

F. X. HÖLZLE.
ROTATING LETTER PRESS PRINTING MACHINE.

No. 519,956.

Patented May 15, 1894.

Fig. 1.

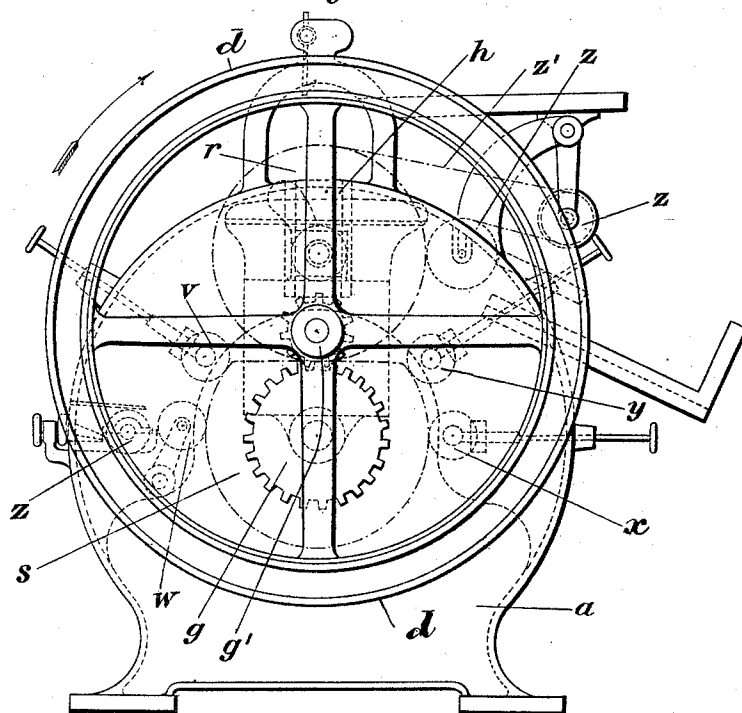
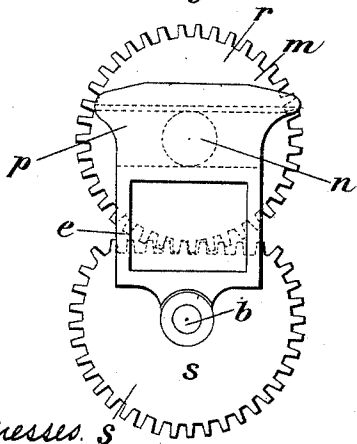
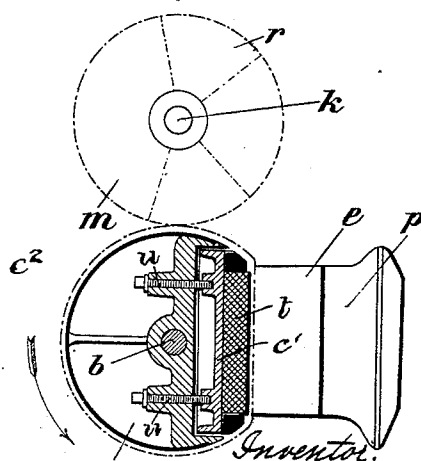


Fig. 4.



Witnesses: s
Walter E. Allen
Sadie Allen

Fig. 5.



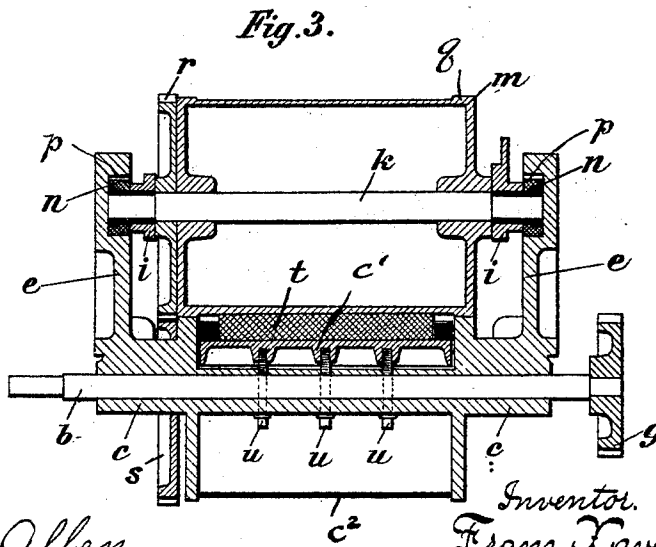
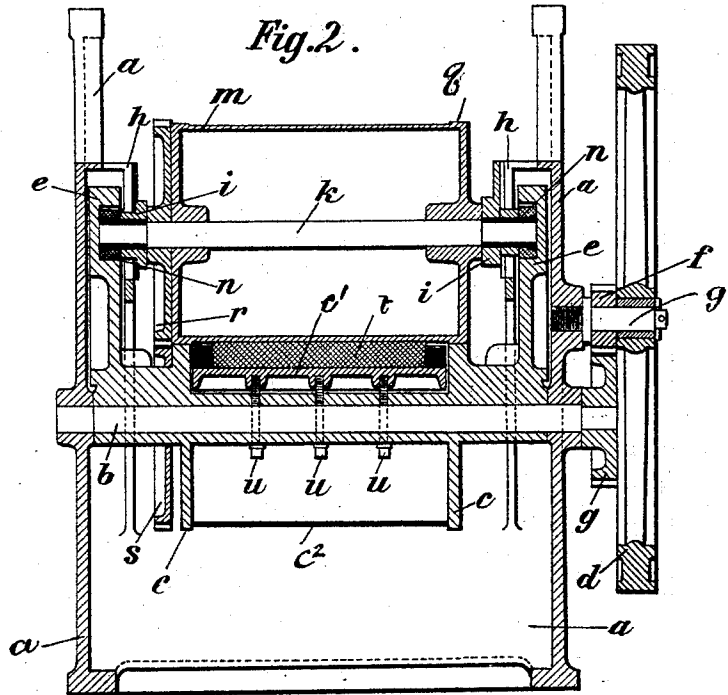
Inventor: Franz Xaver Holzle.
By Knight Bros. Attorneys.

