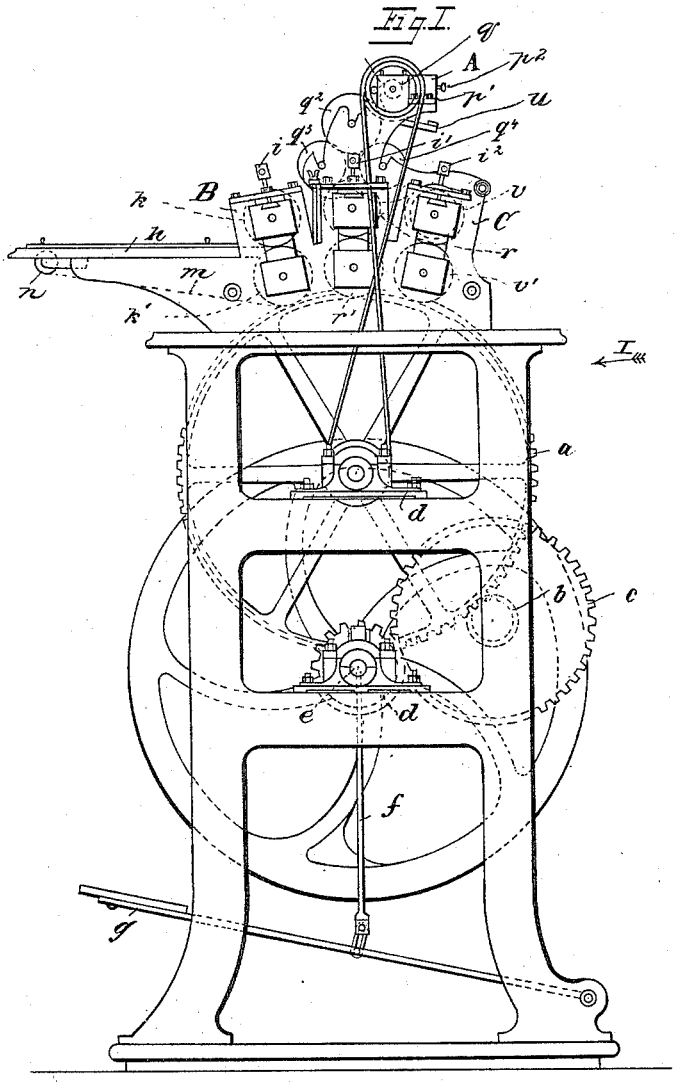
(No Model.) 4 Sheets—Sheet 1.

H. SCHWARZ.

MACHINE FOR PRINTING AND STAMPING VIGNETTES.

No. 456,857. Patented July 28, 1891.

Fig. I.



Attest.
S. H. Knight
M. E. Orrand

Inventor
Hermann Schwarz
By Knight Bros.
Atty.

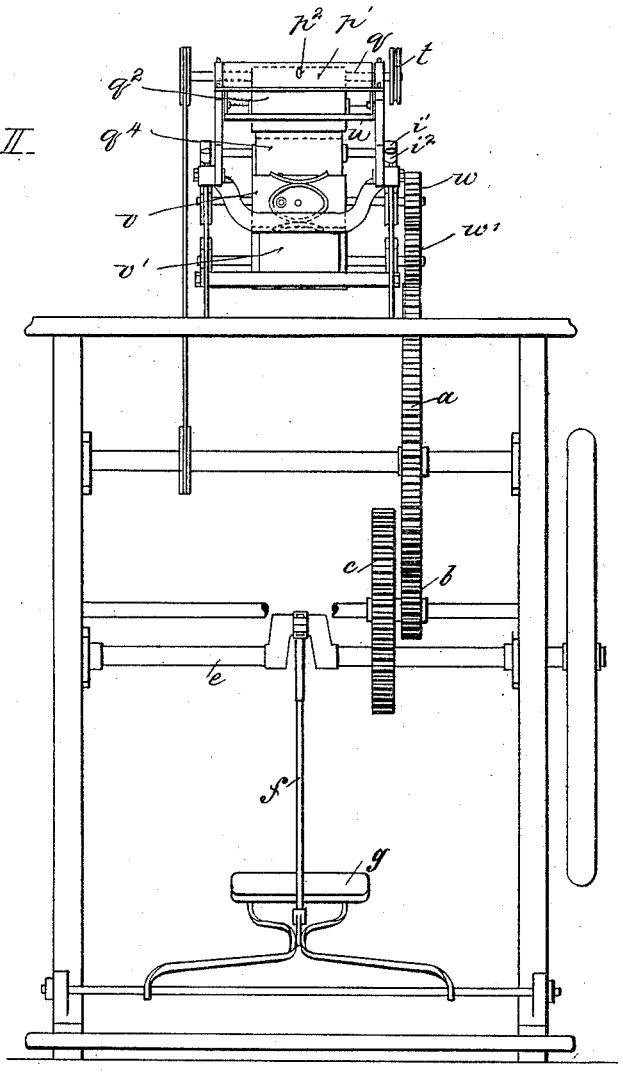
(No Model.) 4 Sheets—Sheet 2.

