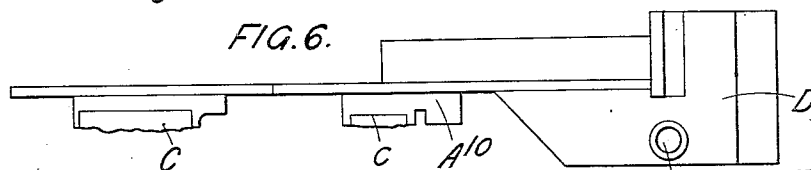
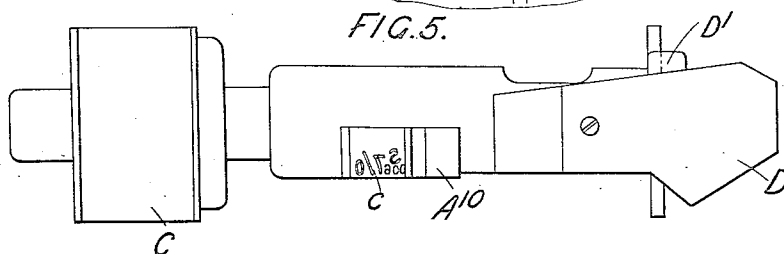
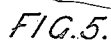


1,233,245.

5 SHEETS—SHEET 1.



DI INVENTOR.

by Foster Furman Watson & Co. ^{Attys}

1,233,245.

FIG. 2.

WITNESSES.
M. H. Brakhaugen

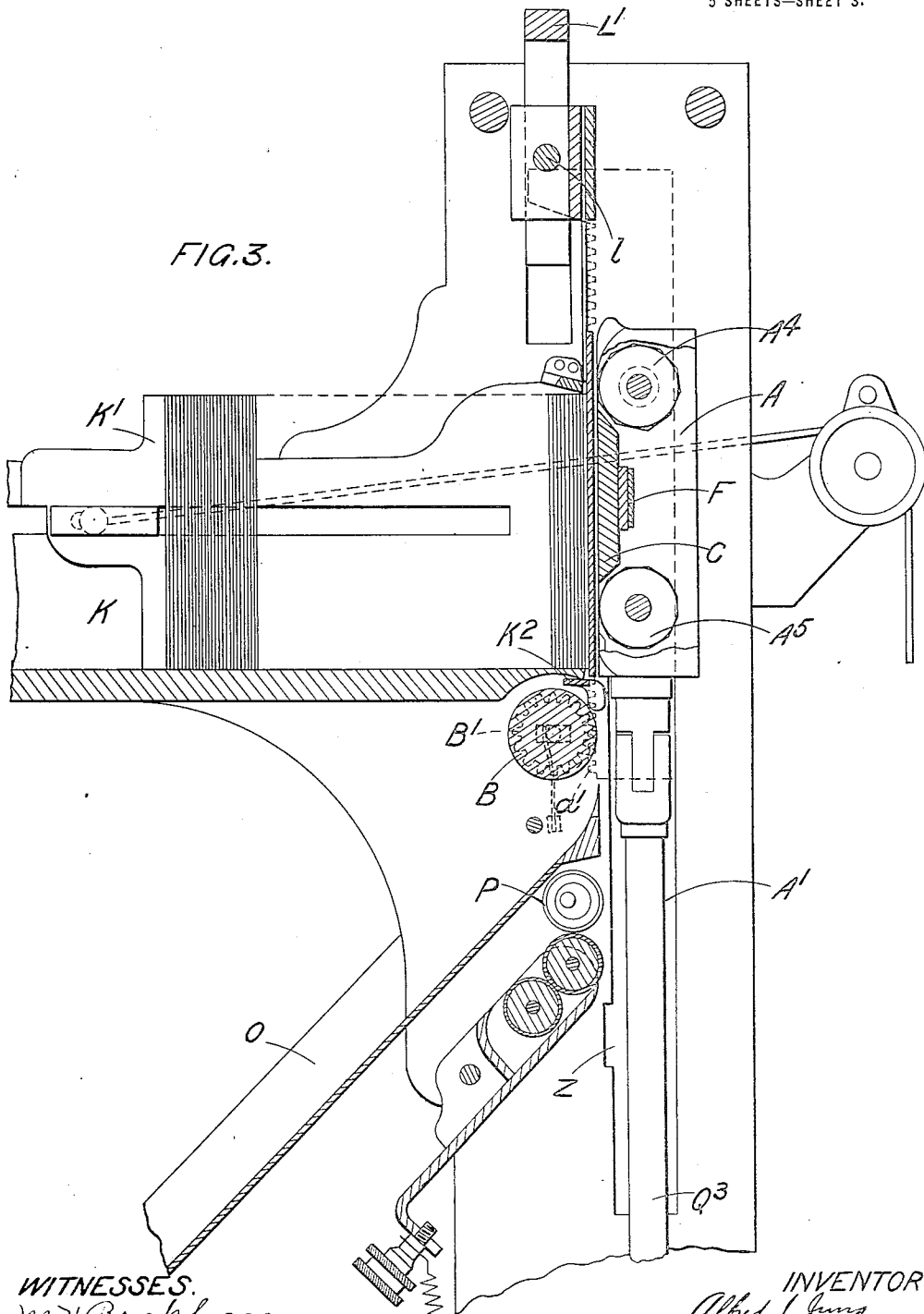
INVENT.
Alfred J. ...

WITNESSES.
M. H. Brakkegen
S. C. InceBride

INVENTOR.
Alfred J. Jung
by Foster Furman Watson & Co.
Attys

1,233,245.

FIG. 3.



