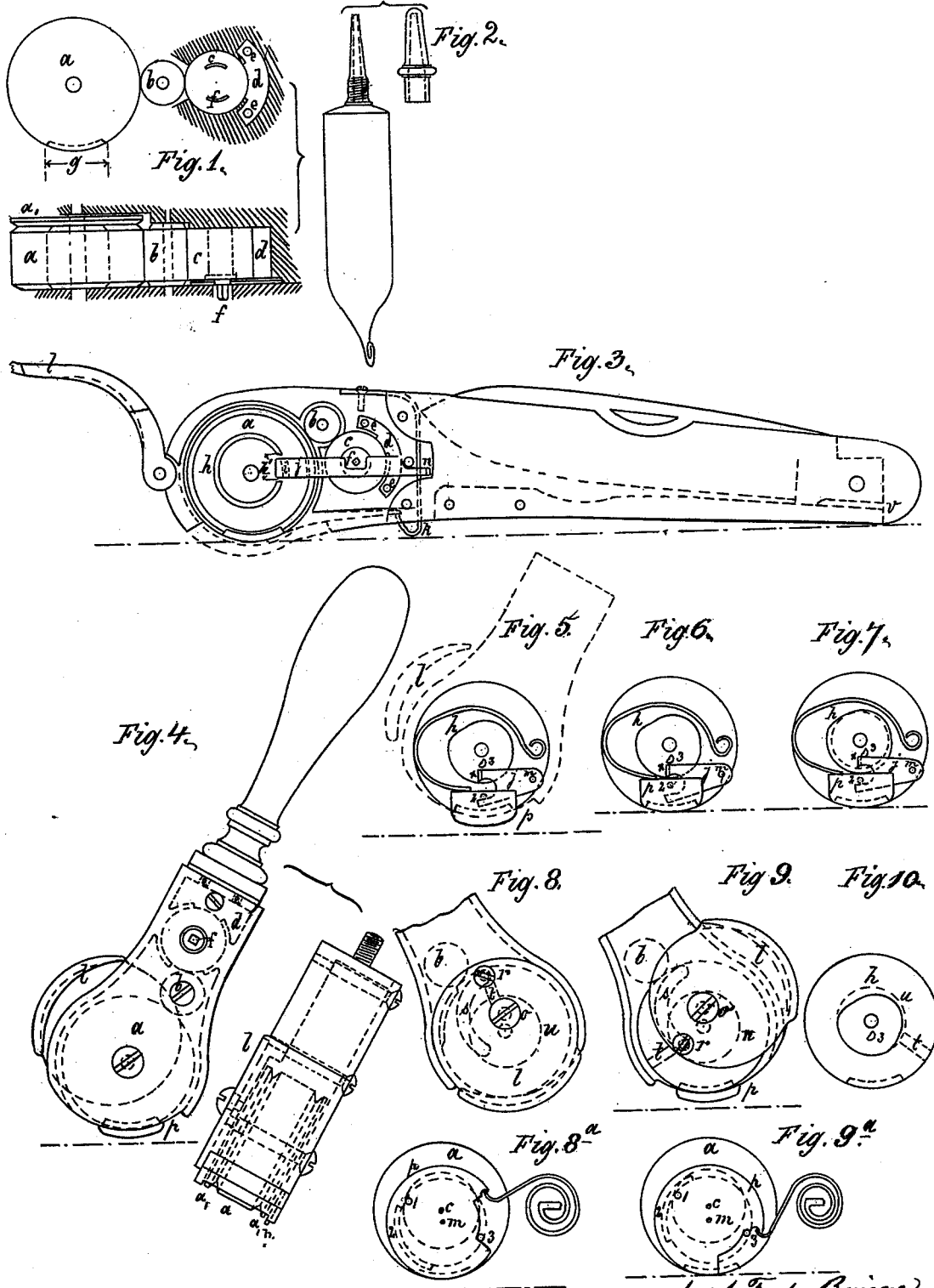


J. F. de BUIGNE.
Rotary Hand-Stamp.

No. 220,518.

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UNITED STATES PATENT OFFICE.

