

(No Model.)

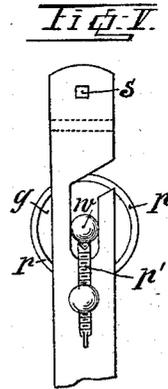
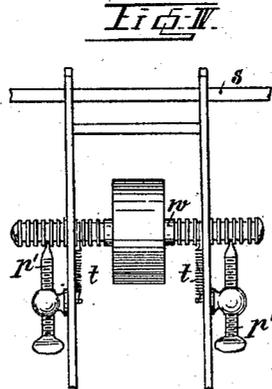
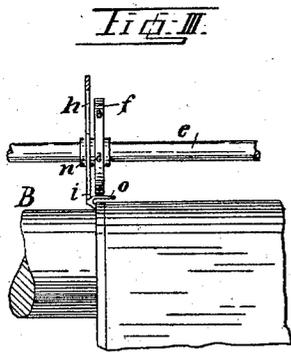
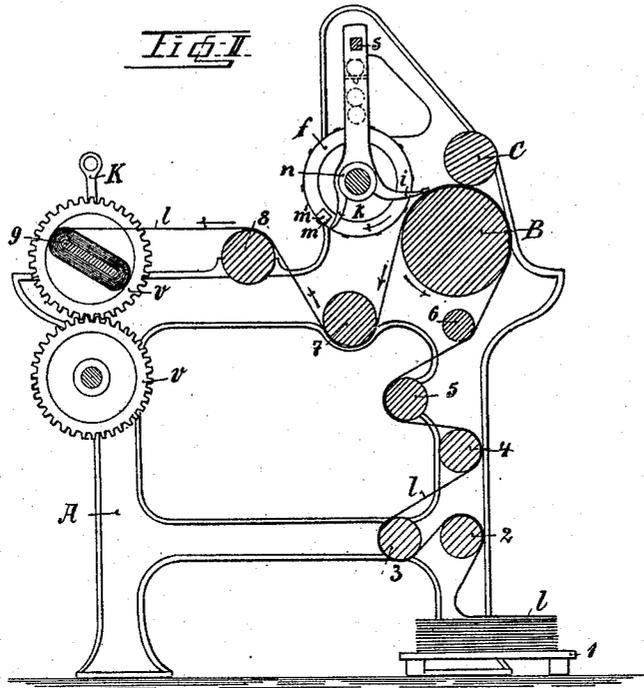
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E. HAMANN & P. HÄNDEL.

MACHINE FOR IMPRINTING MEASUREMENTS ON BORDERS OF CLOTH.

No. 584,587.

Patented June 15, 1897.



Witnesses:

Paul Ditscherlein
Th. Liebig

Inventor:

Emil Hamann
Paul Händel

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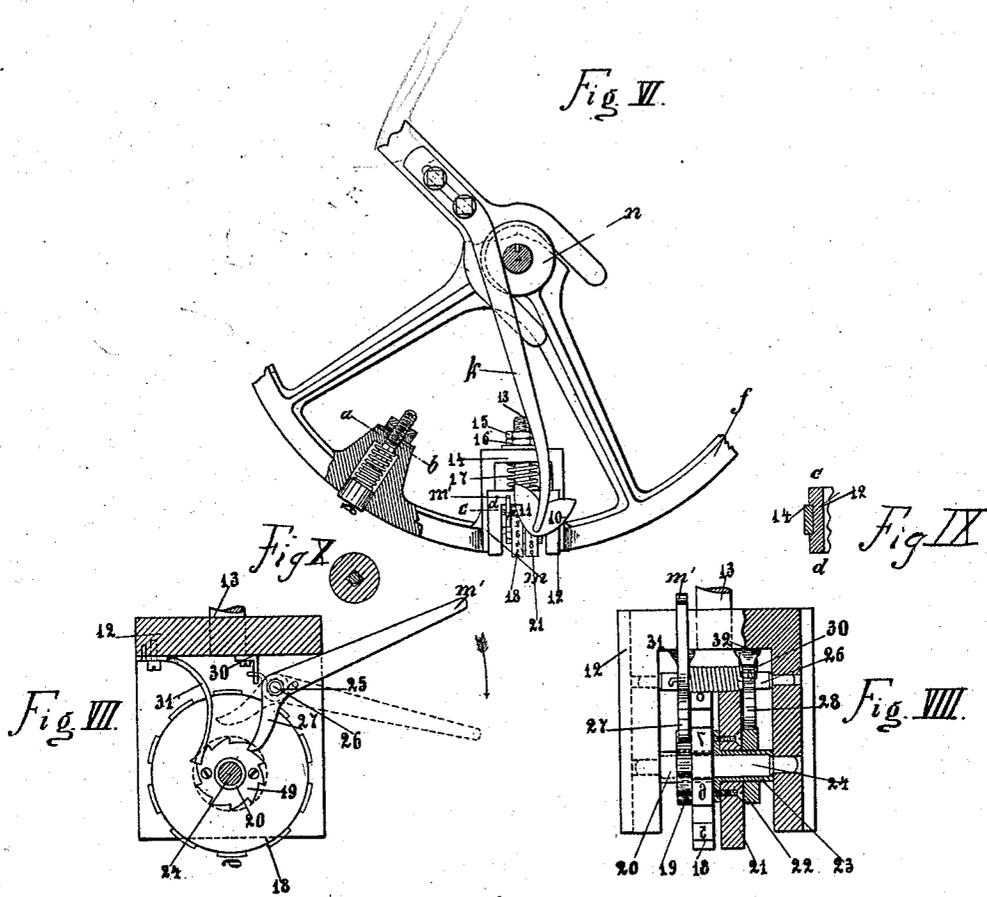
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UNITED STATES PATENT OFFICE.