WITNESSES.
M. H. Braklagen
S. C. McBride

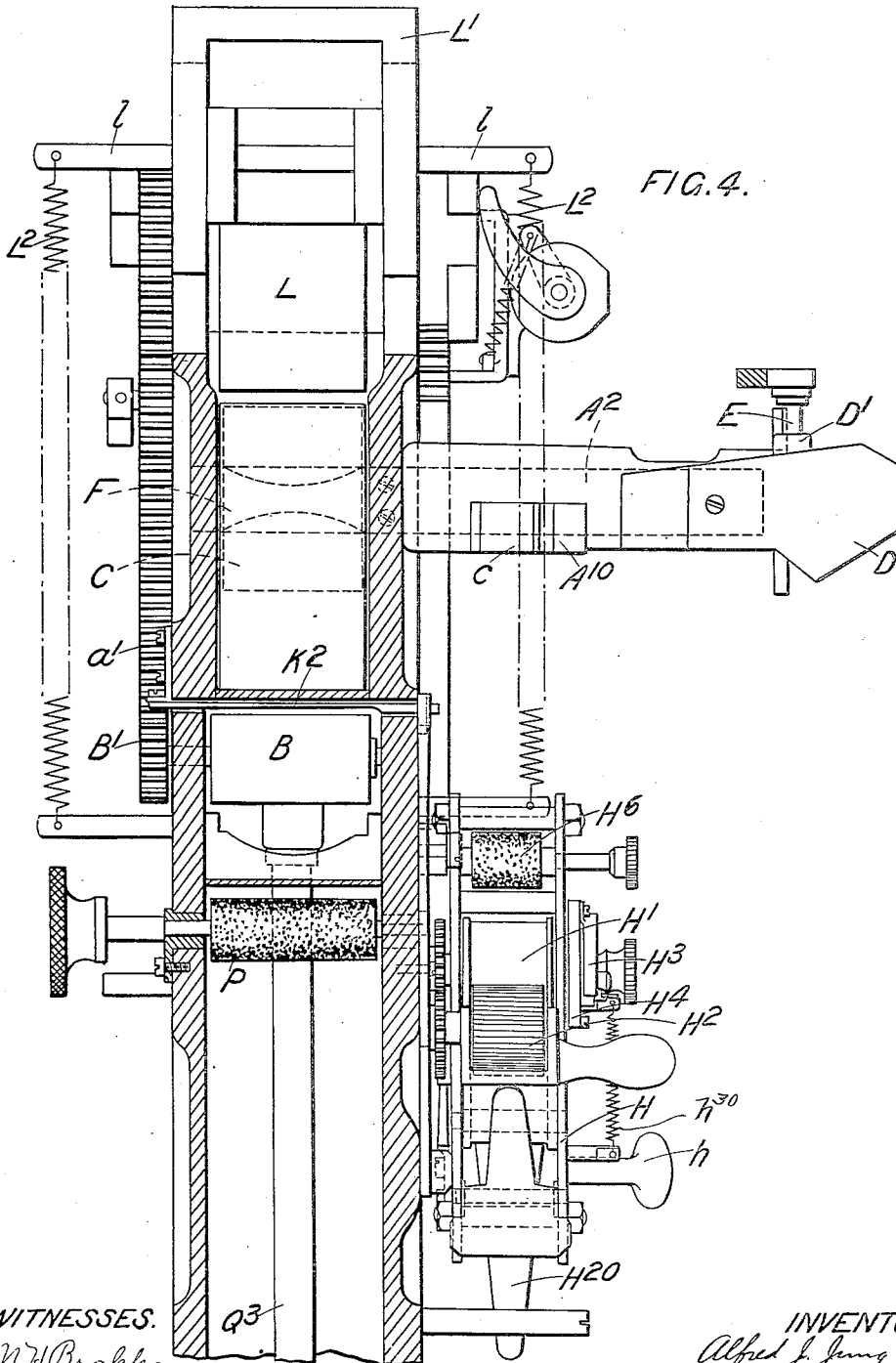
INVENTOR
Alfred E. Jung
by Foster Freeman Watson & Co't.
Attys

A. J. JUNG.
TICKET PRINTING AND ISSUING MACHINE.
APPLICATION FILED JUNE 26, 1914.

1,233,245.

Patented July 10, 1917.