H. SCHWARZ.

MACHINE FOR PRINTING AND STAMPING VIGNETTES.

No. 456,857. Patented July 28, 1891.

FIG. II.



Attest.
S. H. Knight
M. E. Durand

Inventor
Hermann Schwarz
By Knight Bros.
Attys.

(No Model.) 4 Sheets—Sheet 3.

H. SCHWARZ.

MACHINE FOR PRINTING AND STAMPING VIGNETTES.

No. 456,857. Patented July 28, 1891.

Fig. III.

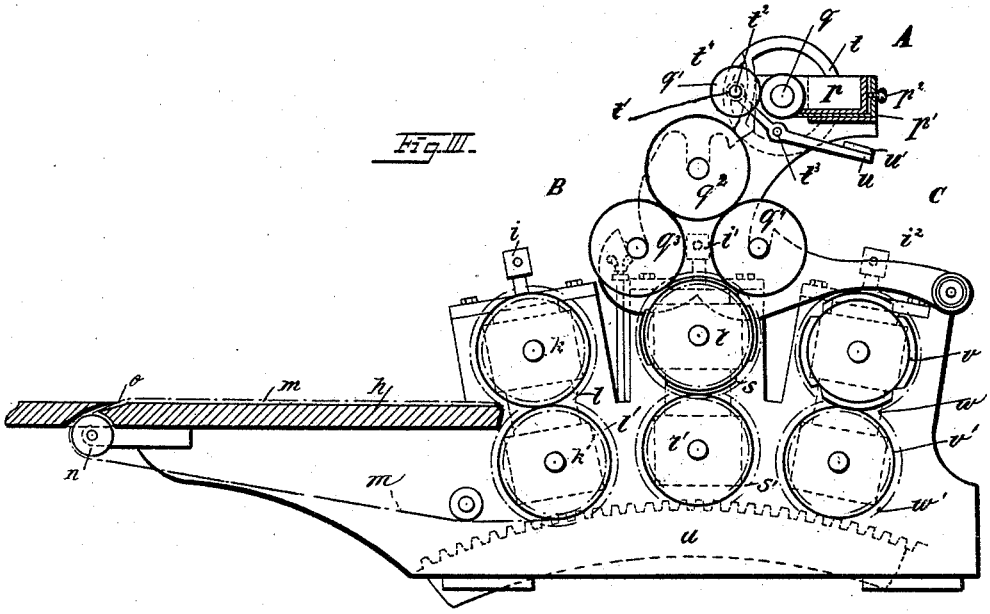


Fig. VI.

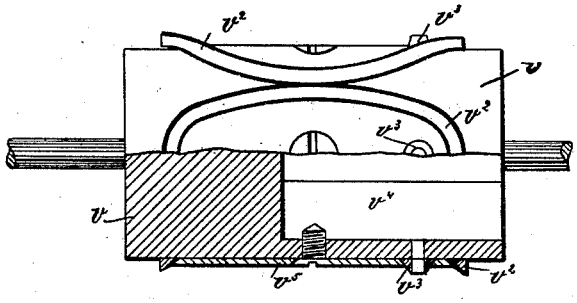
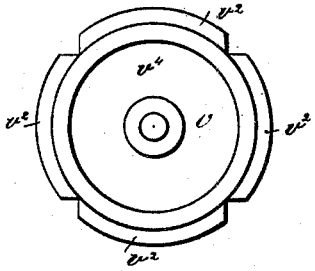


Fig. VII.



Attest
S. H. Knight
M. E. Ourand

Inventor
Hermann Schwarz
By Knight Bros
Attys.

(No Model.) 4 Sheets—Sheet 4.

H. SCHWARZ.

MACHINE FOR PRINTING AND STAMPING VIGNETTES.

No. 456,857. Patented July 28, 1891.

Fig. IV.

