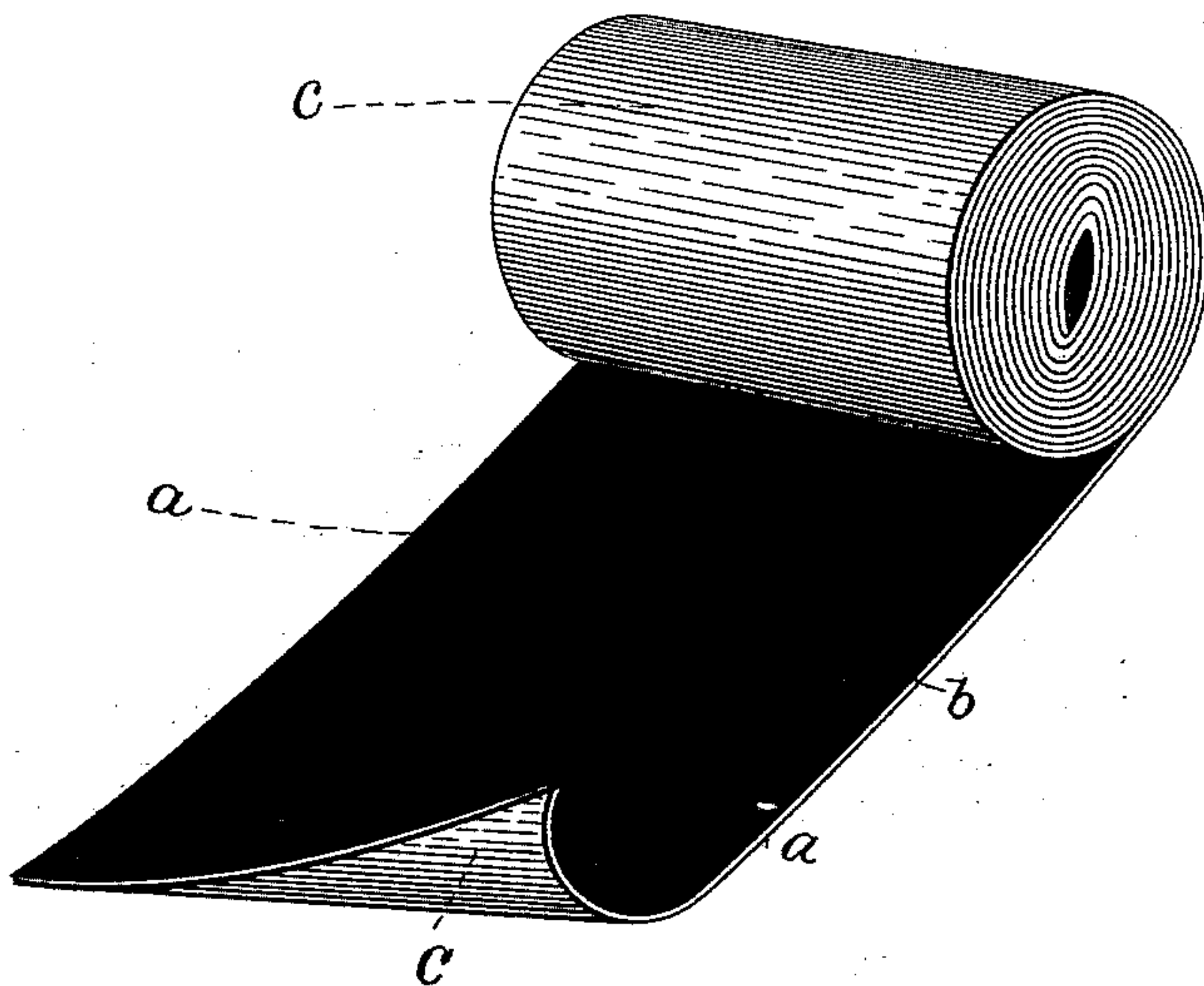


(No Model.)

L. H. ROGERS.  
INKING RIBBON FOR TYPE WRITERS.

No. 420,312.

Patented Jan. 28, 1890.



*Attest:*  
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*his attorney.*



# UNITED STATES PATENT OFFICE.

LEBBEUS H. ROGERS, OF NEW YORK, N. Y., ASSIGNOR TO THE ROGERS MANI-  
FOLD AND CARBON PAPER COMPANY, OF SAME PLACE.

## INKING-RIBBON FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 420,312, dated January 28, 1890.

Application filed April 25, 1889. Serial No. 308,621. (No model.)

*To all whom it may concern:*

Be it known that I, LEBBEUS H. ROGERS, of New York city, in the county and State of New York, have invented a new and useful  
5 Improvement in Inking-Ribbons for Type-Writers, which improvement is fully set forth in the following specification.

The present invention has reference to the manufacture of inking-ribbons for use in  
10 type-writers, and has for its object to produce for the above purpose an article which will be more serviceable than those now in use, and which will enable better and more per-  
manent copies to be made.

15 The inking-ribbons at present in common use consist of narrow strips of textile fabric having the ink or coloring-matter on both sides. In the use of such ribbons the type by coming constantly in contact with the  
20 inked surface becomes clogged by particles of the coloring-matter, and also by fibers that are detached from the cloth and require frequent cleaning. Unless often cleaned the impression produced is blurred and the beauty  
25 of the printing impaired. Moreover, the inks employed contain small solid particles, and the constant striking of the type thereon soon wears and injures the faces of the latter. Some of these objections have been partially  
30 overcome by interposing between the ribbon and type a sheet of some substance to act as a shield or protector; but as this increases by so much the thickness of the material through which the type has to act, it necessi-  
35 tates the exercise of greater force in striking the keys and interferes in the production of sharp and clear characters.