JOSEF F. DE BUIGNE, OF GRATZ, AUSTRIA-HUNGARY.

IMPROVEMENT IN ROTARY HAND-STAMPS.

Specification forming part of Letters Patent No. 220,518, dated October 14, 1879; application filed July 1, 1879; patented in Austria, November 7, 1874.

To all whom it may concern:

Be it known that I, JOSEF F. DE BUIGNE, of Gratz, in the Empire of Austria-Hungary, have invented a new and Improved Rotary-Cylinder Stamp, of which the following is a specification.

My improvement relates to a self-inking hand-printing apparatus which occupies, in comparison with apparatus heretofore employed for the same purpose, a smaller space, and is also of a less weight, while the impression-surface is the same.

The apparatus constructed according to my invention may be carried on the person without causing inconvenience, and may be combined with other objects, such as keys, pocket-knives, or similar articles which it is usual for a person to carry.

In carrying the said invention into practice I employ cylinder-printing—that is to say, the type is on the circumferential surface of a revolving cylinder.

In the accompanying drawings, Figure 4 represents my improved rotary stamp attached to a suitable handle. Fig. 3 represents the rotary stamp attached to a knife. The other figures represent various views, more fully referred to in the following specification.

a, Fig. 1, represents the impression-cylinder, on the circumference of which is placed the type, and which, by its rotation, imparts a revolving motion to an adjacent inking-roller, *b*, touching on the other side a receiver, *c*, from which it takes up the ink or color, in order to transmit it to the impression-cylinder *a*. This receiver *c* consists of a capillary elastic material—for instance, common sponge—and communicates with a chamber, *d*, the capacity of which corresponds with the volume of liquid ink or color which this receiver is capable of absorbing and retaining, so that the capacity of the receiver may not be exceeded when feeding the apparatus.

From the said chamber *d* openings *e e*, capable of being closed up, lead to the exterior. One of these holes serves for filling the chamber, while the other provides means for the escape of the air.

The most suitable manner of filling the chamber *d* with ink is to use an injection-tube, as represented in Fig. 2.

The cylindrical form of the said receiver *c* permits any desired portion of its surface to be brought in contact with the inking-roller *b*, the said receiver being provided for this purpose with a handle or tappet, *f*, by means of which it can be rotated from the outside of the apparatus.

The apparatus is placed in a box provided with a locking device, which, when opened, permits the impression-cylinder to be brought in contact with the paper, so that when rolling on it, and by exercising a suitable pressure while in use, the type is printed on the paper.

The impression-cylinder *a* has at least one rolling-flange, *a'*, of the same diameter as the said impression-cylinder, in order to supply the hollow places on the circumference of the impression-cylinder caused by the arrangement of the type, and to enable a regular rolling motion on the paper. It serves also to facilitate the commencement of the motion at that point where the commencement and end of the type leaves a hollow space in the circumference of the cylinder, as shown at *g*, Fig. 1, for the purpose of preventing at the starting position the ends of the type from touching the paper, and thus avoid scrawling.

The stopping mechanism, which automatically arrests the impression-cylinder when in use, after having made the desired portion of a rotation, consists of a curve, which produces, by reason of its slope, the impulse for the stopping by conducting while the cylinder rotates a catch against a stop, whereby the impression-cylinder is brought to rest. In order to turn the impression-cylinder when next required, this catch is brought back to its starting position every time the apparatus is to be used. Whatever description of stop mechanism may be applied, it will always be necessary to release or to engage the same from the outside. This releasing or engaging may be effected by a simple device, hereinafter described. In Fig. 3, which represents a side elevation of my apparatus combined with a pocket-knife, this releasing or engaging device consists of a helical curve, *h*, fixed to the impression-cylinder *a*, and consequently turning with the same, having a portion, *h'*, cut away, so that a suitable catch, *j*, can pass freely be-

