

K. E. WIBERG.
HAND STAMP.

No. 504,546.

Patented Sept. 5, 1893.



J. Stait
Chas. H. Smith

Inventor:

K. E. Wiberg
Jesse L. W. Serrell

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

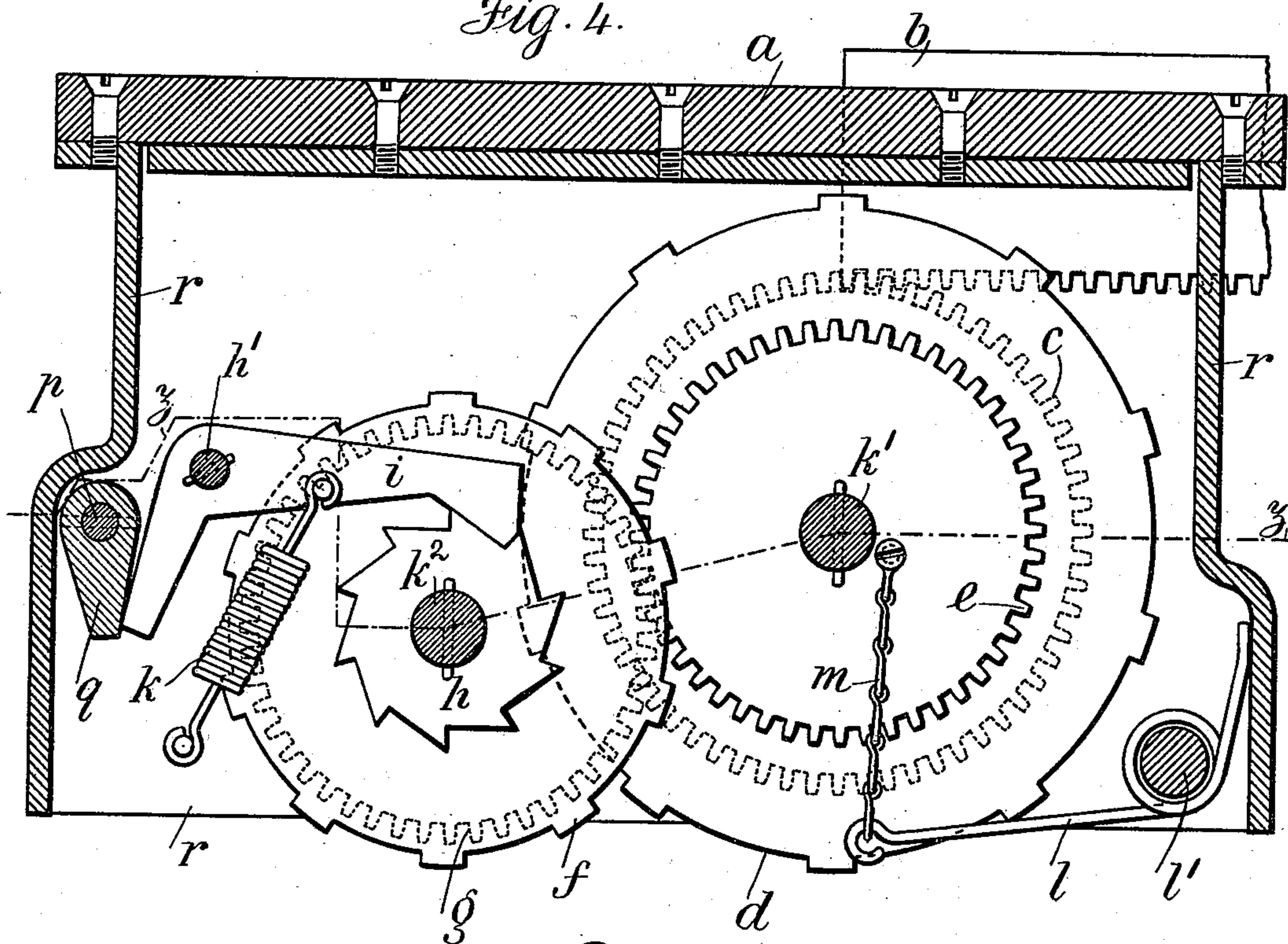
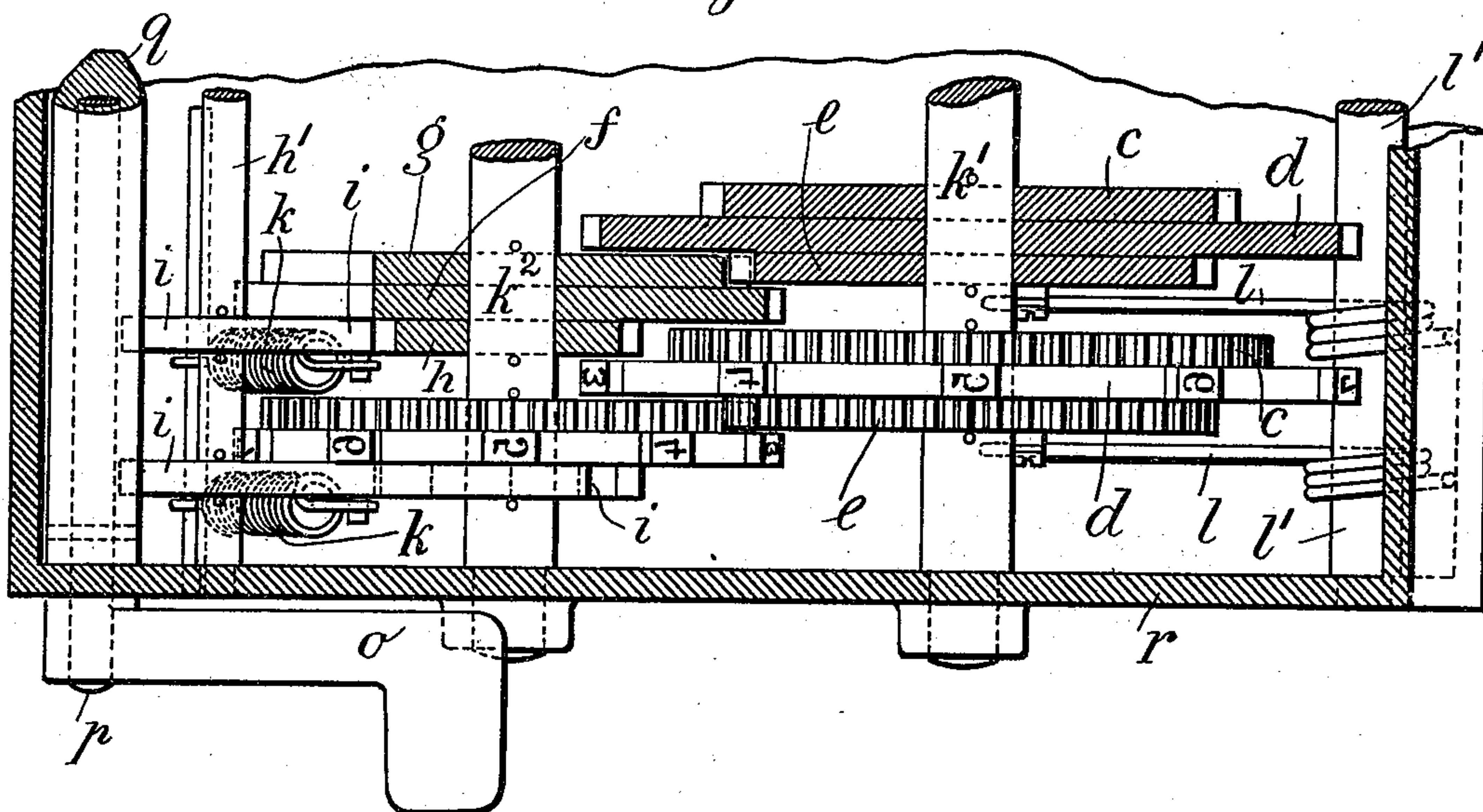