EMIL HAMANN AND PAUL HÄNDEL, OF GREIZ, GERMANY.

MACHINE FOR IMPRINTING MEASUREMENTS ON BORDERS OF CLOTH.

SPECIFICATION forming part of Letters Patent No. 584,587, dated June 15, 1897.

Application filed June 10, 1895. Serial No. 552,360. (No model.) Patented in Switzerland May 30, 1895, No. 10,535.

To all whom it may concern:

Be it known that we, EMIL HAMANN and PAUL HÄNDEL, subjects of the Emperor of Germany, and residents of Greiz, in the Empire of Germany, have invented a certain new and useful Improved Machine for Imprinting Measurements on Cloth, Paper, or the Like, (for which a Swiss patent has been granted under No. 10,535, dated May 30, 1895,) of which the following is a specification.

This invention relates to means for ascertaining the measurements of cloth, paper, or any other materials that are kept in the piece in the form of rolls or otherwise, for cutting off lengths of such materials, or for ascertaining the length of the material remaining rolled up; and the invention consists in an apparatus or machine by means of which the respective measurements of materials, before the latter are rolled up, are imprinted on the border or along a line at any distance from the edge of such materials in such manner that the principal figures appear parallel to the longitudinal direction of the material, while the subdivisions may be read perpendicularly to the former.

The machine is constructed for metric measure, but may be adapted to any other unit of measurement.

In the annexed drawings, Figure I is a perspective view of the said machine. Fig. II. is a sectional side elevation thereof. Fig. III is a detail view of the measuring-cylinder, type-wheel, and edge-guide. Fig. IV is a front elevation, and Fig. V a side elevation, of a modified form of adjustable inking-roller. Fig. VI shows in side view, partly in section, a part of the type-wheel. Fig. VII is an elevation from the front; and Fig. VIII, an elevation, partly in section, from the side, showing the numbering device on a larger scale. Fig. IX is a section on line *cd*, Fig. VI; and Fig. X is a section on line *ab*, Fig. VII.

The material *l*, intended to be imprinted with measurements, is for that end conveniently placed on a bench 1, and passing over the rollers 2, 3, 4, 5, and 6 it passes around the cylinder B, where the measurements are imprinted, from there around the rollers 7 and 8 to the rolling-board 9, which, being kept in the cheeks E, may by means of the crank K and the gear-wheels *vv* and *v'v'* be

turned, as desired, for the purpose of rolling up the material thus imprinted.

The axles of the gear-wheels *vv* have no longitudinal movement in their bearings in the side frame A of the machine; but the gear-wheels *v'v'* may be removed from or brought nearer to the wheels *vv*, according as the width of the material to be rolled up requires.

The rollers mentioned above are suitably journaled in the side frames A and A', the upper portion *b* of the latter frame being cut away in the drawings to show the arrangement more clearly, the other side frame A being shown in its entirety with the upper portion *a*. These parts *a* and *b* may either be cast or bolted onto the respective frames A and A', the latter mode of attaching them being the more advantageous, inasmuch as it allows of replacing the measuring-wheel by any other of different division.

