

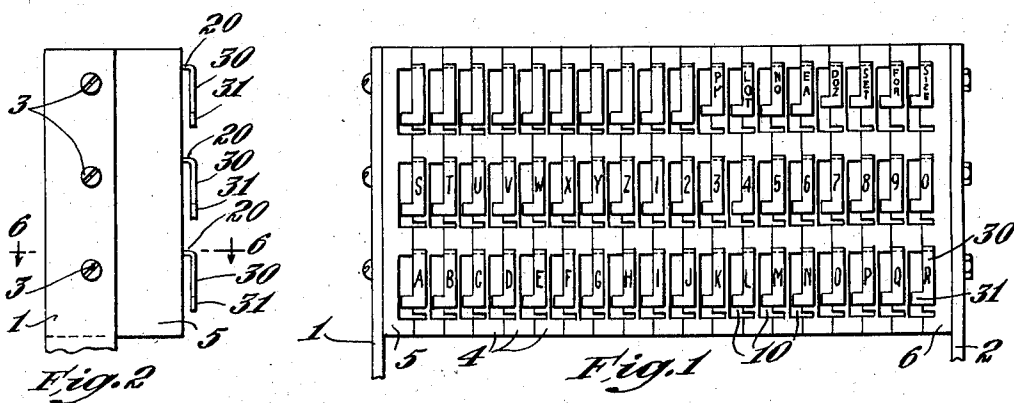
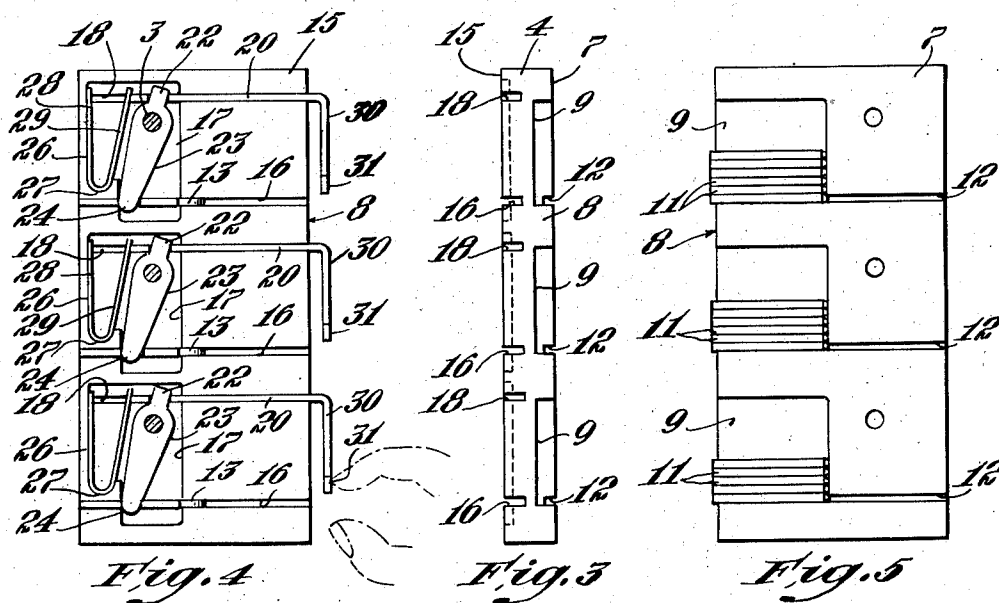
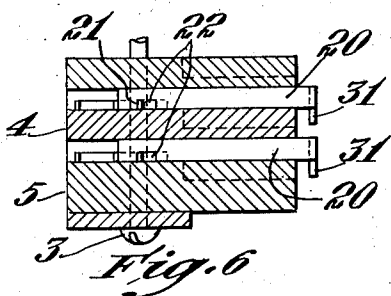
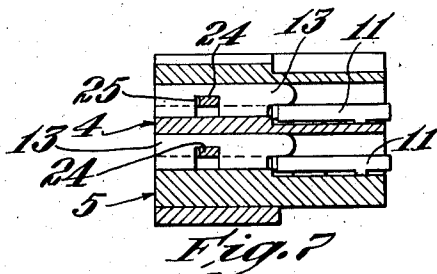
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E. W. FLOOD

2,477,514

TYPE DISPENSER

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UNITED STATES PATENT OFFICE

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TYPE DISPENSER

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12 Claims. (Cl. 312-67)

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This invention relates to type dispensers and more particularly to the character of type dispenser customarily used in conjunction with manual type-setting in which desired pieces of type of different denominations must be individually selected by the operator and inserted into a composing-stick.

One object of the invention is to provide a type dispenser of the character described which will efficiently and accurately introduce into the fingers of the operator a desired individual piece of type properly positioned and ready for insertion into the composing-stick. Another object of the invention is to provide a type dispenser of the character described which is instantaneously capable of successively presenting in the manner above described an adequate quantity of type of the same denomination without requiring a frequent replenishing of the supply of said type. Another object of the invention is to provide a type dispenser of the character described which is easy and inexpensive to manufacture, which is simple and durable in construction and which combines adequate capacity for all denominations of type customarily required in printing with maximum economy in space.