Fig. 5.



Witnesses:
J. Stail
Geo. T. Pinckney

Inventor:
Knut E. Wiberg
per Lemuel W. Serrell
Atty.

UNITED STATES PATENT OFFICE.

KNUT EDVARD WIBERG, OF STOCKHOLM, SWEDEN, ASSIGNOR OF ONE-HALF
TO GUSTAV FREDRIK BERNDES.

HAND-STAMP.

SPECIFICATION forming part of Letters Patent No. 504,546, dated September 5, 1893.

Application filed February 20, 1893. Serial No. 462,973. (No model.)

To all whom it may concern:

Be it known that I, KNUT EDVARD WIBERG, a subject of the King of Sweden and Norway, residing at Stockholm, Sweden, have invented a Hand-Stamp, of which the following is a specification.

This invention relates to a stamping apparatus for stamping numbers or figures consecutively on either loose sheets of paper or on a continuous strip of paper.

In the drawings, Figure 1 represents the apparatus in section through $x^2 x^2$ (Fig. 2). Fig. 2 represents the same in plan, and Fig. 3 the same in section through $y^2 y^2$ (Fig. 2). Fig. 4 is a partial view in larger size showing the gearing similar to the same parts in Fig. 3, and Fig. 5, is a plan view of two sets of number wheels and gears, one set being in section at the line 3, Fig. 4.

