

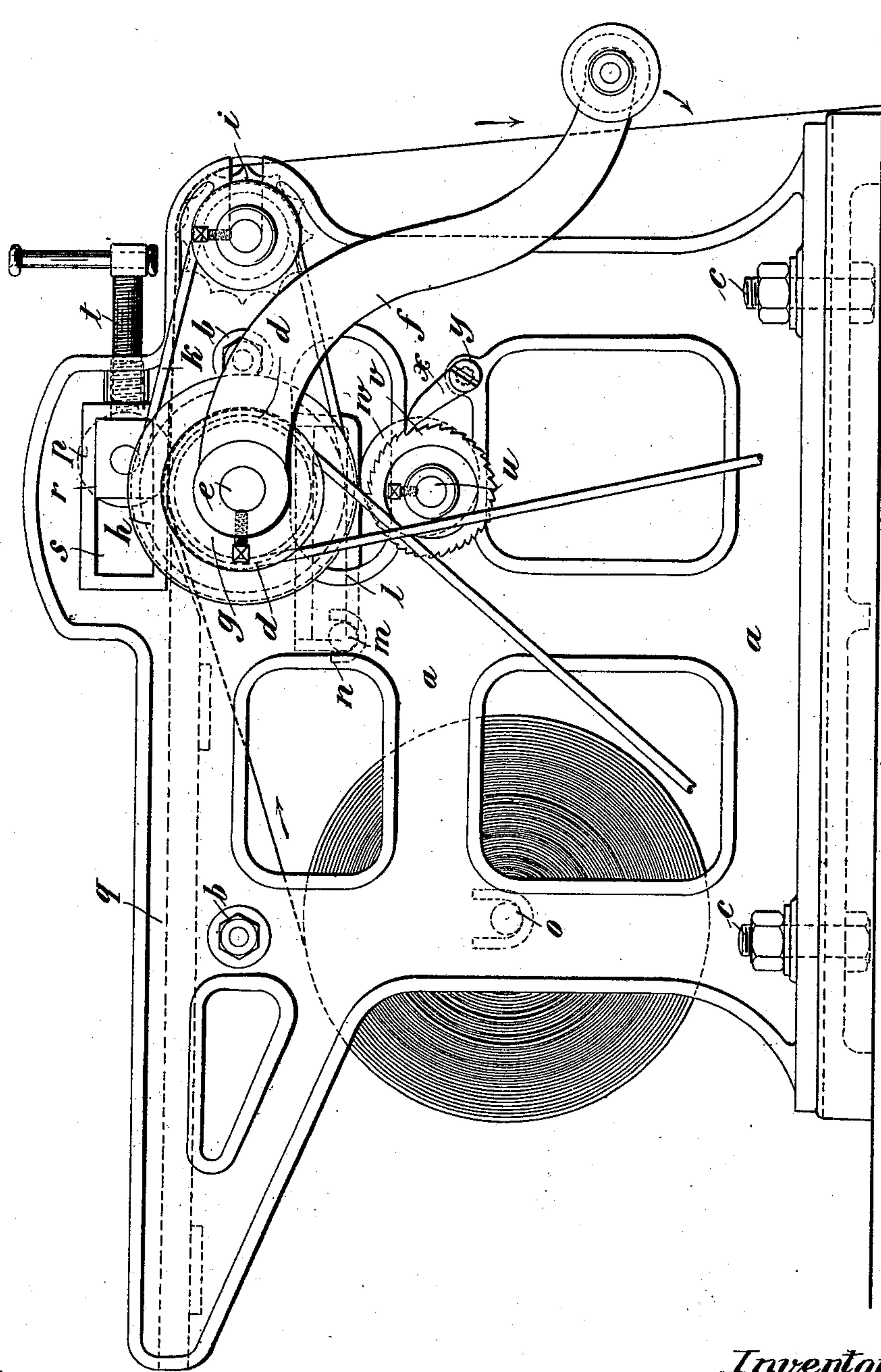
No. 661,105.

Patented Nov. 6, 1900.

C. F. MÜLLER.
COPYING MACHINE.

(Application filed July 17, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL FRIEDRICH MÜLLER, OF FRANKFORT-ON-THE-MAIN, GERMANY,
ASSIGNOR TO JOHANN GEORG LEONHARD SCHROEDER, OF SAME
PLACE.