tween the two ends of the said curve. This catch is provided with a notch, *i*, through which the curve *h* may pass. Supposing the impression-cylinder *a* is to turn when in use in the direction of the dial of a watch, and the exterior ends of the curve *h* at the beginning of the rotation are in a position in line with the said notch *i* in the catch *j*, one end of the curve will, on the commencement of motion of the cylinder *a*, enter the said notch *i* of the catch, which will thus move according to the slope of the said curve. As the latter displaced the catch a second revolution of the impression-cylinder is prevented on account of the other end of the curve striking the part of said catch *j* which is notched. By this arrangement the catch is pulled so far toward the center of the impression-cylinder *a* that a tappet, *n*, placed at the other end of the said catch *j*, is brought in contact with the rear part of the spring *k*, which forms the spring-catch of the locking device or cover *l* of the box, the position of the said cover when the case is closed being indicated by dotted lines, Fig. 3. Now, if the spring *k* is pressed to the right in order to open the cover *l*, the catch *j* will at the same time be released and drawn back by the said spring, which comes in contact with the aforesaid tappet *n*. When the said spring is released it will return to its normal position without drawing the catch—that is to say, it leaves the said catch in such a position as to permit the end of the aforesaid curve *h* to again enter the notch *i*, to allow of a new impression.

It will be seen that there is no special operation requisite for releasing the catch and the impression-cylinder, as they are both released simultaneously on opening the box. When, however, the box is once opened a pressure from the left to the right must be exerted upon the spring *k*, in order to release the catch *j* before each new imprint.

To prevent the impression-cylinder as well as the catch from being displaced by accident, I provide a catch acting simultaneously as a spring, pressing on the one hand against the cylinder and on the other against the wall of the box, and serving thus as a back-spring for itself as well as for the cylinder.

To render the releasing operation still simpler, I have shown in Figs. 4, 5, 6, 7 a further arrangement, by means of which the said operation is effected at the instant the apparatus is put on or taken off the paper, and by applying a touch or movable piece. The position of the stoppage just before the printing operation takes place is shown in Figs. 4 and 5, the box being opened.

A catch, *j*, pivoted at the point *m*, is provided on one side with a tappet, *x*, which is in contact with the inside of a curved surface, *h*, fixed to the impression-cylinder. On the other side the said catch rests on a pin, 2, of the touch or movable piece *p*, which is maintained in its position by an elastic force, and projects

from the circumference of the cylinder in this position.

When putting the apparatus on the paper, the movable piece *p* is forced in or repelled, as shown in Figs. 6 and 7, so that it will no longer project beyond the circumference of the said cylinder. In this movement the catch *j*, which, during this operation, remained stationary, will be released from the pin 2 of the said movable piece *p*. In the next movement of the impression-cylinder the catch *j* will be raised by reason of the tappet *x* entering the curve *h* to such an extent that it interferes with the rotation of a pin, 3, fixed on the cylinder, thus causing the latter to stop, as indicated in Fig. 8.

By the raising of the aforesaid catch produced by the slope of the curve, the said catch again comes into contact with the pin 2 of the movable piece *p*, and the said piece is brought back to its starting-point as soon as it is moved forward by the elastic force when taking off the punch from the paper, as shown in Fig. 5. It follows that the catch engages by the revolving motion of the cylinder, and is again released by taking off the apparatus from the paper.

I may modify the construction of the movable piece with stoppage without employing a curve, as represented in Figs. 8^a and 9^a. In connection with the cylinder *a* is arranged a separate disk, *p*, with one point of its periphery on the paper. This disk constitutes at the same time the movable piece and the catch. The pivot *m* of this disk *p* is placed eccentrically with regard to the center *c* of the impression-cylinder *a*.

On moving the apparatus over the paper, as in Fig. 9^a, a revolving motion is imparted to the pressing-cylinder as well as to the disk *p*. During this rotation a pin, 1, fixed on the cylinder *a*, freely crosses the path of a rib, 2, fixed on the disk *p*, on account of the advanced position of the said pin, as shown in Fig. 8^a.

The rotation, however, of the disk *p* is limited by striking against a pin, 3, on the box in such a manner that it is firmly maintained, as shown in Fig. 9^a, as soon as the rib 2, placed upon it enters the path of the pin, which afterward serves as a stop for it. At the moment when the apparatus is taken off the paper the friction between the former and the disk *p* will also cease, and the said disk therefore flies back to its starting-point on account of the elastic force of a suitable spring, as shown in Fig. 8^a, whereupon a new impression may be made.

