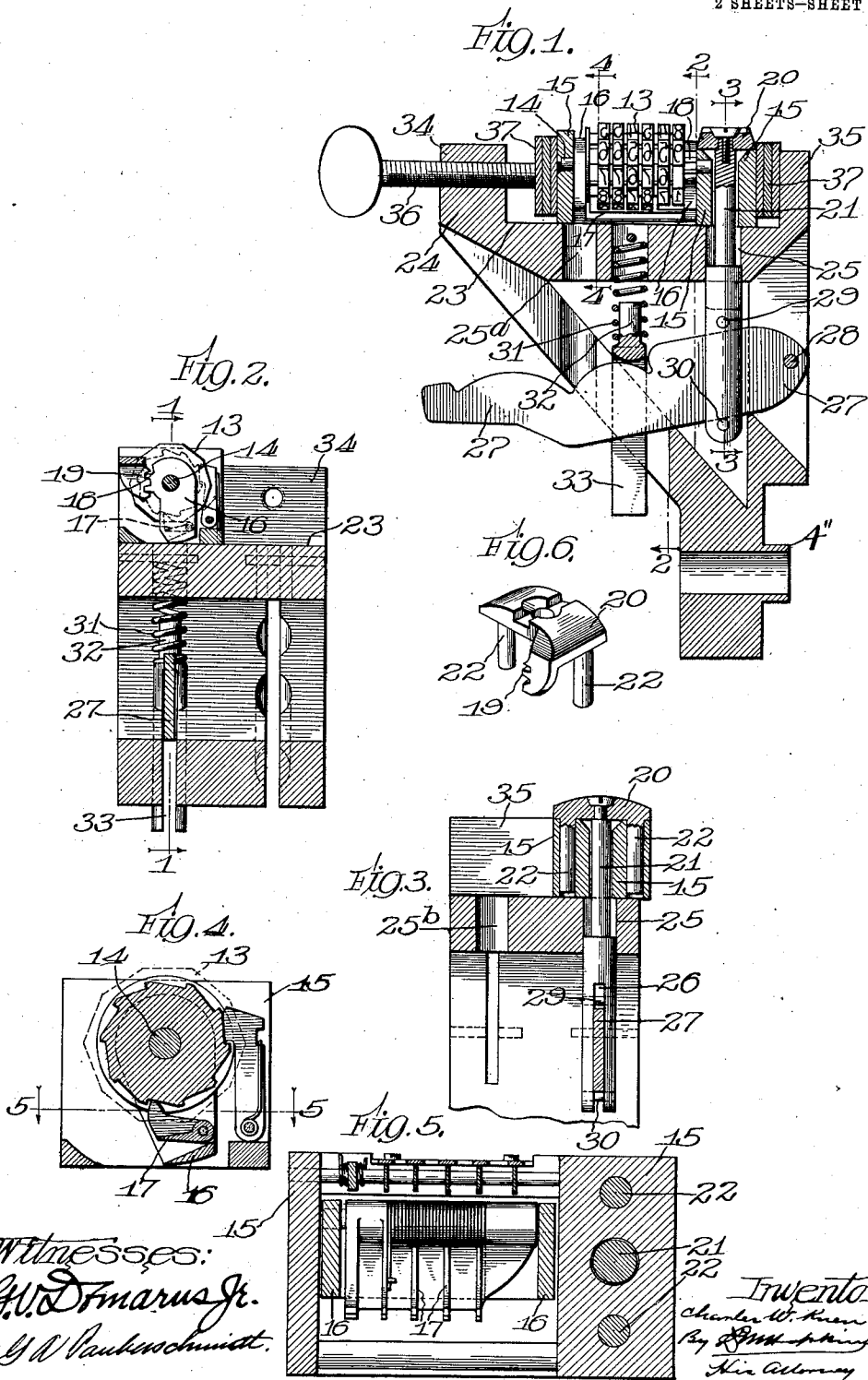


C. W. KUEN.
 NUMBERING ATTACHMENT FOR PRINTING PRESSES.
 APPLICATION FILED JULY 5, 1910.

1,021,466.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 7.