COPYING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 661,105, dated November 6, 1900.

Application filed July 17, 1900. Serial No. 23,983. (No model.)

To all whom it may concern:

Be it known that I, CARL FRIEDRICH MÜLLER, merchant, a subject of the Grand Duke of Hesse-Nassau, residing at Oppenheimerlandstrasse 14, Frankfort-on-the-Maine, in the Grand Duchy of Hesse-Nassau and Empire of Germany, have invented certain new and useful Improvements in Copying-Machines, of which the following is a full, clear, and exact description.

My invention relates to a copying-machine which differs from other machines used for the same purpose by the simplification and effectiveness of its construction in as far as its pressure or copying roller applying the letters or other originals to be copied upon the moistened copying-paper is pressed against the roller supporting this paper by organs of very simple and efficacious construction—i. e., without using (as is the case in all other similar machines hitherto known or employed) india-rubber, springs, eccentrics, or other means. Moreover, in the copying-machine embodying my invention the copying-paper is moistened in a manner allowing of a very accurate adjustment by means of a receptacle containing the moistening-water absorbed by pieces of felt and easily to be moved against or from the moistening-roller by an eccentric connected with a ratchet-wheel and a pawl.

The accompanying drawing represents a side elevational view of a copying-machine embodying my invention.

In accordance with known construction my copying-machine shows side frames *a*, connected to each other by cross-pieces *b* to form a complete frame, which is secured to a table, chest, or the like by means of bolts *c*. In this frame the organs existing also in other copying-machines are disposed—viz., the moistening-roller *d*, which is provided with a felt or other jacket well absorbing water and has secured to one of its journals *e* a cranked handle *f* and two grooved pulleys *g* and *h*; the advancing-roller *i*, driven from the said pulley *h* by a cord; the water-receptacle *l*, placed between the side frames *a* by means of pivots *m*, engaging in bearings *n*; the roller *o*,

carrying the copying-paper; the pressure or copying roller *p*, and the feeding-table *q*. The roller *p* is journaled in bearings *r*, sliding in guide-openings *s*, formed in the frames *a* of the machine and acted upon by screws *t*, entered in threaded holes provided in the said frames. In one of the latter a shaft *u* is supported below the water-receptacle *l*, and this pivot has secured on its projecting ends a ratchet-wheel *v* and an eccentric *w*, leaning against the bottom of the water-receptacle *l*. A pawl *x*, engaging between the teeth of the ratchet-wheel *v*, is journaled on one frame *a* by means of a pivot *y*.

The effect and manipulation of the copying-machine described in the foregoing are specified as follows: From the roller *o* the copying-paper is conducted in the way shown on the drawing by a thick line and inserted between the rollers *d* and *p*. Leaving the latter, the paper is passed around the advancing-roller *i* and led downward upon a reel, which is disposed in usual manner below the plate supporting the whole machine and driven by means of a crossed cord receiving its movement from the grooved pulley *d*. Being rotated by the cranked handle *f*, the roller *d* takes up from the receptacle *l* a quantity of water, which may be easily regulated by conveniently turning and securing the eccentric *w* by means of the ratchet-wheel *v* and the pawl *x*. The letters or other originals to be copied are laid in usual manner upon the feeding-plate *q* for being inserted between the two rollers *d* and *p*. The latter being simply pressed as wanted against the moistening-roller *d* by means of the screws *s*, acting upon the sliding bearings *r*, and the necessary adjustment of the water-receptacle being operated by the eccentric device, all characters hand or type written or printed with copying-ink, designs, drawings, &c., are transferred to the copying-paper in a complete, neat, and throughout equal manner.

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

In a copying-machine, the combination with a frame, a water-receptacle hinged or

pivoted at one end to the frame, and a moistening-roller, of a pressure-roller journaled in bearings mounted to slide in guides upon the frame toward and from the moistening-roller,
5 a shaft mounted upon the frame, an eccentric mounted on said shaft and bearing upon the free end of the water-receptacle, a ratchet-wheel also mounted on said shaft and a pawl

engaging the ratchet-wheel, substantially as set forth. 10

In witness whereof I subscribe my signature in presence of two witnesses.

CARL FRIEDRICH MÜLLER.

Witnesses:

JEAN GRUND,
GEORG SCHRÖDER.