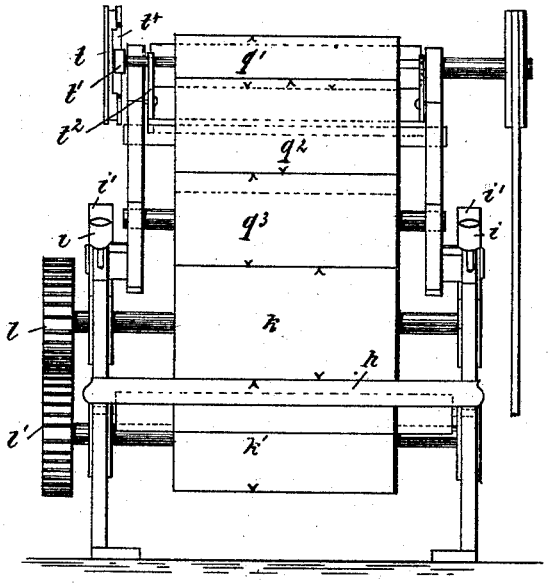
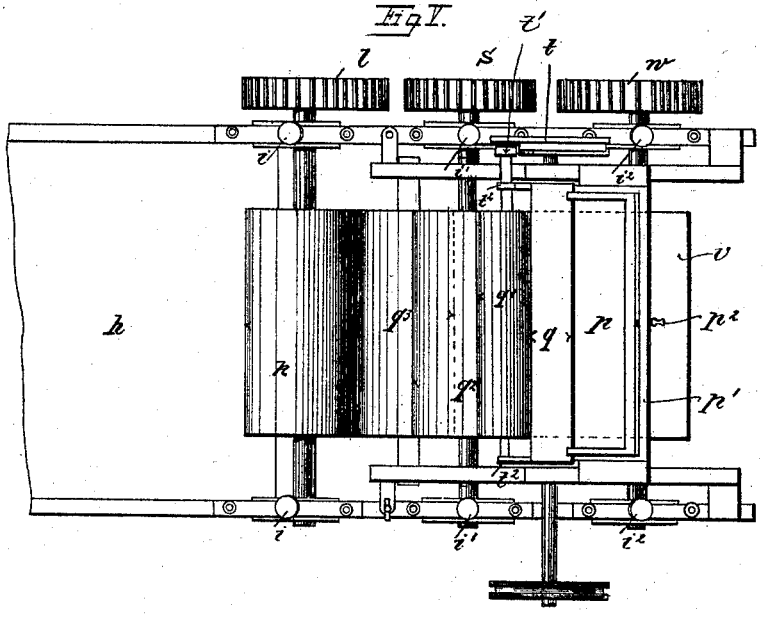


Fig. V.



Attest
S. H. Knight
M. C. Brand.

Inventor
Hermann Schwarz
By Knight Bros Attys.

UNITED STATES PATENT OFFICE.

HERMANN SCHWARZ, OF PRAGUE, BOHEMIA, AUSTRIA-HUNGARY.

MACHINE FOR PRINTING AND STAMPING VIGNETTES.

SPECIFICATION forming part of Letters Patent No. 456,857, dated July 28, 1891.

Application filed October 7, 1890. Serial No. 367,309. (No model.)

To all whom it may concern:

Be it known that I, HERMANN SCHWARZ, merchant, a subject of the Emperor of Austria, and a resident of Prague, in the Kingdom of Bohemia and Empire of Austria-Hungary, have invented new and useful Improvements in Machines for Printing and Stamping Vignettes, of which the following is a specification.

My invention relates to machines for printing labels, vignettes, or patterns, upon strips of paper and cutting the printed labels or tickets to the desired shape and size.

My improvement consists in novel features of construction hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is a side elevation of my improved machine. Fig. II is an end elevation thereof. Fig. III is a longitudinal section through the printing apparatus. Fig. IV is a front view of the printing apparatus. Fig. V is a plan view thereof. Fig. VI is a side view of a cutter-roller. Fig. VII is an end view thereof.

Referring to Figs. I, II, and III, A is the printing apparatus, consisting of printing and blanket cylinders and inking and ink-distributing rollers.

B is the feeding device, and C shows the position of the cutting-off device. All these are operated simultaneously from a spur gear-wheel a, common to all, which is driven from a crank-shaft e through wheels b c d. The crank-shaft e is connected to the treadle g by the pitman or connecting rod f.