5 SHEETS—SHEET 4.



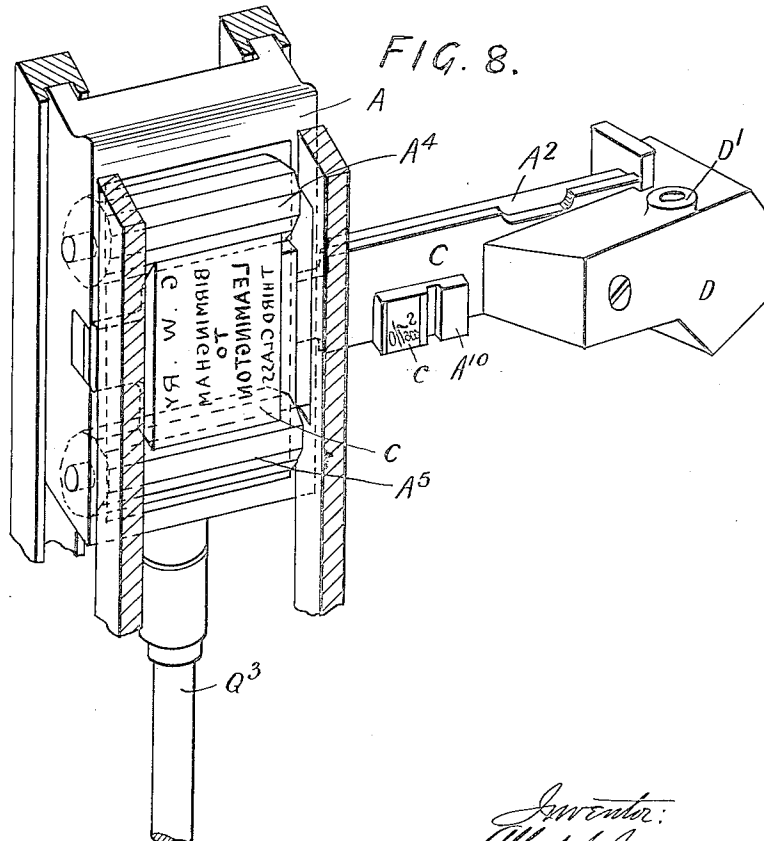
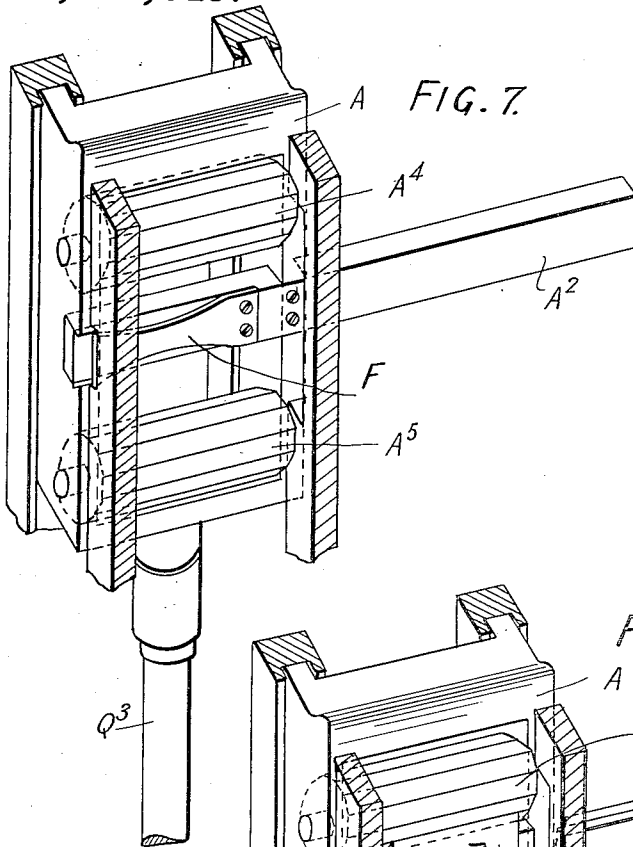
WITNESSES.
M. H. Brakkeggen
S. C. McBride

INVENTOR.
Alfred J. Jung
by Foster Sherman Watson & Co.
Attys

A. J. JUNG.
TICKET PRINTING AND ISSUING MACHINE.
APPLICATION FILED JUNE 26, 1914.

1,233,245.

Patented July 10, 1917.
5 SHEETS—SHEET 5.



Inventor:
Alfred J. Jung
By Foster Truman Watson & Co.
Attys.

UNITED STATES PATENT OFFICE.

ALFRED J. JUNG, OF LONDON, ENGLAND, ASSIGNOR TO CHEX TICKET MACHINES (1914) LIMITED, OF WESTMINSTER, ENGLAND.

TICKET PRINTING AND ISSUING MACHINE.

1,233,245.

Specification of Letters Patent.

Patented July 10, 1917.

Application filed June 26, 1914. Serial No. 847,483.

To all whom it may concern:

Be it known that I, ALFRED JAMES JUNG, a subject of the King of Great Britain, and resident of London, England, have invented an Improvement in Ticket Printing and Issuing Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to machines for printing and issuing railway, tramway, theater, tickets and the like and has for its chief object to provide an improved machine and mechanism for printing and issuing from one machine various tickets as required.

The chief features of the present invention reside in the employment in combination with a member of a printing couple of separate detachable or removable type plates, one for each sort of ticket, a locking device controlled by the type plates, a counter on each type plate and mechanism cooperating with these elements to form the complete machine.

According to this invention a frame or carrier forming one member of a printing couple is provided with a holder or guides adapted to receive any one of a series of separate removable and interchangeable forms or type plates which can be detachably mounted in the frame manually, and the printing of the ticket effected by the relative movement between the carrier and an impression device which movement also effects or controls the feeding forward of the ticket blank and the issuing or delivery from the machine of the printed ticket. As each plate or form is detachable and separate the otherwise necessity of moving a heavy mass comprising a large number of plates to bring the proper one to the printing point is avoided and the capacity of the machine is large since the number of different tickets which can be dealt with by a single machine is thus practically unlimited.

Suitable inking mechanism is also provided for inking the type on the form.

In accordance with this invention also a record or registering strip is provided which is also printed along with each ticket for checking purposes.

According to the invention likewise, a counter is mounted upon each of the detachable and removable type plates and means are provided on the machine for the opera-

tion of this counter whenever that particular type plate has a ticket printed from it.

A locking device is provided also in accordance with this invention, to lock the carrier against movement when there is no type plate in the carrier and this locking device is arranged to be actuated to release the carrier by and on the insertion of a type plate.

The machine is particularly applicable for the printing of single or separate ticket blanks which may be manually or automatically fed into the machine and it will be hereinafter described in this connection, it is also applicable however to machines wherein is employed in place of separate blanks a strip or ribbon of paper which is torn or severed as each portion to form a ticket is printed. As the type-plates are placed in and removed from the machine by manual operation the number of different plates that can be dealt with or printed from by a single machine is therefore practically unlimited.

Referring to the accompanying drawings:

Figure 1 is a perspective view of a ticket machine embodying the present invention.

Fig. 2 is a side elevation of part of the machine shown in Fig. 1.

Fig. 3 is a sectional elevation of Fig. 2.

Fig. 4 is a sectional view of the mechanism shown in Figs. 2 and 3 and Figs. 5 and 6 are respectively a plan and a side view of one of the type-plates or forms for use in the particular machine shown in the other views of the drawings.

Figs. 2 to 8 are drawn to a larger scale than Fig. 1.

Figs. 7 and 8 are perspective views of the type carrier, the latter showing the type plate in position on the carrier.

A is a frame or carrier and B is an impression member forming a printing couple. C is a removable and interchangeable type plate or form, D is a counter carried upon the form, E is a device for operating the counter D. F is a locking device on the carrier A which can engage with the machine frame to lock the carrier and is adapted to be released by the type-plate C, G is the record strip and H is the feeding and printing device thereof.

