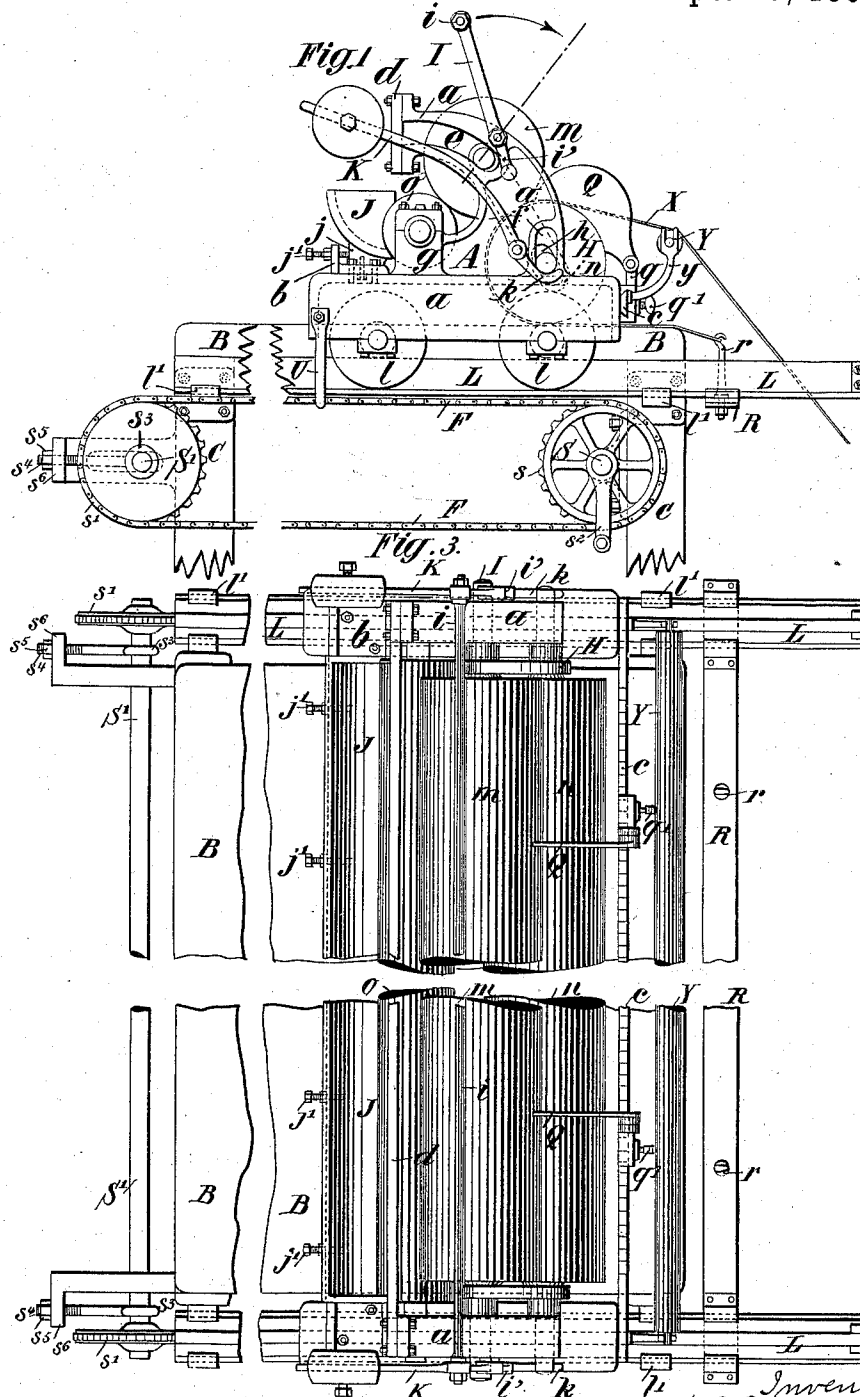


H. E. COUZINEAU.

APPARATUS FOR PRINTING OR IMPRESSING DESIGNS, PATTERNS, OR
OUTLINES FOR GARMENTS.

No. 567,886.

Patented Sept. 15, 1896.