According to the present invention it is proposed to overcome the objections above  
40 indicated by the production of a ribbon of cloth inked on one side only.

A further and most important advantage results from the invention, in that it permits the use of the best and most permanent inks  
45 and of a greater variety of mixtures, containing ingredients which cannot at present be used because of the speedy clogging of the type. On this account it is necessary now to employ for ordinary writing mixtures that  
50 are inferior as inks. Aniline inks, which are most commonly used, do not make a perma-

nent copy, and are therefore unsuitable for documents for legal purposes or for record, so that type-writers have generally to supply themselves with two different ribbons to en- 55  
able them to do all kinds of work.

In carrying out the invention the ink or coloring-matter may be applied by the usual means, but on one side only, the other side being left clean; but to prevent the soaking 60  
of the coloring-matter through the cloth it is advantageous to coat the other side or back of the ribbon with a substance impervious to the coloring-matter or the vehicle in which it is carried. Such substance may be a film 65  
or coating of a suitable varnish, as shellac or a solution of gelatine-starch or like substance, or a thin film or coating of paper may be employed. The use of such a protective film or coating is advantageous, for the further reason 70  
that it offers a good surface for the type to strike against, and obviates the clogging thereof by fine fibers which become detached from the cloth. The ribbon may be prepared in the usual way—that is to say, inked on 75  
both sides—and the protective film after-ward applied.

In carrying out my invention any ordinary or suitable method of manufacture may be adopted, as I do not limit myself to any spe- 80  
cial mode of procedure. As these articles are at present manufactured, it is customary to take a wide strip of cloth and cut it into strips of proper width, the edges being treat-  
ed with glue to prevent raveling. The rib- 85  
bons are then inked and are ready for use. In making the clean-backed or "semi ribbon" it will often be unnecessary to glue the edges. For example, when the ribbons are made from sheets of cloth backed with a thin sheet 90  
of paper (similar to the combined material that has been used for making paper collars) the whole sheet can be inked first and after-ward cut into strips, and the paper backing will hold threads securely. The paper back- 95  
ing should, of course, be made as thin as possible.

Instead of making the ribbons by cutting them from a sheet of cloth, I prefer to weave a ribbon of proper width, so as to have two 100  
selvage edges. This makes a very superior article, and is very easily treated according



to this invention, and by its use the time and cost involved in the steps of cutting the strips and gluing the edges are saved.

I believe a typewriter ribbon with selvage edges is entirely new, and so far as I can find no ribbon has ever been made heretofore which could be used for this purpose.

I am aware that heretofore a type-writer ribbon has been made and advertised as a ribbon with "selvage" edges. The article referred to, however, is not such as herein described, and is not provided with selvage edges as that term is generally, and as herein employed; but the said ribbon is made by cutting from a sheet of cloth, and has its cut edges treated with glue or cement. Ribbons of this character are prepared by wrapping a piece of cambric or "nainsook" a number of times around a strip of card-board a few inches wide. The roll or bolt thus formed is then cut with a knife into pieces the width of a ribbon. In this operation, though the greatest care be exercised, it is practically impossible to produce a straight edge, the strips when unwound always presenting a zigzag appearance. This is due partly to the crowding of the cloth under pressure of the knife, but mainly to the difficulty of making the cuts exactly at right angles to the length of the roll of cloth. My ribbon possesses the great advantage of a perfectly straight edge, which further distinguishes it from ribbons heretofore made.

The operation of gluing or cementing the edge of the cut ribbons, besides being tedious and increasing the cost of manufacture, produces an unsatisfactory result. The glue or cement frequently spreads over too much surface and diminishes by so much the available area of the ribbon, besides resulting, as is often the case, in imperfect copies. In my ribbon the entire surface is available for inking purposes.

Prior to my invention it was not possible to obtain ribbons with selvage edges which could be manufactured into type-writer ribbons. The material employed is a fine cotton cloth, which is not made except in wide bolts. Consequently in carrying out my invention it has been necessary to construct machinery

for the production of the material to be used as the base or foundation of the inking-ribbon. Silk ribbons, which have heretofore been made of suitable width, are not useful for the purpose, because, first, they are too costly; second, they do not hold the ink as well as cotton, and, third, because they are woven with an extra cord or thread at the edge, which causes them to bag or sag in the middle.

I am aware that it has been suggested and attempted heretofore to use a ribbon of paper inked on only one side; but such attempt has not been successful. Paper is unsuitable for the purpose, because, among other reasons, it is too brittle, and the smaller type or characters (as periods, commas, &c.) punch through the paper and destroy it.

The accompanying drawing illustrates a ribbon having selvage edges *a*, an inking-surface *b*, and a reverse side provided with a protective film or coating *c*, which may be of paper, varnish, or other material or substance suitable for the purpose.

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

1. As a new article of manufacture, an inking-ribbon for type-writers composed of strips of cloth inked on one surface only and having a clean reverse side, substantially as described.

2. A cloth type-writer ribbon having on one side a protective film or coating, substantially as described.

3. A type-writer ribbon consisting of a narrow woven strip of cotton with selvage edges coated or treated with a suitable ink, substantially as described.

4. As a new article of manufacture, a type-writer ribbon consisting of a continuously woven strip with selvage edges having one inking-surface only, substantially as described.

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

LEBBEUS H. ROGERS.

Witnesses:

M. M. BUDLONG,  
THOS. M. KEITH.