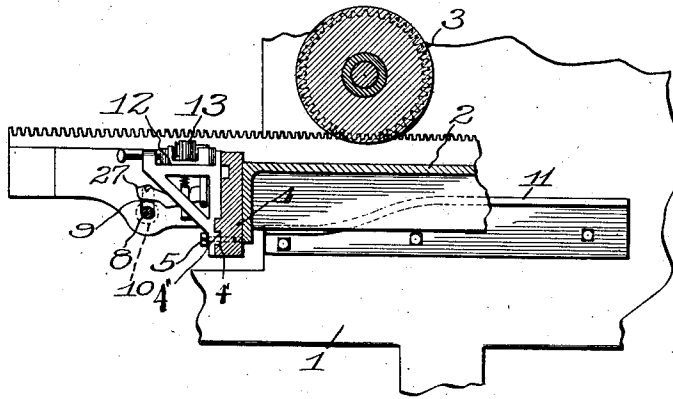


Fig. 8.

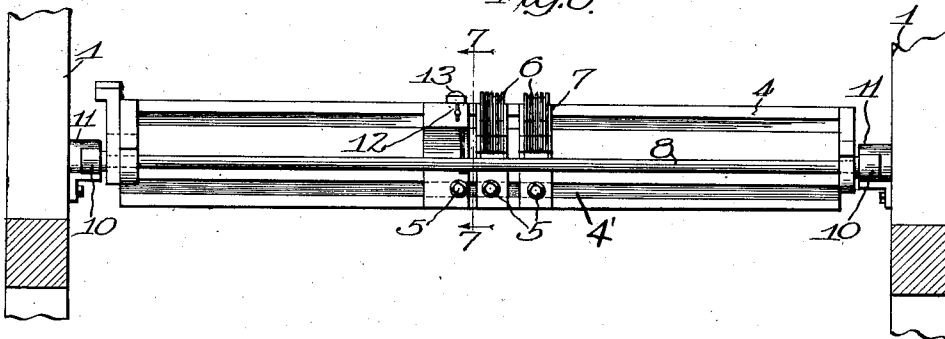


Fig. 9.

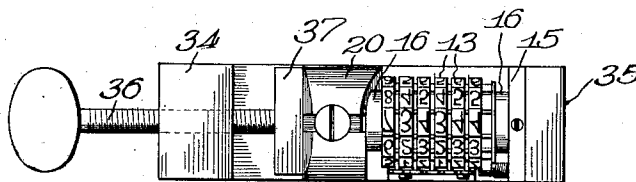
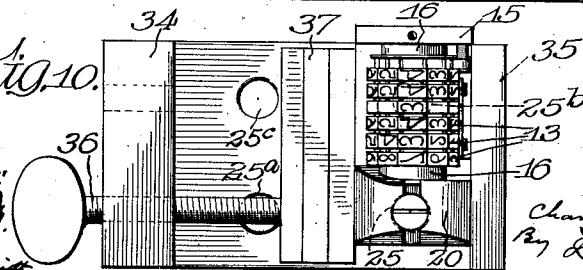


Fig. 10.



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UNITED STATES PATENT OFFICE.

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NUMBERING ATTACHMENT FOR PRINTING-PRESSES.

1,021,466.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed July 5, 1910. Serial No. 570,401.

To all whom it may concern:

Be it known that I, CHARLES W. KUEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Numbering Attachments for Printing-Presses, of which the following is a specification.

