

(No Model.)

J. T. DAVIS.
TYPE WRITER LETTER COPIER.

No. 488,143.

Patented Dec. 13, 1892.

Fig. I.

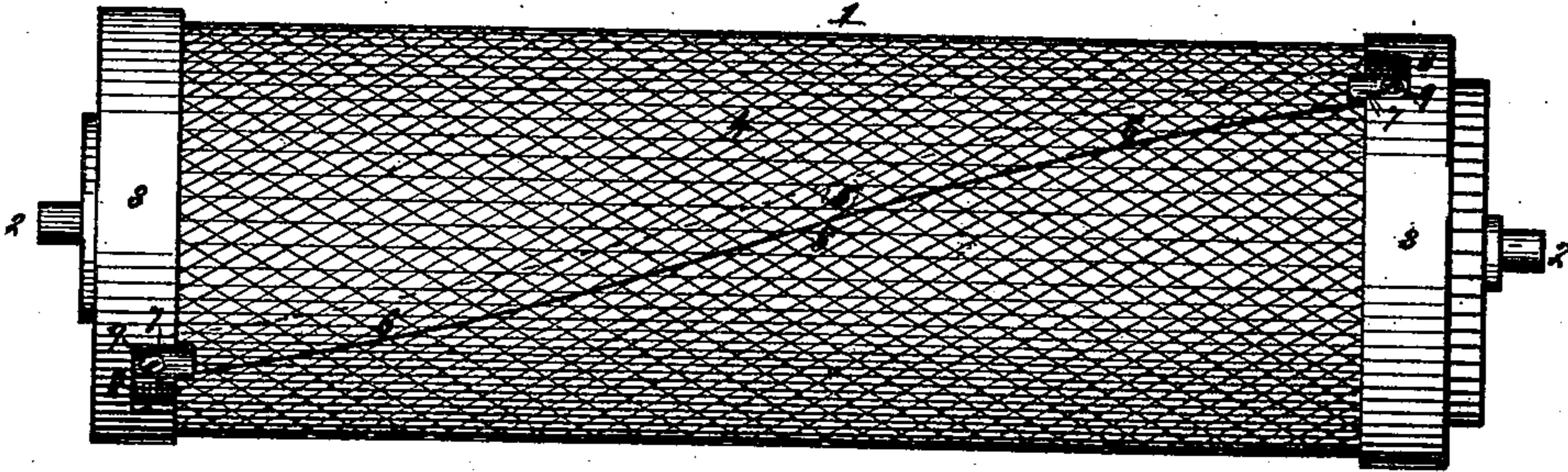


Fig. II.