Witnesses:
 E. J. Griswold
 L. Henke

Inventor
 H. E. Couzineau,
 By his attorneys
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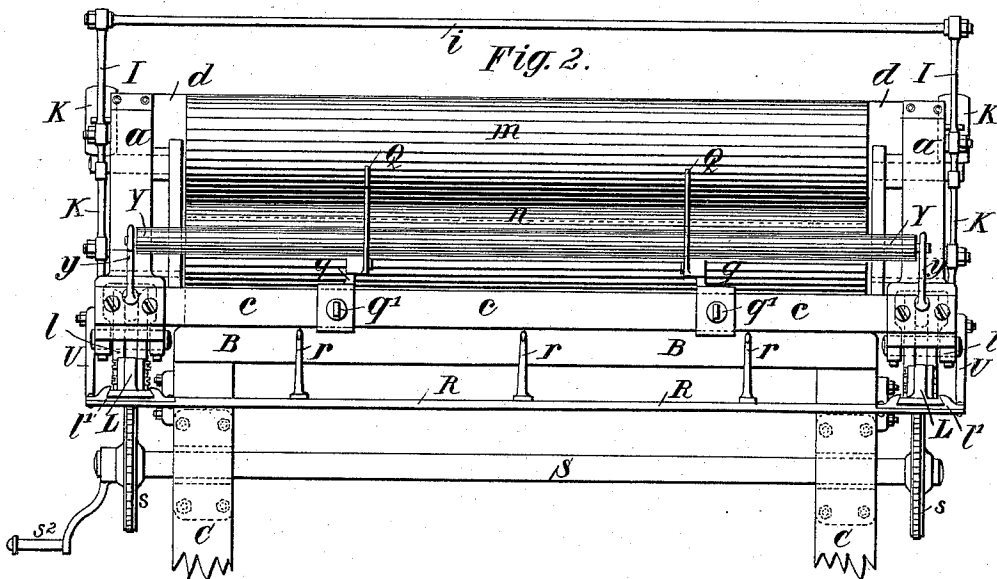
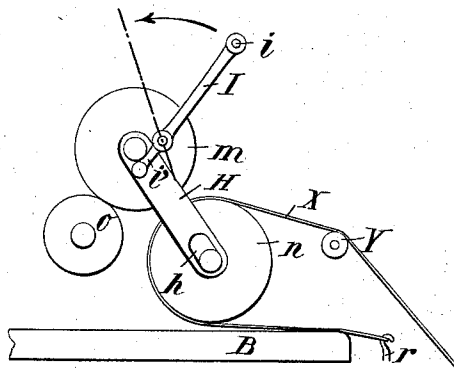


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRI EDOUARD COUZINEAU, OF LILLE, FRANCE.

APPARATUS FOR PRINTING OR IMPRESSING DESIGNS, PATTERNS, OR OUTLINES FOR GARMENTS.

SPECIFICATION forming part of Letters Patent No. 567,886, dated September 15, 1896.

Application filed December 4, 1895. Serial No. 571,057. (No model.) Patented in France August 10, 1895, No. 249,534, and in Belgium October 3, 1895, No. 117,713.

To all whom it may concern:

Be it known that I, HENRI EDOUARD COUZINEAU, a citizen of the Republic of France, residing in Lille, Department of Nord, France, have invented Improvements in Apparatus for Printing or Impressing Designs, Patterns, or Outlines for Garments on Fabrics or other Materials or for Analogous Purposes, (for which I have obtained a Belgian patent, No. 117,713, dated October 3, 1895, and a French patent, No. 249,534, dated August 10, 1895,) of which the following is a specification.

This invention relates to apparatus for printing or impressing designs, patterns, or outlines of garments or parts of garments on fabrics or other materials, and generally for producing any desired impressions on fabrics or other materials.

An apparatus constructed according to my invention consists, essentially, in the combination of a fixed table, over which is placed or stretched the fabric or material on which the printing or impressing is to be effected, and of a carriage, as hereinafter described, which is moved over the fabric or material, which carriage supports the cliché or stereotype-plate or other printing or marking device, which may be a thin plate of metal or other flexible material and which is formed in relief with the shapes to be printed or impressed. I will refer to it as the "cliché." The principal objects of the said carriage are to effect the inking of the cliché and to provide the pressure necessary for printing or impressing, which pressure can be regulated as hereinafter described.