In the present embodiment of the invention the carrier or member A of the printing couple is caused to travel or move to

and fro relatively to impression member B of the printing couple. The carrier A is mounted to slide on suitable guides in the frame work of the machine and is conveniently provided with guides A¹ and a support or arm A² for the reception of the type plate C. A spring F on the arm A² presses against the back of the plate and holds it tightly in position, and in the present example also serves for another purpose referred to later.

The machine is intended for use in situations such as railway booking offices where a large number of different kinds of tickets are required but generally only one ticket at a time of a particular sort. The type plates C being secured in the carrier A by being simply pushed into position by hand permit of rapid insertion and withdrawal and they will be stored in suitable drawers or receptacles within observation and reach of the attendant who when a particular ticket is required has only to lift the corresponding type plate from its receptacle, insert it in the carrier A, operate the machine to print and issue a ticket and then withdraw the plate from the carrier and replace it in its proper receptacle.

The type plate C may be provided both with permanent type matter and movable or changeable type matter. In the example illustrated in Figs. 5 and 6 it is provided only with permanent matter such as the name of the stations between which the ticket printed therefrom is available, the price paid and other information peculiar to a particular ticket.

Similarly on the carrier A may be placed permanent and changeable matter. In the example illustrated in addition to permanent matter such as the name of the railway or other company and the like it is provided with changeable matter. The changeable type matter is mounted upon rotatable drums or rollers A⁴ A⁵ of which the drum A⁴ represents a numbering device whereby all tickets issued by the machine are numbered consecutively, the numbering device being actuated after the printing of each ticket. The dating drum A⁵ is operated manually so that it may be changed as required.

In order that the total number of tickets printed from each type plate may be ascertained readily, a counter D is mounted or carried upon each plate C. This counter may be of any appropriate form and the actuating arm or lever thereof projects into the path of an arm or operating rod E, see Figs. 2 and 4, carried upon the machine. D¹ is a guide for the rod E.

When a type-plate has been withdrawn from the carrier A the machine is automatically locked against operation according to this invention by locking device F.

In the embodiment illustrated the device F is in the form of a spring or spring-controlled catch which is secured to the carrier and normally tends to engage a shoulder z on the machine frame. When a type plate is pushed into the carrier it engages the catch F and moves it so as to release the carrier. Conveniently the type plate C can only be removed from the machine, when at the lower end of its travel that is after a ticket has been printed and issued and when the catch F can engage the shoulder Z.

In accordance with the invention also a printed record of all tickets printed and issued by the machine is taken on a record strip G. The printing type from which the record on the strip G is taken, is mounted upon the type-plate C at the point c and may consist for example of a number or symbol and a price.

The record strip G is mounted upon a supply roll G¹ coaxially and in frictional contact with which is a receiving roll G² for the printed portion of the strip. The paper is drawn from the roll G¹ by the feeding mechanism H and the frictional contact between the two rolls is sufficient for the necessary drive of the take up roll to be provided by the supply roll but is such also as to enable relative slip to take place owing to the continually varying diameter of the paper on each roll.

The feed mechanism comprises conveniently a frame H pivotally mounted on the machine frame at h. In the frame H is mounted a pair of feed rolls H¹ H² which are geared together. The strip passes around the roll H¹ and between it and the roll H² and then to the take up roll G². The roll H¹ is furnished with a toothed wheel g with which a spring-controlled pawl H³ engages. The pawl H³ is mounted upon an arm H⁴ which is carried loosely upon the shaft of the wheel g and as the carrier A descends a projection on the plate C engages an extension H⁵ on the pawl carrying arm H⁴ and effects a feeding movement of the record strip, see Fig. 2, causing the paper while being printed upon to move with the same surface speed as the plate C. The feeding pawl is returned by a spring h³⁰.

H⁶ is an inking roller for inking the type on the plate c which is to print upon the record strip.

As the carrier A completes its downward movement after the record strip feed pawl has been actuated as above noted, it brings the locking device below the shoulder Z and at this time a member A²² bears against the portion H⁸ of frame H, holding said frame in such position that the type plate may be removed if desired.

As soon as the projection A¹⁰ on plate

C has passed below and from contact with the pawl carrying arm H⁴, the latter is returned to its normal position by the spring h³⁰, so that a shoulder thereon bears against a stud h¹⁰.

On the upward movement of the carrier the projection A¹⁰ on the type plate by contact with the member H⁵ of the arm H⁴ tends to rock said arm about the axis of the wheel g. However as the aforesaid shoulder on said arm is at this time held against the stud h¹⁰ on the device H independent movement of the arm H⁴ is prevented and the device H bodily rocked about its axis h so that the printing plate will not contact with the record strip.

The printing device can be adjusted by a screw H¹⁰ which upon being operated turns the frame H upon its pivot to adjust its position relatively to the carrier A and plate C.

Between the delivery roll G¹ and the device H, the strip is conveniently led over a spring supported tensioning roller G³.

The impression member B is in the form of a roller mounted in yielding bearings and may be of rubber or be rubber covered, it is geared to rotate as the carrier moves in front of it. It is furnished with a toothed wheel B¹ which gears with a rack a¹ on the carrier.

J is a spring controlled pawl adapted to engage with teeth a² on the carrier so that once movement of the carrier has commenced the entire cycle has to be performed before the machine can be again brought to normal position.

In the present embodiment the machine is designed and contrived to deal with single and separate tickets say of cardboard and the blanks may be fed to the machine singly by hand but preferably they are fed automatically from a magazine or holder K as shown. The ticket blanks are arranged on edge in the magazine and are constantly pressed toward the outlet thereof by a weighted follower K¹. The outlet of the magazine is normally closed by a spring-controlled shutter K² (see Fig. 3).