The paper-feeding arrangement consists of two iron rollers k k', geared together by means of two spur-wheels l l', the lower spur gear-wheel l' of which is driven by the spur gear-wheel a. The two feeding-rollers may be adjusted relatively to each other by the screw i. They are mounted in bearings in close proximity to and inclined slightly toward the feeding-table h. An endless band m travels over the table h, passing through an inclined slot o and around a roller n, located beneath the slot, and around the lower feeding-roller k'. The band forms the sole connection between the band-roller n and the lower feeding-roller k' and serves to introduce the paper between the feeding-rollers k k'.

In the printing apparatus (shown fully in Fig. III) p is the ink or color box arranged in such a manner within the casing p' that its position can be adjusted by the screw p^2. The ink is taken from the box by the roller q, whence it is intermittently transmitted by the roller q' through the roller q^2 q^3 q^4 to the upper printing-cylinder r. The printing-cylinder r and the blanket-cylinder r' are geared together by spur-wheels s and s', and are also rotated by the large spur gear-wheel a. These cylinders are mounted in bearings in close proximity to the feeding-rollers and located in a vertical plane. The distributing-roller q' is mounted on the end of a counterweighted lever u, pivoted at t^3 and free to move so that the roller may be brought into contact either with the inking-roller q or with the roller q^2. The motion of the lever is obtained by a disk-cam t, which is mounted upon the inking-roller shaft and is rotated by means of a band or cord from the shaft of the large spur gear-wheel a. The shaft t^2 of the distributing-roller is furnished with a projection t', which engages with the outer rim of the cam t. When the cut-away portion of the cam is opposite the projection t', the counter-weight on the lever brings the distributing-roller q' into contact with the inking-roller q until the further revolution of the cam brings the circular part of its circumference into contact with the projection t' and forces the distributing-roller away from the inking-roller and into contact with the roller q^3.

The device for cutting off the labels or tickets consists of two rollers v and v', geared together by spur gear-wheels w and w', and also driven by the common large spur gear-wheel a. These cutter-rollers are mounted in bearings in close proximity to and inclined slightly away from the printing and blanket cylinders. The cutter-roller v is shown in detail in Figs. VI and VII, and is furnished with a number of curved knives v^2 of any desired shape, and in some cases a knife or punch v^3 is carried in addition for cutting holes in the labels for attachment to parcels. In these latter cases the roller is hollowed out, as shown at v^4, to allow of the escape of the

removed portion of paper or pasteboard. The distance of the printing-roller r and the cutter-rollers v from their respective lower rollers may be accurately adjusted by the screws i' i^2. The printing-roller and the cutter-roller are of equal diameters, and, being driven from the common spur gear-wheel a, revolve at equal speeds, so that the labels are cut off accurately and in proper succession.

The ordinary devices may be applied for insuring the adjustment of the ink or color distributing rollers.

When the machine is in operation, the strips of paper or pasteboard, which may be of any length, are placed upon the table h and are carried by the endless band m to the feeding-rollers $k k'$. The strips are fed forward by these rollers to the printing-cylinders, and after being printed, are passed on to the cutter-rollers. It will be seen that the feeding-rollers, printing-cylinders, and cutter-rollers are close together and have their working faces arranged in the arc of a circle to operate upon a strip which passes from a horizontal table in a slightly-curved line between the feeding-rollers, printing-cylinders, and cutter-rollers, so that while these members are arranged nearly in a horizontal line they can be driven by a single large spur gear-wheel common to all and above which they are located. By the addition of further printing-cylinders and inking or coloring rollers labels can be printed in several different colors. The knives v^2 are fixed upon the roller v by means of plates v^5. These plates have inclined edges which bear against the inclined sides of the knives, and are held securely in place by screws. By these means the knives are firmly held without interference with their edges.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent of the United States:

1. The combination of the printing-cylinder, the ink-rollers, the ink-box having a discharge-roller provided with a disk-cam, the counterweighted lever, and the ink-distributing roller mounted on the lever between the discharge-roller and the upper ink-roller and having a shaft furnished with a projection which engages the outer rim of the disk-cam, substantially as described.

2. The combination of the printing-cylinder, the ink-rollers, the casing, the ink-box within the casing, the adjusting-screw working through the casing and by which the ink-box is adjusted, a discharge-roller within the ink-box, provided with a disk-cam, the counterweighted lever, and the ink-distributing roller mounted on the lever between the discharge-roller and the upper ink-roller and having a shaft furnished with a projection which engages the outer rim of the disk-cam, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HERMANN SCHWARZ.

Witnesses:
T. L. WALDAPPEL,
ADOLPH FISCHER.