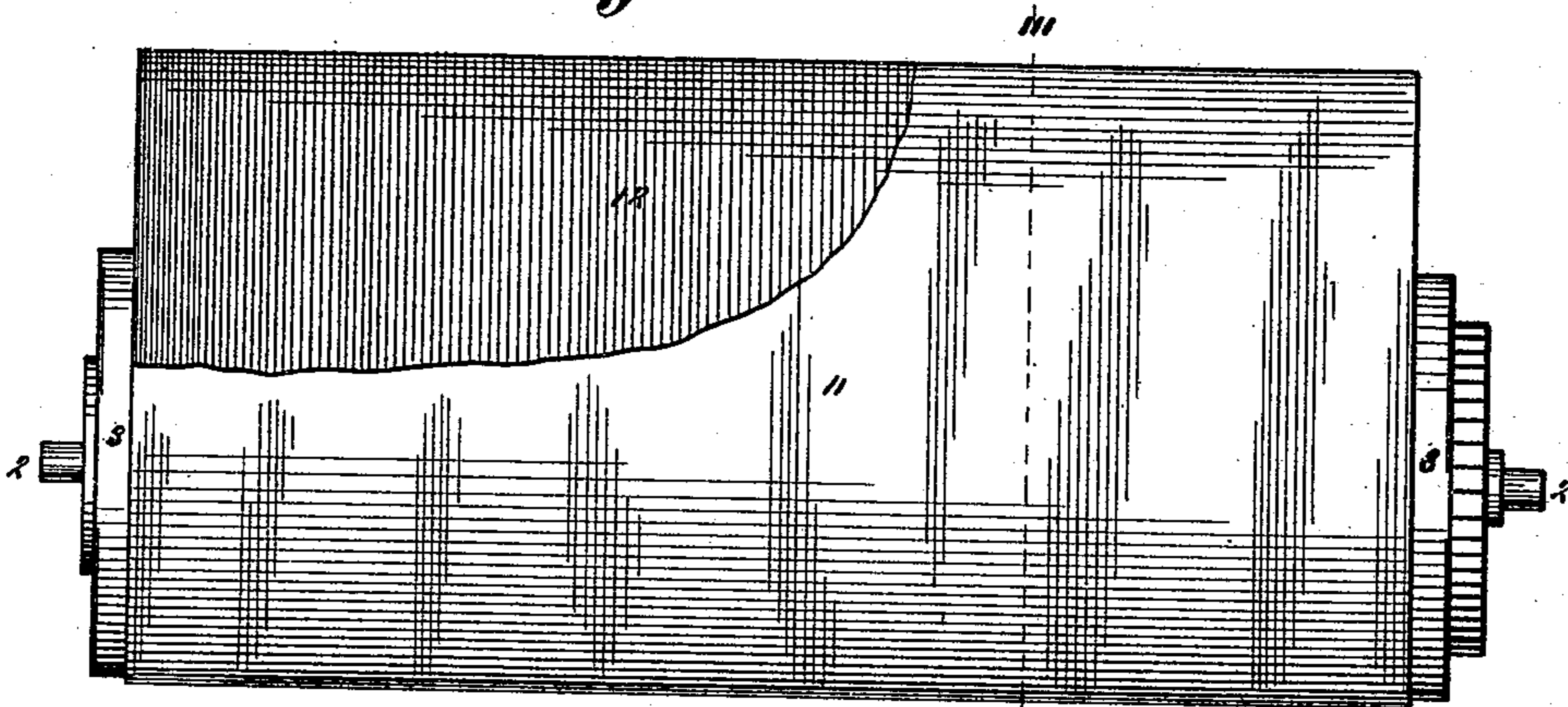
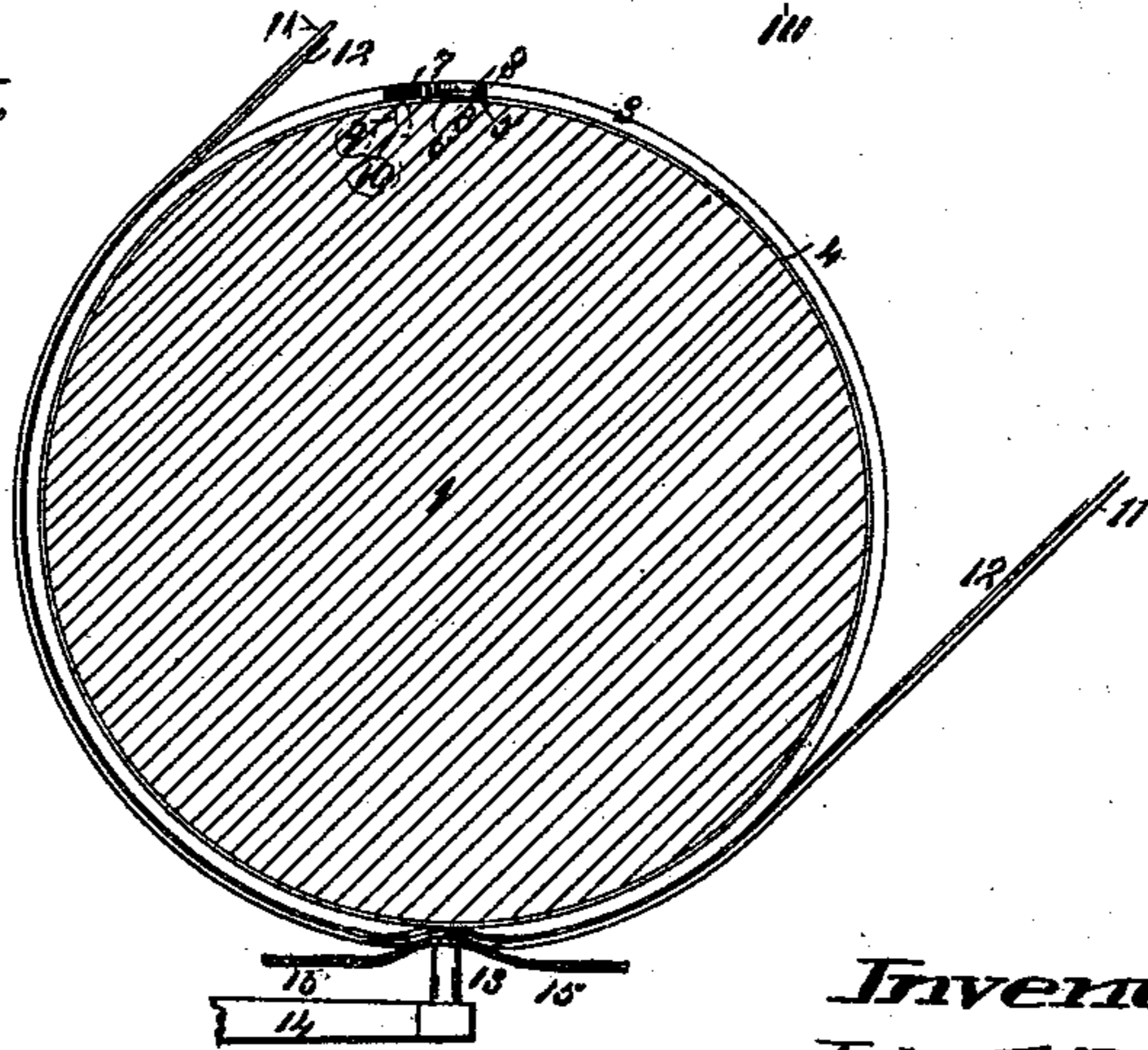