The cylinder B is at its end provided with a spur-wheel *c*, said spur-wheel engaging with the spur-wheel *d*. The circumference of the cylinder B, as well as those of the spur-wheels *c* and *d* along their pitch-line, are in the present instance equal to one meter. The wheel *d* is solidly keyed on the shaft *e*, while the type-wheel *f* may be displaceably attached to said shaft, so that it may be moved from one end to the other of said shaft without disturbing its operative connection with the shaft.

Along the circumference of the type-wheel *f* the figure-types are secured, so that they may easily be pressed outwardly by a spring under each of them. The measurement of the circumference of this type-wheel over the types is also one meter and it contains the numerals "1" to "9" and the numbering apparatus *m*, Fig. II. The object of this apparatus *m*, which is arranged in the known manner, is to print the running number of meters on the material, the current numbers being brought successively to place by a finger *m'* meeting the fixed projection *k*. Said wheel *f* may of course be so arranged as to imprint, if so desired, only full, half, or quarter meters.

The periphery of the wheel *f* contains a recess formed by the rectangular guide 14, in which slides the frame 12, the pin 13 of which

projects through a hole in the end of guide 14 and carries the nut 16 and locking-nut 15. Between the end of guide 14 and the end of frame 12 is a spring 17. By this construction 5 the frame 12 is resiliently supported in the guide 14 by the spring 17, tending to thrust it radially outwardly, such outward movement being limited by nuts 15 16. The finger *m'* is pivoted on shaft 26 and is governed 10 by the helical spring 25, engaging at one end with the bracket 30 and at the other end with finger *m'*. The arm 27 of finger *m'* engages in the teeth of ratchet-wheel 19 on the sleeve 20, surrounding shaft 24. The units-wheel 18 15 is integral with ratchet-wheel 19. The "tens-wheel" 21 is connected to ratchet-wheel 22 on the sleeve 23, also surrounding shaft 24. 31 and 32 are pawls for ratchet-wheels 19 and 22. On the arm *k*, attached to the frame-work, is the cam 11 10, which at each revolution of the wheel *f* meets and depresses the finger *m'*, which is afterward returned by its spring 25.

In turning the type-wheel *f* its types rub 25 against the lower of two ink or composition rollers *g*, which, turning between the frame-checks *h*, are inked from the ink-reservoir *h'*. The frame *h* is movably guided on the bar *s*, its lower fork-like extremity engaging with a 30 groove in the nave *n* of the type-wheel *f*. The arm *k* of this fork-like frame projection has for its purpose the movement of the numbering arrangement as aforesaid, whereas the corresponding arm *i* on the other side, as 35 illustrated in Figs. II and III, may, if desired, guide the edge of the material with the aid of a fork *o*. The rollers C and 7 tend to hold the material before and after the printing operation tightly against the cylinder B.

40 In place of two inking-rollers only one may be inserted, as shown in Figs. IV and V. The roller *g*, constructed of wood, is surrounded by a layer of felt *p*, which is soaked with ink. The roller *g* is keyed to a shaft *w*, provided

with annular grooves, said shaft *w* being supported by flat-ended screws *p'*, which at the same time allow of the shaft being brought nearer to or removed from the type-wheel *f*. By means of the grooves in the shaft *w* the ink-roller *g* may be held and revolved in any 50 position to which it may be laterally displaced. Springs *t* tend to press the ink-roller shaft *w* against the point of the screws *p'*. It is evident that this ink-roller may easily be replaced by any other roller soaked with dif- 55 ferently-colored ink.

As to the manipulation of the apparatus, it may be understood that the material, if very inelastic, can, by means of the crank K, be drawn over all the rollers, as intended to 60 be shown on the drawings, but for more extensible or elastic materials a simultaneous turning of the guide-rollers with the aid of toothed or chain wheels is to be preferred.

We claim as our invention— 65

In a machine for imprinting measurements along piece goods, paper or the like at the edge or at any distance from said edge, the combination of the measuring-cylinder B, a shaft *e* parallel to said cylinder, a printing- 70 wheel *f* displaceable along said shaft *e*, a numbering device in said wheel, a grooved boss *n* to said wheel, a bar *s*, a frame *h* displaceable along said bar engaging said boss, a finger *k* on said frame *h* adapted to coöperate with said numbering device, an inking 75 device in said frame, gear-wheels *c*, *d*, guide-rollers, and a winding device having cheeks E, E, gear-wheels *v v* and axially-displaceable gear-wheels *v' v'*, the whole for the 80 purpose set forth.

In witness whereof we have signed this specification in presence of two witnesses.

EMIL HAMANN.
PAUL HÄNDEL.

Witnesses:

WM. FIEDLER,
B. BANAFIMA.