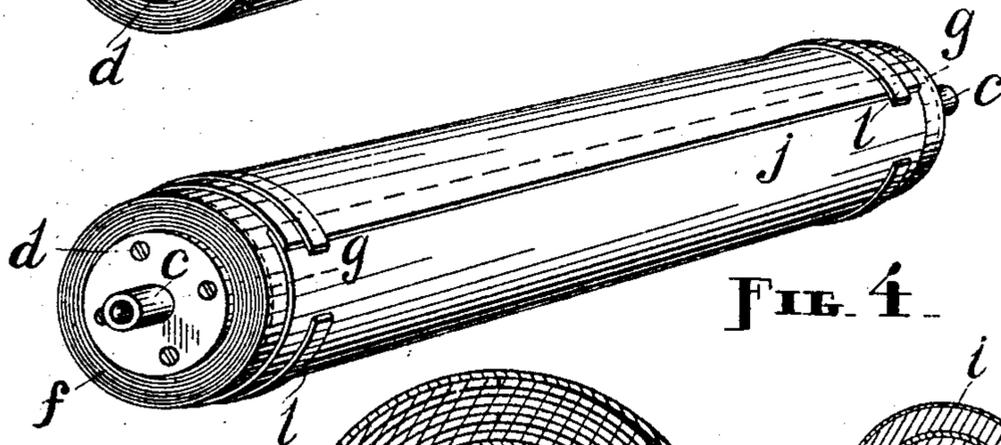


FIG. 4.

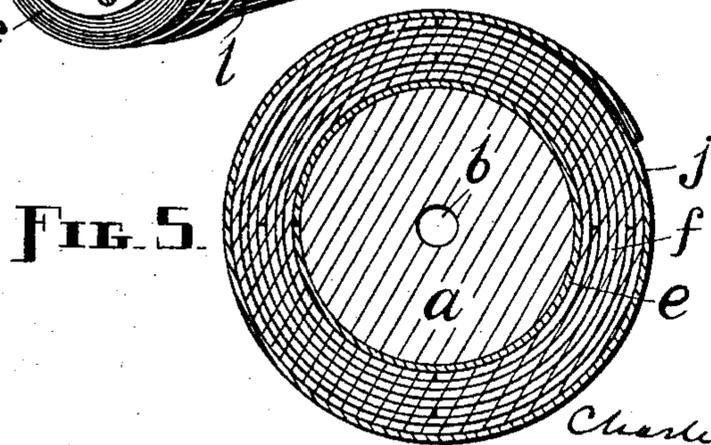


FIG. 5.

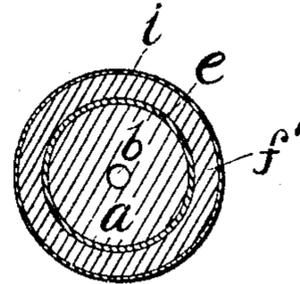


FIG. 6.

Witnesses

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COPYING-PLATEN.

SPECIFICATION forming part of Letters Patent No. 771,224, dated October 4, 1904.

Application filed November 9, 1903. Serial No. 180,341. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. BELLAMY, a citizen of the United States of America, residing at Springfield, in the county of Hampden and Commonwealth of Massachusetts, have invented a new and useful Copying-Platen, of which the following is a specification.

My invention relates more particularly to improvements in type-writer platen-rollers in which the outer body of the platen or the portion of said body within the type range consists of a material adapted to yield transferable pigment under the force of a percussive blow from the type; and the objects of my invention are, first, to produce a durable and lasting platen for writing-machines, such as type-writers, which has copying properties, in addition to affording suitable resistance to the primary impression medium—in other words, an impression and copying roller is provided—that is, a roller having an impression and copying surface; second, to provide such a platen which is economical, convenient, and cleanly, and, third, to furnish efficient means for covering the platen when it is not desired to take advantage of its copying properties. I attain these objects by the means illustrated in accompanying drawings, in which—

Figure 1 is a perspective view of one form of my platen; Fig. 2, an enlarged cross-section of the same; Fig. 3, a perspective view of the platen, showing the same covered and one kind of fastening means for the cover or sheath; Fig. 4, a similar view showing another fastening means; Fig. 5, an enlarged cross-section of the platen with the sheath added, and Fig. 6 a cross-section of a different form of platen.

The drawings illustrate approved forms of the invention; but it is to be understood that I do not wish to be restricted thereto, since numerous modifications may be made without departing from the nature of said invention, some of which will be hereinafter more explicitly pointed out.

Before proceeding to describe my invention specifically and in full detail I will explain the same and its application in a general way

and in passing touch upon the prior state of the art.