Most all tickets, especially railway tickets, of a certain class which bear the same subject matter and are printed from the same or similar type forms bear, on each of their several coupons or other component parts, the same identifying mark, such as the same number. These marks or numbers designate the form of ticket and are known as the "form" or "form number." They are printed by the same impression or operation of the press as the balance of the subject matter of the ticket. In addition to this "form number" each ticket or part thereof has an identifying number which is known as the "ticket number." These ticket numbers are consecutive and applied to all of the tickets of a similar form, serially, all of the coupons or other component parts of each ticket bearing the same serial number. These serial ticket numbers are printed after the main portion of the ticket, either by the same press and at a subsequent stage of the same operation, or by a separate press. The ticket numbers are printed by one or more "numbering heads" each consisting of a suitable frame, a train of numbering type wheels and suitable means for operating them. These ticket numbers may appear on the margin of the ticket, lengthwise thereof, or they may appear in blank spaces left for them in the body portion of the ticket when it is printed, transversely thereof. Furthermore by placing the type form for the body of the ticket and the adding train in one or another of two possible relations to each other the ticket numbers may be produced "right side up," so as to read in the same direction as the ticket reads,—from left to right of the ticket,—or they may be produced "up side down" so as to read in the reverse direction.

The object of the present invention is to provide a simple and improved numbering attachment having a numbering head of ordinary construction whereby the serial or ticket numbers may be printed in any of

these several positions by simply adjusting the parts, without the necessity for separate specially constructed parts for producing any given arrangement of the numbers on the ticket.

Another object of the invention is to provide an improved numbering attachment of such construction that no part of the means for operating the type wheels of the numbering head will extend as high as the level of the printing surface, so that no part of said means will contact with the inking roll or with the paper on which the ticket is being printed and thereby avoid printing an unsightly blot or smudge on the ticket, albeit I am aware that the broad idea here involved is not new.

To these ends the invention consists in the features of novelty that are hereinafter described with reference to the accompanying drawings which are made a part of this specification and in which:

Figure 1 is a vertical section of an improved numbering attachment embodying the invention, the section being taken in the axial plane of the adding train of the numbering heads, as indicated by the line 1—1, Fig. 2. Figs. 2, 3 and 4 are vertical transverse sections thereof on the lines 2—2, 3—3 and 4—4, respectively, Fig. 1, looking in the directions of the arrows. Fig. 5 is a horizontal section on the line 5—5, Fig. 4. Fig. 6 is a perspective view of the head of the plunger for turning the type wheels. Fig. 7 is a sectional elevation showing a portion of a printing press and the improved numbering attachment in place thereon, the plan of the section being indicated by the line 7—7, Fig. 8. Fig. 8 is a rear elevation of a portion of a printing press with the improved numbering attachment and also two numbering attachments such as heretofore used, in place thereon. Fig. 9 is a plan view of the improved numbering attachment with a supporting bracket of modified construction. Fig. 10 is a plan view of the improved attachment of preferred construction.

Referring first to Figs. 7 and 8, 1 represents fragments of the frame of a printing press, 2 the reciprocable bed by which the ticket printing type form is carried, 3 the platen roll or cylinder, 4 a transverse beam carried by the bed, 2, and arranged at right angles to the direction of movement of said

bed, said beam having suitable features for the attachment thereto of the bracket-support of one or more numbering attachments. As shown in Figs. 7 and 8 the beam has a groove 4' (and resulting ribs or shoulders) for engaging corresponding features of the bracket, a projection 4'' and the adjacent flat surfaces of the back of the bracket, which when properly placed are secured by bolts, 5. In Fig. 8, two numbering attachments of a type now in use are shown at 6 and each of these attachments has a swinging arm or arms, 7, the rear ends of which, when the bed is approaching the limit of its backward stroke, project over a horizontal rod, 8, which is transverse to the movement of the bed and passed through vertical slots, 9, formed through the sides of the bed frame. At its ends this rod carries anti-friction rollers, 10, and the fixed frame of the press supports, in the path of said rollers, cams, 11, so that when the rollers contact with the cams, when the bed is moving forward, the rod, 8, will be moved vertically and lift the swinging arms, 7, and thereby turn the type wheels of the adding train or trains, any desired number of which may be used. The axes of the type wheels of these old style numbering attachments are at right angles to the direction of movement of the bed so that the numbers which they imprint upon the ticket will be lengthwise thereof, but these old style attachments have no means whereby the adding trains may be either turned end for end or placed with their axes parallel with the movements of the bed. The improved attachment may be used as an auxiliary to the old style attachments as shown at 12 in Fig. 8, or the old style attachments may be dispensed with altogether and the improved attachments only used. The improved attachments are capable of doing all that the old attachments can do and more. With the arrangement shown in Figs. 7 and 8, the numbering head 13, is arranged with the axis of its type wheels parallel with the direction of the feed and at right angles to the axes of the wheels of the adding trains of the old attachments, 6. The improved attachment thus arranged is best shown on a larger scale in Figs. 1 to 6, inclusive.