Fig. III.



Attest:
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By *Knight Bros.*
Attys.

UNITED STATES PATENT OFFICE.

JOHN T. DAVIS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO CHARLES J. MOFFETT, OF SAME PLACE.

TYPE-WRITER LETTER-COPIER.

SPECIFICATION forming part of Letters Patent No. 488,143, dated December 13, 1892.

Application filed April 5, 1890. Serial No. 346,639. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. DAVIS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Type-Writer Letter-Copiers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to a type-writer roller on which are mounted flat marginal peripheral projecting rings or hoops on which the sheets ride that are to receive the impression of the type and around which roller and incased within said marginal rings is seated a layer of wide copying-ribbon, that occupies the whole space between said marginal rings, and the edges of which copying-ribbon have a bias-cut overlap, that is held by buttons that are pivoted within countersinks within said rings, the said copying-ribbon being carbonized or inked alone on its outer side, the inner side presenting a clean surface for contact with the roller, and said marginal rings elevate the copy-sheet that receives the impression from contact with the carbonized or inked surface of the ribbon that surround the roller, except at such point and at such time as the type is projected to make the impression; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a longitudinal front view of the roller, and shows the marginal rings mounted thereon, the layer of outwardly carbonized or inked copying-ribbon mounted around the roller within the compass of said marginal rings, the bias cut of said ribbon, and the buttons that hold the overlap thereof to its seat around said roller. Fig. II is a front view of the roller with the letter and copy sheet in position around it, and Fig. III is a vertical section taken on line III III, Fig. II, and shows the roller, the copying-ribbon, its overlap held by the clamping-button, the copy and letter sheet in the course of receiving their impression, with a detail of the usual inked ribbon impressed by the type.

Referring to the drawings, 1 represents the type-writer roller, and 2 the journal-rod or axle on which said roller is mounted.

3 represents the flat-faced rings or hoops that are mounted around the margin ends of the roller and which thus box in or incase the copying-ribbon 4, which ribbon is wrapped around said roller. The said copying-ribbon is carbonized or inked on the outside only, or the inside of said ribbon is composed of a non-copying substance, so that when removed from the roller no trace of ink or carbon will appear on said roller. The copying-ribbon is preferably cut bias on its meeting edges 5, which edges slightly pass each other, thus making an overlap bias joint 6, that lap-locks the connection of said bias edges of the copying-ribbon.