L is a blade carried in a frame L¹ upon which act springs L² that are constantly tending to move the frame and blade downward. This is prevented by a projection A²⁰ on the carrier which engages a pin l on the frame L¹.

When the carrier is being lowered the projection A²⁰ is disengaged from the pin l and the springs pull down the frame L¹. In descending the blade L bears upon the foremost ticket in the magazine with sufficient force to move backward the shutter K² and thereafter carries the blank between the type on the carrier A and plate C and the impression member at the same time closing the magazine outlet.

When the supply of ticket blanks in the magazine is exhausted a pin k on the weighted follower engages a pivotally supported pawl M and moves it into engagement with teeth on the carrier to lock the latter against operation.

N is a catch which engages the pin k when the follower is in its retracted position to facilitate the renewal of the supply of ticket blanks.

After a ticket has been printed it falls into a chute O.

P is the inking mechanism for the type upon the plate C.

The carrier may be operated by hand, pedal or other appropriate gearing.

In the example shown a lever Q is mounted in the machine frame and has a crank q the rim of which enters a slot Q¹ in a plate Q² on a rod Q³ which is connected to the carrier A.

Normally the carrier A is at the lowest point of its travel and is locked against movement by the catch F. When a ticket is required the operator selects the particular plate C places it in the machine thus incidentally releasing the carrier A. He then turns the operating lever to raise the carrier A. In moving up, the carrier raises the ticket feed blade and allows a ticket to move forward under this blade. In the rising of the carrier the counter on the plate C will be operated as will also the numbering device for printing the number on the ticket. The lever is now operated to lower the carrier, the ticket under the feed blade being pushed down into engagement between the carrier A and impression roller B, through between which it passes is printed and issued. The strip feed mechanism being also operated as already described. On the downward movement of the carrier a totalizing counter in the machine is also operated.

I claim as my invention:

1. In a ticket printing machine the combination of the following elements to wit, a stationary presser member, a member movable relatively thereto and coöperating therewith to form a printing couple, a separate, interchangeable type carrying member temporarily or detachably mounted in the movable member of the printing couple, a locking device on the movable member, means on the machine frame with which the locking device engages when the movable member is in position to receive a type carrying member, means whereby the type carrying member releases the locking device, means for feeding a ticket-blank between the members of the printing couple, and mechanism for moving the movable member of the printing couple to feed print and deliver a complete ticket.

2. In a ticket printing machine, the com-

65
70
75
80
85
90
95
100
105
110
115
120
125
130
135
140
145
150
155
160
165
170
175
180
185
190
195
200
205
210
215
220
225
230
235
240
245
250
255
260
265
270
275
280
285
290
295
300
305
310
315
320
325
330
335
340
345
350
355
360
365
370
375
380
385
390
395
400
405
410
415
420
425
430
435
440
445
450
455
460
465
470
475
480
485
490
495
500
505
510
515
520
525
530
535
540
545
550
555
560
565
570
575
580
585
590
595
600
605
610
615
620
625
630
635
640
645
650
655
660
665
670
675
680
685
690
695
700
705
710
715
720
725
730
735
740
745
750
755
760
765
770
775
780
785
790
795
800
805
810
815
820
825
830
835
840
845
850
855
860
865
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
950
955
960
965
970
975
980
985
990
995

bination with a printing couple comprising a stationary and a movable member, of a separate and interchangeable type or printing member for the ticket and a record strip temporarily mounted in the movable member of the couple, a record strip, a feeding device for the record strip, means on the type member for operating the strip feeding device to move the strip at the same speed as the type member during the printing, and means for bringing the record strip into contact with the type carrying member.

3. In a ticket printing machine, the combination with a stationary and movable member cooperating to form a printing couple for a ticket, and means for feeding a ticket between the members of the couple, of a record strip, a feed mechanism for the record strip, means on the type member of the couple for operating the record strip, means for operating the feeding device to move the record strip at the same speed as the type member, means for moving the strip away from the type member, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll.

4. In a ticket printing machine, the combination with a stationary presser member and a member movable relatively thereto to effect the feeding printing and delivery of a complete ticket, of a separate and interchangeable type-carrying member, and a catch for retaining the type carrying member against accidental displacement and which also acts as a locking device for the movable member when the type carrying member is removed.

5. In a ticket printing machine, the combination with a stationary presser member and a member movable relatively thereto and cooperating therewith to form a printing couple, of gearing between the members of the printing couple, a separate interchangeable type-carrying member, means for temporarily securing the type member in the movable member of the couple, a locking device on the movable member adapted to act on the machine frame and lock the movable member when the type carrying member is removed, and means on the type member adapted to release the locking device when the type member is correctly positioned manually in the movable member.

6. In a ticket printing machine, the combination of a presser roll, a reciprocating frame cooperating with the presser roll to form a printing couple, gearing between the roll and the frame, a separate interchangeable type member, means on the reciprocating frame for temporarily supporting the type member, a spring-catch on the reciprocating frame controlled by the type carrying member, means on the machine frame

engaging the catch when the type-carrier is removed, and means on the type member for disengaging the catch.

7. In a ticket printing machine, the combination of a presser roll, a reciprocating frame cooperating with the presser roll to form a printing couple, gearing between the roll and the reciprocating frame, guides on the frame, a separate interchangeable type member adapted to be manually positioned in the guides, a spring locking-catch on the reciprocating frame controlled by the type member, means on the machine frame with which the spring locking catch engages when the type member is removed, means by which the type member when correctly positioned releases the locking catch and an operating gear for moving the reciprocating frame to feed, print and deliver a complete ticket.

8. In a ticket printing machine the combination of a presser roll, a reciprocating frame cooperating therewith to form a printing couple, a separate interchangeable type plate temporarily and detachably mounted in the reciprocating frame, a locking device on the reciprocating frame engaging a stationary part, means on the type-plate for releasing the locking device and a stationary guard for the type plate having a cut away part for permitting the removal and insertion of a type plate.