All of the details of the numbering head are not shown in the drawings because they are well understood, only such of them being shown as will be helpful to a complete understanding of the invention. The several type wheels of the numbering head are supported by a shaft, 14, which, in turn, is supported at its ends by the end portions, 15 and 15^a, of a frame and upon the shaft is hung a rocker, 16, carrying the dogs, 17, for engaging and turning the type wheels. The rocker has at one of its ends one or more

teeth, 18, which are adapted to be engaged by one or more complementary teeth, 19, carried by the head, 20, of a vertically reciprocable plunger, 21, which occupies a vertical opening through the thicker end 15 of the frame. This head is provided also with downwardly extending guiding studs, 22, which occupy vertical openings in the end, 15, of the frame and the head is secured to the upper end of the plunger by means that will cause them to move together. The frame of the numbering head rests upon a seat, 23, formed on the top of a support, 24, which is in the form of a bracket one of the vertical sides of which has features complementary to the vertical face of the beam, 4, to which the bracket-support may be attached so as to be adjustable lengthwise of the beam—transversely to the movement of the reciprocable bed of the press. This supporting bracket has an opening, 25, through which the plunger, 21, passes and by which it is guided and confined against lateral movement, and the lower portion of the plunger has a diametrical slot, 26, through which passes a lever, 27, one end of which is fulcrumed at 28 to the bracket-support and the other end of which extends so as to be above the rod, 8, when the bed is completing its backward movement in the manner already described. The upward movement of the lever thus produced is transmitted to the plunger through the medium of a pin, 29, which crosses the slot, 26, while its downward movement is similarly transmitted through a pin, 30, but it will be understood that these pins are not indispensable and are used because of their simplicity as compared with the forming of the slot, 26, accurately of the desired length and closed at both ends. The downward movement of the lever when permitted by the recession of the rod, 8, is produced by a coiled spring, 31, which bears upward against the bracket-support and downward against a follower, 32, which has a diametrical slot, 33, for the passage of a lever, 27. The bracket-support has shoulders, 34 and 35, which rise above the seat, 23, and one of them has a threaded perforation through which passes the correspondingly threaded stem of a clamping screw, 36, so that when the numbering head is adjusted to proper place it may be clamped and there held by tightening the screw, 36. If necessary, filler blocks, 37, may be placed between the frame of the numbering head and one of the shoulders of the bracket and also between said frame and the end of the clamping screw. These filler blocks may or may not be necessary depending upon the position of the numbering head with relation to the shoulder, 35. For instance, in Fig. 1, the distance between the center of the plunger and the vertical face of the adja-

cent end, 15, of the frame is less than the distance between the center of the opening, 25, through which the plunger passes and the vertical face of the shoulder, 35, and therefore when the numbering head is in the position shown in these figures the interposition of the filler blocks is necessary. On the other hand, if the numbering head be placed, as shown in Fig. 10, with the axis of the adding wheels at right angles to the position shown in Fig. 2, no filler blocks will be necessary because the distance between the center of the plunger and the vertical side face of the train frame is the same as the distance between the center of the opening, 25, and the vertical face of the shoulder, 35.