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UNITED STATES PATENT OFFICE.

FRANZ XAVER HÖLZLE, OF HEIDELBERG, GERMANY.

ROTATING LETTER-PRESS PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,956, dated May 15, 1894.

Application filed June 3, 1893. Serial No. 476,439. (No model.)

To all whom it may concern:

Be it known that I, FRANZ XAVER HÖLZLE, of Heidelberg, in the Empire of Germany, have invented a new and useful Improvement in Rotary Printing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

Letter press printing machinery at present in use, may for the purpose of this description, be divided into two classes, namely those in which a flat or plane printing surface is employed, and those which possess a cylindrical printing surface. The first mentioned class of machines, although they render clear impressions have the disadvantage of being slow in their operation. Cylindrical printing machinery on the other hand, possesses the quality of speed, but necessitates the use of curved stereotyped printing surfaces, which are at once expensive in their production and are open to objection as regards the impressions which they render.

My object is to combine both features and in a printing machine constructed according to my invention, I employ a flat printing surface with a rotary action whereby good impressions are obtained with high speed; the machine being at the same time simple in its construction and capable of being cheaply produced.

In the drawings hereto annexed, Figure 1, is an end elevation of my improved printing machine. Fig. 2 is a central longitudinal section in elevation. Figs. 3, 4 and 5 are detail views of the rolls.

Upon reference to the drawings, it will be seen that *a* designates the main frame of the machine. The printing table *c* is mounted upon the shaft *b* driven by the belt wheel *d* mounted on a stud *g'* secured to the main frame through the pinion *f* and spur wheel *g*. The impression cylinder *m* is carried by the axle *k*, whose bearings *i* have vertical play in the guides *h* formed in the main frame. The ends of the axle *k* are provided with rollers *n* which work in channels *p* formed in the revolving radial arms *e* of the table *c*. The printing table is provided with a surface plate *c'* capable of vertical adjust-

ment by means of the set screws *u* upon which the chase of printing type *t* is laid. To the ends of the table *c* is attached the arched plate *c'* whose surface comes in contact with and receives ink from the roller *w* of the ink-feeding device *z* and in turn transfers such ink to the spring retained inking rollers *v*, *x*, and *y*. The ink distributing surface *c'* is prevented from coming into contact with the paper upon the surface of the impression cylinder *m* by means of the rims *q* raised upon both parts. Upon one end of the table *c* there is formed the segmental spur wheel *s* which gears with the spur wheel *r* of the impression cylinder *m*. Tapes *z'* carried by the rollers *z* conduct the paper to be printed upon from the source of supply to the cylinder *m* and return it to the delivery table in the usual manner.

In operation the printing table being in the position shown in Fig. 5, when motion is being imparted to the wheel *d* the table *c* is revolved in the direction of the arrow. The printing type receives ink from the rollers *x* and *y* and then passes under the paper carried by the pressing roller *m*. During this action, the channels *p* of the arms *e* inclose the rollers *n* of the axle *k* and draw down the impression cylinder *m* and the paper carried thereby onto the surface of the type *t*, the flattened portion of the segmental spur wheel *s* coinciding with and enabling this movement to be accomplished. As the table *c* revolves, the surface *c'* takes ink from the roller *w* and spreads it upon the rollers *v*, *x*, *y*. It will thus be seen that a continuous rotary action is obtained with the use of a flat printing surface.

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

The combination of the main frame having vertical guides, the rotating table having a flattened portion and radial arms, extending from the flattened portion, formed with channels parallel with the flattened portion, the impression cylinder having journals, bearings for the journals located and sliding in the guides, gearing whereby the table and

cylinder are caused to rotate in unison, and means for rotating the table; the journals of the cylinder being extended so as to enter the channels of the arms, whereby the arms
5 are adapted to hold the cylinder down on the flattened portion of the table; substantially as described.

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

FRANZ XAVER HÖLZLE.

Witnesses:

JOSEF SCHLEGEL,

JOH. FRIESS.