Between the semi-circular guides a there move the quarter circular rings or plates b concentrically with the former; these rings are provided on their upper surface with figures from 0 to 9 and on their lower side there are teeth. These teeth gear into the gear wheels c fastened on one side of the printing wheels d which are provided on their circumference with types 0 to 9. The partial rotation of the number plates b round the common center causes the printing wheels to turn on their axes to the corresponding extent. In consequence of the plates b being quarter circle rings one within the other, the smaller rings move a less distance for each number than the larger rings; hence to turn the printing wheels d the proper distances for each number, the segmental racks on the smaller ring segments are deeper to reach the wheels c that are proportionately smaller for the small quarter circle rings and hence equal motions are given to the printing wheels by either quarter circle ring for each number thereon.

On the opposite side of the printing wheels d the gear wheels c are placed which gear into the wheel g placed on the one side of the printing wheels f . These latter printing wheels are provided with types 0 to 9. On their opposite sides is fastened the ratchet wheel h to which the pawls i on the shaft h' are applied. The pawls i are pressed against

the ratchet wheels h by means of the springs k . The printing wheels d with their gear wheels thereon rotate round the fixed axle k' , and the printing wheels f with their gear and ratchet wheels rotate round the fixed axle k^2 . The helical springs l surround the fixed shaft l' and have arms and chains m fastened to the gear wheels c , so that they tend to turn the above mentioned system of printing and gear wheels in a direction opposed to that in which they are rotated when the number plates b are turned from right to left between the guides a , Fig. 2, the movement caused by the springs l being limited by the pawls i engaging the teeth of the ratchet wheels and holding the parts in any position to which they may be moved. The pawls i are disengaged from the teeth by lifting the handle o on the shaft p , and the toes q on this shaft p are thereby pressed against the lower ends of the pawls and their upper ends are removed from the teeth of the ratchet wheels h . In this manner the before mentioned plates and wheels, as well as the number plates b , are brought back to their normal position by the helical springs l .

The mechanism hitherto described with the exception of the guides a and the number plates b is inclosed in a box r , in the front and back walls of which the shafts k' h' k^2 l' and p are journaled. To these same walls the sliding guides s and t are connected by the flanges r' and r^2 , by means of which guides the box may be raised and lowered upon the columns u and v which act as guides. The semi-circular guides a form the upper covering of the box and are firmly fastened thereto.

In the side walls of the box the journals x and y are fixed. Under the foremost flange r' there is a hollow which contains the color pad z . Round the journals x and y and lying nearest to the side walls of the box are the arms a' and a^2 that support the color roll o' the axle of which moves in grooves longitudinally of these arms and which roll is drawn upward by the springs A and B. The color roller runs first over the color pad z and afterward touches the lower types of the printing wheels d and f .

The up and down motion of the box r is caused by the arms C and D which are af-

fixed to the cross shafts G fixed in the stands or brackets E F. The arms C and D are slotted for the journals x and y so as to move the box up or down the columns u and v when the arms are raised or lowered and swing on the shaft G. The foremost ends of these arms are connected together by the cross shaft H in the middle of which and firmly fixed thereto is the handle T. Besides this handle there is also affixed to this shaft the cranks K, the lower ends of which are connected with the arms a' and a^2 by the rod L, and the movements of which are limited by the pins K' on the arms C and D. The downward motion of these arms and of the box r is brought about by the handle T while the upward motion is caused by the helical springs M, the one ends of which are received in the plate N while the other ends act against the arms C and D.

The moving of the number plates b from right to left on the guides a , Fig. 2, is accomplished by the lower point of the pin O. This pin at its lower end is shod with leather, india rubber or some other material of high friction, as at 15 and the pin is freely suspended in the fork P and by this fork connected with the tube R running inside the tube Q. In the bottom of this outer tube a guiding rod S is placed, along which the inner tube R moves and round which a spring T' is wound, which with its one end rests against the bottom of the inner tube R and with its other end against the pin U in the foremost part of the rod S and causes the return of the tube R when it has been drawn out. Both the tubes as well as the pin O are movable in a vertical direction by means of the journals resting in the upper fork-like part of the stand W. After the pin O and the foremost ends of the tubes are depressed they regain their positions against the stop X by means of the spring Y. The stand W is connected with the base Z and together they are movable in a horizontal direction round the pillar A', which by the table A² is attached to the upper end of the column v ; the pillar A' is in the common center of the guides a and number plates b . In the lower cylindrical part of the base Z a notch is made, by means of which the stand W and base Z as well as the mechanism attached thereto may be turned so far to the left (Fig. 2) that the before mentioned notch in the plate Z strikes against the pin O' in the pillar A'. In this manner a universal motion can be given to the pin O about the pillar A'. The two columns u and v as also the brackets or stands E F are mounted on a common bed plate a^4 .