My invention also relates to further details of construction of different parts of the said apparatus, as hereinafter described and claimed.

The object of my invention is to provide an apparatus for readily printing or impressing, so as to dispense in a great measure with the handwork, which has hitherto been necessary, and enable very accurate printing or impressing to be effected.

In the accompanying drawings I have illustrated an apparatus constructed according to my invention.

Figure 1 is a side elevation, Fig. 2 an end elevation, and Fig. 3 a plan, of the said ap-

paratus. Fig. 4 is a diagram showing the mode of actuating the cylinders between which the cliché is passed, as hereinafter described.

A is the carriage, and B is a table fixed to a lower frame C. The carriage A is formed of frames *a*, connected together by cross-pieces *b*, *c*, and *d*, and carries the ink-distributing and pressing cylinders *m* and *n* and the inking-roller *o*. Each of the frames *a* is provided with a cheek or bracket, in each of which are formed slots *e f* for the axes of the rollers *m* and *n*, respectively, and a plumber-block *g* is formed on each frame *a* for the axis of the roller *o*. The slots *e* are made circular and concentric with the axis of the plumber-block and the slots *f* are vertical.

The shafts of the cylinders *m n* are connected together on each side by a connecting-rod H, in one or both of the ends of which is formed a slot *h*, through which pass the axes of the cylinder *n*, or the slot *h* may be formed in the other end of the connecting-rod and the axes of the cylinder *m* pass through it, or the axes of both cylinders may pass through shorter slots.

To the side of each frame *a* is jointed a lever I, provided with a tailpiece *i'*, projecting beyond the axis on which it turns. The levers I are connected together by cross-pieces *i*, and they operate, in combination with the slots *e f* on the brackets or cheeks, to separate the cylinders *m n* from each other and also to raise the cylinder *n* above the table B.

When the lever I is turned in the direction of the arrow shown in Fig. 1, the tailpiece *i'* of the said lever in the arrangement shown acts upon the axes of the cylinder *m* and raises it in the slot *e*, and the said cylinder *m* takes with it the connecting-rod H. When the said cylinder *m* begins its movement, it separates from the cylinder *n* by reason of the slot *h*, formed in each connecting-rod H, being capable of moving freely and independently on the axes of the cylinder *n*. When, however, the slot reaches the end of its course, the said cylinder *n* is raised vertically in the slot *f*, as shown in Fig. 4. When the cylinders are in this position, the carriage A can be moved along the table B

without the cylinder n being in contact either with the table B or the cylinder m . On each of the frames a a lever K is centered, provided with an adjustable counterweight k' ,
 5 each lever K having a curved tailpiece k extending beyond the fulcrum of the said lever, which tailpiece passes each beneath one of the axes of the cylinder n . By adjusting the position of the counterweights k' on these
 10 levers K the pressure of the roller n on the fabric or material on the table B can be regulated as desired.

Opposite the inking-roller o an ink-holder J is mounted on a carriage j , capable of sliding
 15 on the cross-bar b . Regulating-screws j' , taking into the cross-bar b , allow the position of the ink-holder J to be adjusted against the cylinder o , and consequently the amount of ink taken up by the said roller o
 20 is regulated.

The cross-bar c carries two sliding pieces q , on which are mounted hinged guides Q, resting on the cylinder n . The said sliding pieces q can be fixed in any desired position
 25 on the cross-bar c (which may be suitably graduated) by means of clamping-screws q' . The hinged guides Q can thus be adjusted to the width of the cliché X to keep it in position. The cross-bar c may also carry supports η at each end for carrying a roller Y,
 30 over which the cliché is guided before passing between the cylinders m and n .

The carriage A is provided on each side with grooved wheels l , running on rails L, carried on each side of the table B on supporting-blocks l' . The rails may be of any suitable shape. As shown in the drawings, they are L-shaped and are seated in corresponding recesses in the supports l' , the central web of the rails taking into the grooves of the wheels L and so acting as guides. The rails l are connected together at one end of the table by a cross-bar R, to which are attached vertical rods r , terminating in hooks,
 40 for holding one end of the cliché.