9. In a ticket printing machine, the combination of the following elements, to wit, a presser roll, a reciprocating frame cooperating with the roll to form a printing couple, guides in the reciprocating frame, a separate interchangeable type plate manually positioned in the guides, a printing numbering device on the reciprocating frame arranged to print in the same plane as the type on the type plate, stationary means for operating the numbering device once in each cycle of the machine, a counting device on the type plate, and stationary means on the machine for operating the counter during the printing cycle.

10. In a ticket printing machine, the combination with a presser roll, a reciprocating frame and a separate interchangeable type plate temporarily mounted in the frame, of a hopper for containing ticket blanks, means for automatically pressing the tickets to the outlet end of the hopper, a reciprocating blade, means whereby this blade is raised by the reciprocating frame, means independent of the reciprocating frame for moving the blade down to shift a ticket from the outlet of the hopper, gearing between the roll and the reciprocating frame, a guard beneath the outlet of the hopper adapted to be displaced by the ticket engaged by the reciprocating blade, means whereby the roll and type carrying frame control the feed of the ticket while being printed and its

delivery thereafter, and lever mechanism for positively moving the reciprocating frame to and fro.

11. In a ticket printing machine, the combination of the following elements, to wit, a presser member, a reciprocating member cooperating therewith to form a printing couple for a ticket blank, a separate interchangeable plate mounted in the reciprocating member and having a printing surface for the ticket, a record strip, feeding means for the record strip, a second printing surface on the plate for the record strip, means carried by the reciprocating member for operating the record strip feeding means, and means for periodically moving the record strip out of the path of the second printing surface on the type plate.

12. In a ticket printing machine, the combination of the following elements, to wit, a presser roll, a reciprocating frame, a separate interchangeable type plate mounted manually in the frame and having two printing surfaces gearing between the frame and the roll, a hopper for ticket blanks, a weighted follower for pressing the ticket blanks toward the hopper outlet, a blade at the hopper outlet adapted to feed a ticket blank from the hopper into engagement with the members of the printing couple, a spring constantly tending to move the blade down, a projection on the reciprocating frame arranged to engage and lift the blade above the level of the tickets in the hopper, a guard beneath the hopper outlet adapted to be temporarily displaced by the ticket blank engaged by the blade, means on the presser roll and reciprocating frame for feeding the blank while being printed from one surface on the type plate and thereafter delivering it, a locking device for the reciprocating frame controlled by the follower in the ticket hopper, a printing numbering device on the reciprocating frame, means for operating the numbering device, a counter on the type plate, means on the machine frame for operating the counter during the printing cycle, a locking device on the reciprocating frame arranged to engage the machine frame, means on the interchangeable type plate for releasing the locking device, a counter on the machine frame, means for operating the counter, and a stationary guard having a cut away part for permitting the insertion or removal of the type plate in one position only of the reciprocating frame.

13. In a ticket printing machine the combination of the following elements, to wit, a stationary presser member, a member movable relatively thereto and cooperating with the stationary member to form a printing couple, a separate interchangeable type carrying plate temporarily or detachably

mounted in the movable member of the printing couple, a locking device acting between the movable member and the machine frame, means whereby the type carrying member releases the locking device, means for feeding a ticket blank between the members of the printing couple, a record strip, a feeding device for the record strip controlled by the movable member of the printing couple, means controlled by the said movable member for moving the record strip temporarily out of the path of a printing surface on the said type carrying member and mechanism for moving the movable member of the printing couple to feed print and deliver a complete ticket.

14. In a ticket printing machine, the combination with a printing couple comprising a stationary and a movable member of a separate and interchangeable type or printing member temporarily mounted in the movable member of the couple, a record strip, a feeding device for the record strip, means on the movable member of the couple for operating the strip feeding device, means on the movable member for displacing the feeding device, and means for returning the feeding device to bring the record strip into contact with the type carrying member.

15. In a ticket printing machine, the combination with a stationary and movable member cooperating to form a printing couple for a ticket, and means for feeding a ticket between the members of the couple, of a record strip a feed mechanism for the record strip, means on the movable member of the couple for operating the record strip, means for shifting the feed mechanism to temporarily move the record strip out of the path of a part of the movable member of the couple, a delivery roll for the record strip and a take up roll for the record strip.

16. In a ticket printing machine, the combination with a stationary presser member and a member movable relatively thereto and cooperating therewith to form a printing couple, of gearing between the members of the printing couple, a separate interchangeable type carrying member, means for temporarily securing said type member in the movable member of the couple, a locking device on the movable member adapted to act on the machine frame, a record strip, a feeding device for the record strip controlled by the movable member of the couple, means controlled by said movable member for moving the record strip and the type carrying member temporarily out of the path of one another, and means on the type member adapted to release the locking device when the type member is correctly positioned manually in the movable member.

17. In a ticket printing machine, the combination of a presser roll, a reciprocating frame coöperating with the presser roll to form a printing couple, gearing between the roll and the reciprocating frame, guides on the frame, a separate interchangeable type member adapted to be manually positioned in the guides, a spring locking-catch on the reciprocating frame, means on the machine frame with which the spring locking-catch engages, means by which the type member when correctly positioned releases the locking-catch, a record strip, a feeding device for the record strip controlled by said reciprocating frame, means controlled by said reciprocating frame for moving said record strip out of the path of said type plate, and an operating gear for moving the reciprocating frame to feed print and deliver a complete ticket.

18. In a ticket printing machine, the combination of the following elements to wit, a presser roll, a reciprocating frame coöperating with the roll to form a printing couple, guides in the reciprocating frame, a separate interchangeable type plate manually positioned in the guides, a printing numbering-device on the reciprocating frame arranged to print in the same plane as the type on the type plate, stationary means for operating the numbering device once in each cycle of the machine, a counting device on the outer end of the type plate, stationary means on the machine frame for operating the counter during the printing cycle, a record strip, a feeding device for the record strip controlled by the reciprocating frame, and means controlled by said reciprocating frame for temporarily moving the record strip and the type plate out of each other's paths.