7 represents perforate buttons that are seated within the countersink-recesses 8 in the rings or hoops 3. The said buttons have a pivot attachment to said rings by the screws 9, which pass through the perforation in said button, and their screw-tips engage in their screw-socket seats 10 in said rings, or they may be riveted or otherwise secured thereto. When the copying-ribbon has been wrapped around said roller and its bias-cut edges are made to lap, the said buttons are turned, as shown in Figs. I and III, so as to press on and thus lock said lap and hold it there from displacement during the future operation of the type-writer until the carbonized or inked deposit therein is used up.

11 represents the letter-sheet and 12 the copy-sheet to be impressed by the type 13 as the operating-lever 14 controls said type to impress the usual ink-ribbon 15 and the sheets beyond it to the ultimate contact of the copy-sheet against the copying-ribbon 4 that is wrapped and secured around the roller. Now it will be seen that by the use of my fixed copying-ribbon much loss of time and inconvenience is avoided consequent on the repetitious placing of carbonized sheets with every fresh sheet of copy; also, what may be considered of equal importance both the roller on the one hand and the copy-sheet on the other are preserved clean from soiling the latter, only receiving the mark from the impression of the type. In the case of the roller the rear side of the copying-ribbon is non-copying and as unlike the fluttering carbon sheets, the copy-ribbon is for the time being

firmly fixed around the roller, where it remains until a renewal is required. The roller, in consequence, is unsoiled thereby. In the case of the copy-sheet as it is elevated
 5 off the surface of the either carbonized or inked copying-ribbon by the marginal rings 3 on which it rides, and thus is free from intercourse therewith, except at such time and place as the type makes its impression, said
 10 copy-sheet, unlike that printed by loose carbonized sheets, remains unsoiled and clear from all impressions of coloring-matter, except that due to the impression of the type. As shown in Fig. III, at the point the type
 15 strikes the previously-elevated sheets are then and there impressed by said type until the roller becomes their buffer-stay, at which time the part of the copy-sheet impressed by the type at the ultimate point of type-im-
 20 pression is brought in contact with the copying-ribbon that surrounds the roller, and both the letter-sheet is written and a clear copy is effected without the usual delay and inconvenience from the insertion of loose carbon-
 25 ized sheets.

I claim as my invention—

1. A roller having a copying-ribbon secured thereto and rings or hoops located on the ends thereof and projecting beyond the surface of
 30 the copying-ribbon for keeping the copying-sheet normally out of contact with the copying-ribbon, substantially as described.

2. The combination of the letter-ribbon and the roller having a copying-ribbon secured
 35 thereto, between which and the letter-ribbon the copy and letter sheets are passed, substantially as described.

3. In a type-writer attachment, the combination of the roller of a type-writer, the pe-
 40 ripheral projecting rings or hoops 3, mounted on said roller, and the copying-ribbon 4, secured around said roller, the said ribbon car-

bonized or inked on the outer side only, the meeting edges of said copy-ribbon being cut bias and made to overlap each other, so as to
 45 make a clinging bias joint, substantially as and for the purpose set forth.

4. In a type-writer attachment, the combination of the roller of a type-writer, the pe-
 50 ripheral projecting rings or hoops 3, mounted on said roller and provided with countersink recesses 8, the bias-cut copying-ribbon 4, secured around said roller, the meeting edges of said copying-ribbon being made to overlap
 55 each other, so as to provide a clinging bias joint, and the clamp-lock buttons 7, having a pivot connection within said countersinks to said rings, the said buttons being arranged
 60 when turned into engagement with said bias overlap-joint of the copying-ribbon to clamp-lock the same, substantially as and for the purpose set forth.

5. In a type-writer attachment, the combination of the roller of a type-writer, the pe-
 65 ripheral projecting rings or hoops 3, mounted on said roller, the copying carbonized or inked ribbon 4, wrapped around said roller between said peripheral projecting rings, the ink-ribbon 15, and the type that makes the impres-
 70 sion, substantially as and for the purpose set forth.

6. The combination, in a type-writer, of the platen, the manifolding sheet wrapped around
 75 said platen with the impression side out, and the ink-ribbon from which the direct impression is made interposed between the printing mechanism and the wrapped platen, whereby by the interposition of two sheets of paper two independent impressions may be made.

JOHN T. DAVIS.

In presence of—

BENJN. A. KNIGHT,
 E. S. KNIGHT.