In a recess formed in the bed plate there is a mechanism for winding a paper strip. A stand 2 fastened to the bed plate a^4 supports the paper roll 3 from which a strip of paper runs round the printing roller 4 to the winder 5 where it is threaded into a groove running longitudinally along this winder and is consequently wound round it when the winder

is turned. The motion is imparted to the winder by a movable lever arm 6 which is pivoted on the shaft of the winder and which supports the spring pawl 7. The downward motion of the lever arm 6 is caused by the downward movement of the box r which strikes against the pin 9 upon the lever arm and forces it down at the same time turning the shaft of the winder. The upward motion of the lever arm 6 is induced by the helical spring 10 around the previously mentioned shaft when by the pawls 7 engaging the ratchet wheel 11 the roller 5 is made to turn and wind up the paper from the roll 3. The desired number is moved into position by placing the lower end of the pin O on that figure of the number plate which corresponds to the first figure of the number in question, and by means of the pin O the number plate is moved from right to left till the pin stops, in consequence of the cylinder of the base Z striking against the pin passing through the pillar A'. The gearing between the number plates b and the gear wheels c , as also between the gear wheels c and g , is so arranged that when the pin O stops, as described above, the same figure on which its point has been placed is then lowest on the printing wheels d and f . Afterward the other figures of the number in question are adjusted in the same manner from the innermost ring to the outermost in regular order as the sum is read, which may also finally be read radially in the vertical plane, in which the pin O stops. The handle T is then grasped and moved toward the person working the apparatus until the cranks K stop against the pins K', and the color roller o' , and the arms a' and a^2 are moved by the cranks K and the connecting rods L and the roller is rolled upon the color pad and against the types that are in position for printing so as to ink them. Afterward the arms C and D are pressed down and at the same time the box r and the printing wheels contained therein are pressed down against the bed plate. The inked types are now imprinted both on the loose sheets of paper laid on the bed plate a^4 by the printing wheels d , as also on the continuous strip of paper against the printing roller 4 by the wheels f .

In Fig. 2 the inner semi-circular guide ring is shown in one place as made sufficiently wide to receive the figures 7. 8. 9. This is done to illustrate that if the said ring is made sufficiently wide in whole or in part of its length, the figures on the number plates b might be left off and the spaces divided by the radial lines only, provided, so as to lessen the risk of confusion by the number of figures. The operations in this instance remain unchanged, and the numbers on the stationary semi-circular guide ring will apply to the radial columns on all the number plates b .

I claim as my invention—

1. The combination in a machine for stamping numbers, of the semi-circular guides a , the

quarter circle number plates and the gears therewith connected, gear wheels and number wheels actuated by the number plates, and ratchet wheels for holding the number wheels in position, a box supporting the number wheels and plates, and inking mechanism and means for moving the box and number wheels vertically to print the numbers, substantially as set forth.

2. The combination in a machine for stamping numbers, of the semi-circular guides α , the quarter circle number plates and the gears therewith connected, gear wheels and number wheels actuated by the number plates, and ratchet wheels for holding the number wheels in position, a second set of number wheels and gearing for connecting the second set of number wheels, a box supporting the number wheels and plates, and inking mechanism and means for moving the box and number wheels vertically to print the numbers, substantially as set forth.

3. The combination in a machine for stamping numbers, of the semi-circular guides α , the quarter circle number plates and the gears therewith connected, gear wheels and number wheels actuated by the number plates, and ratchet wheels for holding the number wheels in position, a second set of number wheels and gearing for connecting the second set of number wheels, a box for supporting the number wheels and plates, and inking mechanism and means for moving the box and number wheels vertically to print the numbers, a paper roll, printing roll and winder and mechanism actuated by the movement of the box for feeding along a strip of paper for receiving

ing impressions from the second set of number wheels, substantially as set forth.

4. The combination in a machine for stamping numbers, of the semi-circular guides α , the quarter circle number plates and the gears therewith connected, gear wheels and number wheels actuated by the number plates, ratchet wheels for holding the number wheels in position, a box supporting the number wheels and plates, inking mechanism and means for moving the box and number wheels vertically to print the numbers, the pin O and sliding and swiveling supports for the same for moving the number plates, substantially as set forth.

5. The combination in a machine for stamping numbers, of the semi-circular guides α , the quarter circle number plates and the gears therewith connected, gear wheels and number wheels actuated by the number plates, ratchet wheels for holding the number wheels in position, a box supporting the number wheels and plates, inking mechanism and means for moving the box and number wheels vertically to print the numbers, springs for returning the number wheels to their normal positions, and mechanism for disengaging the pawls from the ratchet wheels, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

KNUT EDVARD WIBERG.

Witnesses:

CARL GESELL,
L. ENGLAND.