With the numbering head in the position shown in Figs. 1, 2 3 and 9, the ticket numbers will be transverse to the ticket, but with the numbering head in the position shown in Figs. 1, 2 and 3 they will read in one direction relatively to the ticket while as shown in Fig. 9 they will read in the opposite direction, or, in words of common expression, in one instance they will be "right side up" and in the other instance "upside down." To make possible this reversal, the bracket-support is provided with a second perforation, 25^a, so located that the plunger will register with it when the numbering head adding train is turned end for end. In like manner when the numbering head is in the position shown in Fig. 10 the ticket number will read in one direction while by turning the head end for end it will read in the reverse direction. In order to provide for this reversal the bracket support is made of double width, or, in other words, double the width of the bracket-support shown in Fig. 9, or the same width, approximately, as the length of the numbering head and is also provided with a third vertical opening, 25^b, for the passage of the plunger, 21, it being understood that the same plunger, 21, lever, 27, spring, 31, and follower, 32, are used, whatever may be the position of adjustment of the numbering head, it being necessary simply to change these parts from one position to another.

Where the ticket numbers are to appear both longitudinally and transversely on the ticket it is, of course, necessary to employ a plurality (at least two) of the numbering heads and as the spaces available for these ticket numbers may be very close together it becomes necessary to provide for corresponding closeness in the positions of the heads. For example, as shown in Fig. 8, one of the improved attachments is used auxiliary to another attachment (either of the old style or of the improved style.) If closeness is necessary the transverse head may be placed at one side of the bracket-support as shown in Figs. 2 and 3 or it may be placed

at the opposite side of the attachment, 6, to which it is auxiliary and will still be sufficiently close. Thus a numbering attachment constructed in all respects as shown in Figs. 1 to 8, inclusive, and Fig. 10, will meet all of the conditions as to the positions and relations of the ticket numbers on the tickets, but where the improved attachment is to be used only as an auxiliary to an attachment of the old style the supporting bracket may be of single width or just the width of the numbering head frame as shown in Fig. 9.

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

1. The combination with a printing press having a reciprocable bed, of a numbering head having a train of numbering wheels, and means for actuating them, said actuating means having a vertically reciprocable plunger extending downward from the numbering head, a bracket having a seat upon which said numbering head rests and is adjustable to different positions, said bracket having also means for confining the plunger to a strictly endwise rectilinear movement, means for securing the numbering head to its seat, means for securing the frame to the reciprocable bed and means deriving its movement from the reciprocable bed for reciprocating the plunger.

2. In a numbering attachment for printing presses, the combination with a numbering head having a train of numbering wheels and means for actuating them, said actuating means including a vertically reciprocable plunger extending downward from the numbering head, of a bracket having a seat for said numbering head, and a lever fulcrumed to the bracket and engaging the downwardly extending portion of the plunger, said lever being adapted to engage a relatively movable part of the press.

3. In a numbering attachment for printing presses, the combination with a numbering head having a train of numbering wheels, and means for actuating them, said means including a vertically reciprocable plunger extending downward from the numbering head, of a bracket having a seat on which the numbering head is supported and is adjustable end for end, and a lever fulcrumed to the bracket and engaging the downwardly extending portion of the plunger whichever of the two positions of adjustment the numbering head may occupy, said lever being adapted to be engaged by a relatively movable part of the press.

4. In a numbering attachment for printing presses, the combination with a numbering head having a train of numbering wheels and means for actuating them, said actuating means including a vertically reciprocable plunger extending downward from the numbering head, of a bracket hav-

ing a seat on which the numbering head is supported and is adjustable from a given position to a position at right angles thereto, and a lever fulcrumed to the frame and
5 engaging the downwardly extending portion of the plunger, whichever of the two positions of adjustment the numbering head may occupy, said lever being adapted to be engaged by a relatively movable part of the
10 press.

5. In a numbering attachment for printing presses having reciprocating beds, the combination with a numbering head having a train of numbering wheels and means
15 for actuating them, a bracket having a seat for said numbering head, means for adjust-

ably securing the numbering head to said seat, means for securing the bracket to the reciprocating bed of the press, means for actuating the numbering wheels, said actuating means having a vertically reciprocable
20 plunger, extending downward, a movable rod, means for lifting and lowering said rod by movement derived from a movable part of the press and means for transmitting
25 movement from said vertically movable rod to the vertically reciprocable plunger.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