19. In a ticket printing machine, the combination of the following elements to wit, a presser roll, a reciprocating frame, gearing between the frame and the roll, guides on the frame, a separate interchangeable type-plate manually positioned in the guides, a spring locking-catch on the reciprocating frame engaging a stationary member, means on the type plate for releasing the catch, a stationary guard having a cut away part to permit of the removal and insertion of the type-plate, a printing numbering-device on the reciprocating frame, means for operating the printing numbering device, a counting device on the outer end of the type plate, means on the outside of the machine frame for operating the counting device during the printing cycle, a record strip, a feeding device for the record strip controlled by the reciprocating frame, and means controlled by said reciprocating frame for temporarily moving the record strip and type plate out of each other's way.

20. In a ticket printing machine, the com-

ination with a presser roll, a reciprocating frame and a separate interchangeable type plate temporarily mounted in the frame, of a hopper for containing ticket blanks, means for automatically pressing the tickets to the outlet end of the hopper, a reciprocating blade means whereby this blade is raised by the reciprocating frame, means independent of the reciprocating frame for moving the blade down to shift a ticket from the outlet of the hopper, gearing between the roll and the reciprocating frame, a guard beneath the outlet of the hopper adapted to be displaced by the ticket engaged by the reciprocating blade means whereby the roll and type carrying frame control the feed of the ticket while being printed and its delivery thereafter and lever mechanism for positively moving the reciprocating frame to and fro.

21. In a ticket printing machine, the combination of the following elements, to wit, a stationary presser member, a member movable relatively thereto and coöperating therewith to form a printing couple, a separate interchangeable type-carrying member temporarily or detachably mounted in the movable member of the printing couple, a locking device acting between the movable member and the machine frame, means whereby the type carrying member releases the locking device, means for feeding a ticket blank between the members of the printing couple, a record strip, a feeding device for the record strip comprising a pivotally mounted frame, a pair of feed-rolls mounted therein, a pawl and ratchet drive for one of the rolls, means whereby the movable member of the printing couple actuates the pawl, means on the movable member of the couple for moving the frame on its pivot, a type-surface on the interchangeable type-carrying member adapted to print upon the record strip, an inking device on the frame for said type surface, and mechanism for moving the type carrying member of the printing couple to feed, print and deliver a complete ticket.

22. In a ticket printing machine, the combination with a stationary presser member and a member movable relatively thereto to effect the feeding, printing and delivery of a complete ticket, of a separate and interchangeable type carrying member, means for detachably mounting the type carrying member manually in the movable member of the couple, a record strip, a feeding device for said strip comprising a pivotally supported frame, a pair of feed rolls mounted therein, a pawl and ratchet drive for the feed rolls, means whereby the said movable member operates the said pawl, means whereby the movable member of the printing couple turns the frame on its pivot, a printing surface on the type carrying mem-

ber adapted to print upon the record strip, an inking device on said frame for said printing surface, a delivery roll for said record strip, a take up roll for the record strip frictionally driven from the delivery roll.

23. In a ticket printing machine, the combination with a stationary presser member and a member movable relatively thereto and coöperating therewith to form a printing couple, of gearing between the members of the printing couple, a separate, interchangeable type-carrying member, means for temporarily securing said type member in the movable member of the couple, a locking device on the movable member adapted to act on the machine frame, means on the type member adapted to release the locking device when the type member is correctly positioned manually in the movable member, a record strip, a feeding device for the record strip comprising a pivotally supported frame, a pair of feed rolls mounted therein, and a pawl and ratchet drive for one of the feed rolls, means on the movable member of the printing couple for operating said driving pawl, means on the movable member for turning the feeding device carrying frame on its pivot, a type surface on the type-carrying member adapted to print on the record strip, an inking device on the feeding device carrying frame for said type surface, a delivery roll for the record strip, and a take up roll for the record strip driven frictionally from the delivery roll.

24. In a ticket printing machine, the combination of, a presser roll, a reciprocating frame coöperating with the presser roll to form a printing couple, gearing between the roll and the frame, a separate interchangeable type-member, means on the carrier for temporarily supporting the type member, a spring catch on the carrier, means on the machine frame engaging the catch, means on the type-member for disengaging the catch, a record strip, a feeding device therefor comprising, a pivotally mounted frame, a pair of feed rolls therein, a pawl and ratchet drive for the feed rolls, means on the reciprocating frame for operating the driving pawl, means on the reciprocating frame for turning the frame on its pivot, a type surface on the type member adapted to print on the record-strip, an inking device on the pivoted frame for said type surface, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll.

25. In a ticket printing machine, the combination of, a presser roll, a reciprocating frame coöperating with the presser roll to form a printing couple, gearing between the roll and the reciprocating frame, guides on the frame, a separate interchangeable type-member adapted to be manually positioned in the guides, a spring locking catch on the

reciprocating frame, means on the machine frame with which the spring locking-catch engages, means by which the type member when correctly positioned releases the locking catch, a record strip, a feeding device for the record strip comprising a pivotally mounted frame, a pair of feed rolls for the strip mounted therein, and a pawl and ratchet drive for the feed rolls, means whereby the reciprocating frame actuates the pawl, means on the reciprocating frame for temporarily displacing the pivoted frame, a type surface on the interchangeable type member adapted to print on the record strip and an inking device on the pivoted frame for said type surface, an operating gear for moving the reciprocating frame to feed print and deliver a complete ticket.

26. In a ticket printing machine, the combination with a presser roll and a reciprocating frame coöperating therewith to form a printing couple, of a separate interchangeable type member manually positioned in the reciprocating frame, a stationary guard on the machine frame to prevent the insertion or removal of the type member except in one position only of the reciprocating frame, a record strip, a feeding mechanism for the record strip comprising a pivotally supported frame, a pair of feed rolls therein, a pawl and ratchet drive for the rolls, means on the reciprocating frame for actuating the pawl, a type surface on the type member adapted to print on the record strip, an inking mechanism on the pivoted frame for said type surface, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll.