The chief difference between the examples given for the touches or movable pieces is that the former touch is indirectly and the second directly influenced by the rotation of the impression-cylinder. I therefore call each piece a "touch" which touches the paper for the main or secondary purpose of an influence upon the rotation of the impression-cyl-

inder, and which causes, indirectly or directly, the stopping or releasing, whatever the manner of operating and construction may be.

In order to make the greatest use of the periphery of the impression-cylinder, I provide the following arrangement with regard to the starting-point of coloring the impression-cylinder. Properly speaking, those parts of the type which first pass the inking-roller ought also to come first to the printing.

If, for various reasons, it should be difficult to make the starting-point of the inking coincide with the starting-point of the impression without losing any part of the useful circumferential surface of the pressing-cylinder, I allow any suitable point of the surface of the impression-cylinder to come in contact with the inking-roller. At one revolution of the impression-cylinder each point of its periphery is obliged to make also one turn; consequently each point will pass the inking-roller and print. In this case the first imprint of the apparatus will not be inked or colored on the length from the starting-point of the imprint to the starting-point of the inking, but each following imprint will be entirely inked, and even the above-mentioned length of the circumference of the cylinder (while accomplishing the last impression) will be inked in advance for the following imprint.

When the apparatus has not been in use for a long time, the ink or color will partly pass over to the uninked parts of the type, which receive a dead appearance when making the next imprint. It will be sufficient, however, in such a case to make a trial imprint before using the apparatus, as then all others successively made will be regularly inked or colored.

In order to provide for better work or execution, I cause the cylinder to make a partial rotation after its use, thus bringing the commencement of the line to the inking-roller, and afterward, before employing the apparatus by the inversed rotation back to the starting position.

To obviate the necessity of employing a hand or other device for effecting the partial rotation of the cylinder, I make it depend on the opening and closing of the box-cover.

In Fig. 8 the box is shown closed, and is shown open in Figs. 4 and 9, the cover or locking-piece *l* of the box being pivoted at *o*, which is arranged eccentrically with regard to the center of the cylinder.

A pin, *r*, fastened to the locking-piece *l*, passes through a circular slot, *s*, in the box-

wall, and, projecting through the said wall, enters a radial slot, *t*, Fig. 8, made into the impression-cylinder *a*, which cylinder is further provided with a concentric opening, *u*, Fig. 10, into which the slot *t* opens. In opening the cover or locking-piece *l*, Fig. 9, the pin *r* takes the cylinder along with it till the said pin passes from the radial slot *t* into the concentric opening *u*—a position which corresponds to the starting position of the cylinder, which is now permitted to move freely. In closing the box again, which can only be effected in the starting position of the cylinder, the pin *r* re-enters the radial slot *t* and causes the latter to revolve back, and holds it fast in this position while the apparatus is not being used.

It is advantageous to provide small apparatuses, destined for simple lines, with a second point, *v*, Fig. 3, in order to give a steady guide to the whole when the imprint is being effected.

If greasy inks or colors are to be used with the apparatus, I apply to such inks or colors some fine purified oil—such, for instance, as those used for chronometers—in order to protect the apparatus from the injurious effect which such greasy inks or colors would otherwise have.

Having thus fully described the said invention and the manner of performing the same, I claim as my invention and desire to secure by Letters Patent—

1. A rotating impression-cylinder, *a*, provided with a helical curve, *h*, in combination with a catch, *j*, provided with a notch, *i*, at one end and a tappet, *n*, at its other end, and a spring, *k*, arranged to operate in the manner and for the purpose substantially as set forth.

2. The combination of the impression-cylinder *a*, provided with a curved surface, *h*, and projecting pin 3, the touch *p*, with projecting pin 2, and the hinged catch *j*, with tappet *x*, arranged to operate substantially as and for the purpose specified.

3. A rotating impression-cylinder, *a*, provided with a radial slot, *t*, and concentric opening *u*, made in said cylinder, in combination with a projecting pin, *r*, attached to the locking-cover *l*, arranged to operate in the manner and for the purpose substantially as herein described and set forth.

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