Heretofore the ordinary type-writer platen has usually consisted of an outer layer of hard rubber having considerable thickness drawn snugly over a hollow wooden core having trunnions at the ends mounted on a spindle, the rubber being held in place by brads. This platen is simply for impression purposes; but I have discovered that by changing the nature and manufacture of the platen I can obtain the same with added results. My new platen has a copying-surface of its own, so that if two sheets of paper be supported in contact therewith, the inner sheet being thin and translucent, two impressions are obtained from the type without the use of carbon-sheets. The impression on the outside sheet, which may be termed the "original" impression, is imparted thereto directly by the type when the type-writer ribbon is driven against the sheet by said type, and the second impression on the inside sheet, which may be termed "the copy," is obtained from the pigment-yielding platen. The copy is on the back of the inner and translucent sheet and must be read from the opposite side through the paper. The hollow core and trunnions of the core in the ordinary form of platen, such as is employed in the Remington type-writer, may be retained or the core made larger, or the core, which is usually of wood, may be provided with a layer of hard rubber. To this core is fixedly attached an outer body, the thickness of which depends on the diameter which has been decided upon for such body, but must not of course be greater than the normal diameter of the platen itself. In short, the outer body brings the diameter of the platen to the normal. The outer body or that portion which lies within the type range, at least, consists of pigment-yielding material—that is, material adapted to be impregnated with coloring-matter which will come off at the surface under the force of percussive blows of the type. This outer body may consist of a plurality of thicknesses of fine muslin, each properly impregnated with pigment, preferably joined to each other and to an interior envelop of non-pigment-

absorbing fabric by stitching at the ends. The body may be fixedly attached to the core by gluing the interior envelop or non-absorbent backing to said core. Instead of using a plurality of thicknesses to comprise the pigmen-
 5 tural outer body of my platen a felt or other heavy close pile fabric or material may be affixed to the core, or a composition adapted to absorb pigment and yield it up under percus-
 10 sion may be molded on or otherwise affixed to the said core. In case the surface of the material used, however, is not quite smooth and even it is preferred to draw tightly over the same a thickness of some variety of fabric,
 15 as muslin, which is entirely free from fuzz, so as to insure a clearly-defined impression. It is essential that the working surface of the body on the core be even or uniform and practically unbroken—that is, radii extending
 20 from the center to such working surface are substantially equal. The end portions of the outer body may be left unimpregnated with pigment or coloring-matter—that is, may consist of non-copying material—and the stitch-
 25 ing, if any, comes within such non-copying portions, as do also the fastening means for the protecting-sheath, which may be used when it is not desired to take a copy of the matter printed. Such a sheath may consist
 30 of paper or other suitable fabric or material preferably having a hard surface and of stiff quality covering the surface of the pigmental portion of the platen, as will be more fully explained hereinafter, said sheath being held
 35 in place by any suitable fastening device or devices. I prefer to leave the end portions of the platen free from coloring-matter, as above stated, in order to render the device more cleanly and less liable to soil the hands
 40 of the operator or the paper which receives the impression.

From the foregoing it will be observed that my improved platen is of the regulation diameter, hence adapted to allow the type-bars
 45 their full swing in action and giving just the desired convex surface to meet the concave face of the type. The essential feature is that the outer body of the platen, within the type range at least, shall consist of such material
 50 that, while affording a suitable backing or abutment for the paper where it receives the blow of the type in printing, it will also yield copying material on the inside of the inner sheet under such blow. The thickness of the
 55 pigment-yielding body of a platen of a given size may be made greater or less by the use of a core of less or greater diameter. Of course it is only necessary that such portions of the outer body as receive the impact of the
 60 type need be capable of yielding pigment or coloring-matter, but generally the entire outer body within the type range at least is impregnated.

It has been clearly shown that whatever the

outer body of the platen may consist of it
 65 must have the property of receiving and retaining, generally by absorption, and giving off under the force of a blow pigment or coloring-matter. The more of such pigment or
 70 coloring-matter which is yielded up evenly and without smutching or blotting under percussion in proportion to the amount originally taken up by the body the longer the platen will last and the more work it will do.
 75 While it may not be practicable to beat out, as it were, all of the pigment or coloring-matter, it is certain that a very large part of the same will be given off before the effectiveness of the platen as a printing medium
 80 has been exhausted. This is due to the fact that as the substance of impregnation is abstracted from the surface more of such substance is brought to the surface under the same blow and by the same natural process.
 85 During the life of the platen the work done therewith is substantially uniform, which is not the case when carbon-sheets are used.