27. In a ticket printing machine, the combination of, a presser roll, a reciprocating frame coöperating therewith to form a printing couple, a separate interchangeable type-plate temporarily and detachably mounted in the reciprocating frame, a locking device on the reciprocating frame engaging a stationary part, means on the type-plate for releasing the locking device, a stationary guard for the type plate having a cut away part for permitting the removal and insertion of a type plate, a record strip, a feeding mechanism for the record strip comprising, a pair of feed rolls, a pivotally mounted frame for the feed rolls, a pawl and ratchet drive for the feed rolls and means on the reciprocating frame for operating the pawl, means on the reciprocating frame for temporarily displacing the pivoted frame, a type-surface on the type plate adapted to print on the record strip, an inking device for the type surface, mounted in the pivoted frame, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll.

28. In a ticket printing machine, the combination of the following elements, to wit, a presser roll, a reciprocating frame cooperating with the roll to form a printing couple, guides in the reciprocating frame, a separate, interchangeable type plate manually positioned in the guides, a printing numbering device on the reciprocating frame arranged to print in the same plane as the type on the type plate, stationary means for operating the numbering device once in each cycle of the machine, a counting device on the outer end of the type plate, an operating arm for the counter, a guard for the arm, on the outside of the machine frame, means for operating the counter during the printing cycle, a record strip, a feed device for the record strip, comprising, a pivotally supported frame, a pair of feed rolls therein, a pawl and ratchet drive for the rolls, means on the reciprocating frame for operating the pawl, a type surface on the type plate, adapted to print on the record strip, means on the reciprocating frame for displacing the pivoted frame, an inking device on the pivoted frame for the type surface on the type plate, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll.

29. In a ticket printing machine, the combination of the following elements, to wit, a presser roll, a reciprocating frame, gearing between the frame and the roll, guides on the frame, a separate interchangeable type-plate manually positioned in the guides, a spring locking-catch on the reciprocating frame engaging a stationary member, means on the type plate for releasing the catch, a stationary guard having a cut-away part to permit of the removal and insertion of a type plate, a printing numbering-device on the reciprocating frame, means for operating the printing numbering device, a counting device on the outer end of the type plate, a projection on the machine frame for operating the counting device, a record strip, a feeding mechanism for the record strip, comprising, a pivotally supported frame, a pair of feed rolls therein, a pawl and ratchet drive for the rolls, means on the reciprocating frame for operating the pawl, means on the reciprocating frame for displacing the pivoted frame temporarily, a type surface on the type plate adapted to print upon the record strip, an inking device on the pivoted frame for the type surface on the type plate, a delivery roll for the record strip, and a take up roll for the record strip frictionally driven from the delivery roll.

30. In a ticket printing machine, the combination with a presser roll, a reciprocating frame and a separate interchangeable type plate temporarily mounted in the frame, of a

hopper for containing ticket-blanks, means for automatically pressing the tickets to the outlet end of the hopper, a reciprocating blade, means whereby said blade is raised by the reciprocating frame, means independent of the reciprocating frame for moving the blade down to shift a ticket from the outlet of the hopper, gearing between the roll and the reciprocating frame, a guard beneath the outlet of the hopper adapted to be displaced by the ticket engaged by the reciprocating blade, means whereby the presser roll and type carrying frame control the feed of the ticket while being printed and its delivery thereafter, a record strip, a feed mechanism for the record strip, comprising a pivotally supported frame, a pair of feed rolls therein, a pawl and ratchet drive for the rolls, means on the reciprocating frame for operating the pawl, a type surface on the type plate for printing on the record strip an inking device on the pivoted frame for the type surface on the type plate, a delivery roll for the record strip and a take up roll for the record strip frictionally driven from the delivery roll, and lever mechanism for positively moving the reciprocating frame to and fro.

31. In a ticket printing machine, the combination of the following elements, to wit, a presser roll a reciprocating frame, a separate, interchangeable type plate mounted manually in the frame and having two printing surfaces, gearing between the frame and the roll, a hopper, for ticket blanks, a weighted follower for pressing the ticket blanks toward the hopper outlet, a blade at the hopper outlet adapted to feed a ticket blank from the hopper into engagement with the member of the printing couple, a spring constantly tending to move the blade down, a projection on the reciprocating frame arranged to engage and lift the blade above the level of the tickets in the hopper, a guard beneath the hopper outlet adapted to be temporarily displaced by the ticket blank engaged by the blade, means on the presser roll and reciprocating frame for feeding the blank while being printed from one surface of the type plate and thereafter delivering it, a locking device for the reciprocating frame controlled by the follower in the ticket hopper, a printing numbering device on the reciprocating frame, means for operating the numbering device, a counter on the type plate, means for operating the counter, a locking device on the reciprocating frame arranged to engage the machine frame, means on the interchangeable type plate for releasing the locking device, a counter on the outer end of the type plate, a projection on the machine frame for operating the counter during the printing

cycle, a stationary guard, having a cut away
part to permit of the removal and insertion
of the type plate into the reciprocating
frame, a record strip, a feeding device for
5 the record strip, comprising, a pivotally
mounted frame, a pair of feed rolls, mounted
in the frame, a pawl and ratchet mechanism
for one of the rolls, means whereby the
reciprocating frame actuates the pawl to
10 rotate the feed rolls, means on the reciprocating
frame for turning the carriage
around its pivot, a type surface on the removable
type plate adapted to print upon

the record strip, an inking device on the
pivotally supported frame for the type sur- 15
face on the removable type plate, a delivery
roll for the record strip, and a take up
roll for the record strip frictionally driven
from the delivery roll.

In witness whereof I have hereunto set 20
my hand in the presence of two witnesses.

A. J. JUNG.

Witnesses:

Wm. J. Dow,

W. Foote.