The movement of the carriage A across the fixed table B may be effected in any suitable manner, but the following is a convenient mode: At each end of the lower frame C are
 45 shafts S S', carrying at each end a sprocket-wheel $s s'$, over each pair of which passes an endless chain F. One of the shafts S is provided with a cranked handle s^2 for turning the shaft of the wheels s and so operating the
 50 endless chains F. One of the shafts S or S' (for example, the shaft S') is mounted in bearings s^3 , capable of moving in slots in the carrying-brackets, and thus the position of the wheels s' can be adjusted by means of
 55 regulating-screws s^4 , whose nuts s^5 bear against the cross-piece s^6 , fixed across from bracket to bracket. By screwing up the nuts s^5 the said bearings can be moved away from the frame and consequently the tension of
 60 the chains may be regulated as desired and kept constant. The carriage A is caused to engage with the endless chains F by means

of arms V, attached at one end to the said carriage and provided at the other end with a cramp or other device which takes into
 70 each of the said chains F.

The apparatus is worked in the following manner: The fabric or material on which the outlines or tracings or the like are to be printed is first placed on, or stretched over, the fixed
 75 table B, and then in order to pass the cliché X between the cylinders m and n on the carriage A the said cylinders are placed in the position shown in Fig. 15 by operating the lever I, as already described. The carriage
 80 A being at the right-hand side of the table, the cliché is passed over the rollers Y and between the cylinders m and n and under the cylinder n , which is raised from the table B. The cliché is then attached to the hooks
 85 r on the cross-bar R. The lever I is then moved back to the position shown in Fig. 1, so as to press the cliché X between the cylinders m and n and to give the desired pressure on the fabric or material, which pressure may be
 90 regulated at will, as aforesaid, by adjusting the counterweights. By turning the handle s^2 the carriage A is moved over the stationary table B. The cliché is supplied with ink as it passes between the cylinders m and n by
 95 means of the distributing-cylinder m , which receives ink from the inking-roller o , turning against the open side of the ink-holder J. During the advance of the carriage A the cylinder n continues to exert the desired
 100 pressure on the cliché and the fabric or material, so as to produce the imprint thereon.

The weight of the carriage is supported by the rails L, the fabric or material only receiving the weight of the cylinders m and n , which
 105 may be regulated, as desired, by means of the counterweights on the levers K.

This invention is not limited to the details of construction or to the particular means illustrated for transmitting motion from one
 110 part of the apparatus to the other or for driving the same, which are merely described and shown in the accompanying drawings by way of example, and the said apparatus may be constructed of any suitable materials and of
 115 any desired size.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—
 120

1. In an apparatus for printing or impressing on fabrics or materials outlines or patterns for garments or for other purposes, the combination of a fixed table for the fabric or material, with a carriage adapted to move
 125 over the said table, and carrying distributing and pressing cylinders, an inking-roller and an ink-holder, the said carriage being provided with slots in which the axes of the distributing and pressing cylinders pass, and
 130 rods connecting the said cylinders, substantially as set forth.

2. In an apparatus for the purposes described, a carriage having frames a provided

with slots *e f* and plumber-blocks or bearings *g*, cylinders *m n* whose axes pass through the said slots *e f* respectively, a slotted rod *H* connecting the axes of the cylinders *m, n*,
 5 and an inking-roller *o* carried in the blocks *g*, in combination with levers *I* for enabling the cylinders *m n* to be separated from each other and the cylinder *n* to be raised from the table, substantially as described.
 10 3. In an apparatus for printing or impressing, on fabrics or materials, outlines or patterns for garments, or for other purposes, the combination of a fixed table for the fabric, with a carriage adapted to move over the
 15 table, the said carriage being provided with frames having slots therein, distributing and pressing cylinders whose axes pass through the said slots, a slotted connecting-rod connecting the axes of the cylinders, levers pivoted to the said frame, one end of each of the
 20 said levers being provided with adjustable

weights and the other end engaging the axis of the said pressing-cylinder, all substantially as and for the purpose set forth.

4. In an apparatus for printing outlines of 25 garments, or for like purpose, the combination of a table for the material to be printed, with a carriage adapted to move over the said table, and carrying distributing and pressing cylinders, mechanism for separating the cyl- 30 inders from each other and the pressing-cylinder from the table, and means for adjusting the pressure of the pressing-cylinder on the table, substantially as set forth.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

HENRI EDOUARD COUZINEAU.

Witnesses:

DAVID OGILVIE,
 EMILE PIERROS.