Referring now to the drawings, in which similar letters of reference refer to similar parts, I show a platen comprising a wooden
 90 core *a*, having a central longitudinal opening *b* for the axis (not shown) upon which the platen is to be mounted and provided at each end with a flanged trunnion *c*, secured to said
 95 core by screws *d*, a waterproof or moisture-proof envelop or backing *e*, of cloth or other suitable material, closely fitting the core, and a plurality of thicknesses of fabric, as muslin, which forms the outer body *f*. The muslin thicknesses or layers are stitched together,
 100 as indicated at *g g*, and the body thus formed, to which the backing *e* is stitched, is fastened to the core *a* by gluing or cementing said backing to said core. Dotted lines *h h* indicate the limits of the type range outside of
 105 which the body *f* need not necessarily be impregnated. The blow of a type imparts an impression from the platen thus formed to the inside surface of a sheet of paper bearing directly upon said platen in the manner al-
 110 ready explained. In Fig. 6 is shown a similar core *a* and backing *e*, having an outer body *f'*, of felt or composition, over which is drawn a casing or facing *i*, of muslin or other smooth and even fabric, or the outer body *f'* may
 115 consist of some suitable composition. The facing *i* need not be employed, of course, if the periphery of the body *f'* is sufficiently smooth and even for the required purpose. This platen is capable of performing the same
 120 functions as the other.

It may not always be necessary to employ the backing *e*; but ordinarily it is believed that provision should be made to protect the
 125 core from the impregnated outer body or to remove the liability of the core, if of wood, to absorb the pigment or coloring-matter in said body. Moreover, since the pigment-im-

pregnated material of which the outer body is composed will not generally take adhesive matter, as glue, it will be seen that this is another reason for the employment of the backing *e*. If it is found undesirable or unnecessary to use a separate layer or thickness of fabric for the backing, the core may be coated with shellac or other impervious substance.

When it is desired to employ the platen for original impressions only, a sheath *j* is placed over or wrapped about said platen and fastened thereon in any suitable manner, such sheath consisting of glazed paper or other equivalent fabric which is sufficiently thin not to materially increase the diameter of the platen. In Figs. 3 and 4 two means of securing the sheath *j* upon the platen are shown. In the first instance stickers *k k* are employed at the ends outside of the type range. The ends of the sheet which comprises the sheath *j* may be abutted; but generally it will be found more convenient to lap the end of the sheath first fed into the machine under the other end and lying upon the copying platen-face. Thus lapped and fastened, as shown, the paper on which the printing is to be done, coming between the tension rollers and any adjacent projecting members of the type-writer and the overlapping edge, especially the corners thereof, tends to protect such edge and corners from being caught and turned over or entangling the working parts of the machine. The paper which is being printed upon thus covers the joint and obviates in the manner noted any liability of the outer flap or loose portions of the sheath to catch upon projecting parts of the machine, especially when the platen is reversed. It is clear that numerous methods of fastening the sheath to the platen in addition to those shown may be employed.

The terms "pigment" and "coloring-matter" herein used are intended to apply to black as well as tints, although black is not technically commonly recognized as a color.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a type-writer platen-roller comprising a core portion and a permanent outer portion, the radii extending from the center to the working surface of which are substantially equal, said outer portion being pigment-yielding.

2. As a new article of manufacture, a type-writer platen-roller comprising a core portion and a permanent outer portion which is pig-

ment-yielding within the zone of the perimeter in the type range, the radii extending from the center to the working surface of which pigment-yielding outer portion are substantially equal.

3. As a new article of manufacture, a type-writer platen-roller comprising a core portion, and a permanent outer portion impregnated with diffusible pigment, the radii extending from the center to the working surface of which are substantially equal.

4. As a new article of manufacture, a type-writer platen-roller comprising a core portion, and a permanent outer portion impregnated with diffusible pigment within the zone of the perimeter in the type range, the radii extending from the center to the working surface of which are substantially equal.

5. As a new article of manufacture, a type-writer platen-roller comprising a core portion and an outer portion, the latter consisting of a plurality of thicknesses impregnated with diffusible pigment.

6. As a new article of manufacture, a type-writer platen-roller comprising a core portion and an outer portion, the latter, where lying within the zone of the periphery within the type range, consisting of a plurality of thicknesses impregnated with diffusible pigment.

7. The combination, with a type-writer platen-roller comprising a core portion and an outer portion pigment-yielding within the zone of its periphery lying within the type range, of a non-pigment-yielding sheath therefor.

8. The combination with a copying-platen for writing-machines, comprising a suitable core and a pigment-yielding outer body fitted thereto, of a non-pigment-yielding sheath for the periphery of said platen.

9. The combination with a type-writer copying-platen comprising a suitable core and an outer body fitted thereto, such body being of pigment-yielding material within the type range, of a non-pigment-yielding sheath adapted to cover the periphery of the pigment-yielding portion of said platen, and means of attachment for said sheath located outside of said type range.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES J. BELLAMY.

Witnesses:

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STEPHEN D. TAFT, Jr.