In one aspect the invention involves a type dispenser comprising a casing having a chamber for receiving a stack of type, said casing having a discharge opening communicating with the chamber opposite one end of the lowermost type, an ejector mounted to move from a retracted position to an advanced position within said chamber and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharging opening, and a plunger having its inner end interconnected with said ejector and its outer end projecting beyond said casing adjacent to said discharge opening, the plunger being mounted to move inwardly and outwardly relative to the casing and being operative when pressed inwardly to cause said ejector to advance from retracted position. The plunger is vertically offset from the chamber and a rocker interconnects the ejector and the inner end of the plunger, the rocker being operative when the plunger is pressed inwardly to cause the ejector to advance from retracted position. The type dispenser further comprises means for normally urging the plunger outwardly and for normally retaining the ejector in retracted position, the parts being so constructed and arranged that inward movement of the plunger causes the ejector to advance from retracted position and re-

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lease of the plunger causes the ejector to retract from an advanced position.

In another aspect the casing has a rectangular-shaped chamber for receiving a stack of type, the chamber extending outwardly to the edge of the casing defining a discharge opening, the outer end of the plunger having a finger piece spaced from and extending parallel to said edge adjacent the opening, said finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, the parts being so constructed and arranged that inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension to obstruct the opening thereby to prevent ejection of the remaining type. Preferably the plunger is mounted above the chamber and the finger piece depends from the outer end of the plunger.

In still another aspect the invention involves a type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharge opening, and a plunger having its inner end interconnected with said ejector and its outer end projecting beyond one edge of the plate, the plunger being mounted to move inwardly and outwardly relative to the plate and being operative when pressed inwardly to cause said ejector to advance from retracted position. The contiguous face of at least one of each of the opposed plates may have a groove vertically offset from the recess, the plunger being mounted to move inwardly and outwardly relative to the plate in said second groove. Preferably the second groove is vertically offset above the recess. The contiguous face of at least one of each of the opposing plates has a recess rearwardly offset from the first recess and communicating with the first groove, the second groove communicating with the second recess, and a rocker is mounted in the second recess and interconnects the ejector

and the inner end of the plunger. Means are mounted in the second recess for normally urging the plunger outwardly and for normally retaining the ejector in retracted position.

In a preferred aspect the contiguous face of one of each of the opposed plates has a recess for receiving the stack of type, the contiguous faces of each of the opposed plates have a groove communicating with the recess adjacent its lower wall for receiving the ejector and the contiguous face of the other of each of the opposed plates has a groove vertically offset from the recess of the first plate for receiving a plunger. Preferably also the contiguous face of the other of each of the opposed plates has a recess rearwardly offset from the first recess for receiving a rocker. The outer end of each plunger has a finger piece spaced from and extending parallel to said edge of the plate adjacent the discharge opening, the finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, whereby inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension of the finger piece to obstruct the opening thereby to prevent ejection of the remaining type.

For the purpose of illustration, a preferred embodiment of the invention is shown in the accompanying drawings in which:

Fig. 1 is a front elevation;

Fig. 2 is an end elevation of the embodiment of Fig. 1;

Fig. 3 is a front face elevation of an intermediate plate of the embodiment of Fig. 1;

Fig. 4 is a side elevation of Fig. 3 viewed from the left side;

Fig. 5 is a side elevation of Fig. 3 viewed from the right side;

Fig. 6 is a cross section taken along the line 6-6 of Fig. 2; and

Fig. 7 is a cross section taken along the line 7-7 of Fig. 4 shown in association with an end plate.

Referring to Figs. 1 and 2, the invention comprises two spaced parallel end frame members 1 and 2. A plurality of plates having their edges in registry are held in face-to-face relationship between the end frame members by suitable means here shown as pivot rods 3 extending through registered openings provided in the plates and end frame members. The plates are preferably made of suitable moldable synthetic resins, as by pressing to the shapes and dimensions required, and comprise intermediate plates 4 and end plates 5 and 6, the end plates having their outer faces contiguous with the inner faces of the end frame members 1 and 2 respectively.

Referring to Figs. 3, 4 and 5, one face 7 of each of the intermediate plates 4 and the inner face of end plate 5 are formed adjacent their front edge 8 with vertically spaced recesses 9, each recess extending outwardly to said front edge of the plate to form discharge openings 10, each recess being adapted to hold a stack of type 11. A groove 12 extends rearwardly from and parallel to the floor of each recess and slidably receives an ejector 13, the ejector being adapted to move from a retracted position without the recess to an advanced position within the recess and being operative while advancing to contact the inner end of the lowermost type and to eject it from the recess through the discharge opening.

The opposite face 15 of each of the interme-

mediate plates 4 and the inner face of end plate 6 are formed with vertically spaced grooves 16 in registry with grooves 12 of the opposed face 7 of each adjoining plate each groove 16 being adapted to slidably receive a projecting side edge of a said ejector 13. Rearwardly offset from each recess 9 of the opposed face 7 of each adjoining plate, each face 15 of the intermediate plates 4 and the inner face of end plate 6 are formed with a recess 17 communicating at its lower portion with a said groove 16 and extending slightly below said groove for a purpose to be hereinafter set forth. The faces 15 of each of the intermediate plates 4 and the inner face of end plate 6 are further formed with vertically spaced grooves 18 each of said grooves 18 being vertically offset above a said recess 9 of the opposed face 7 of each adjoining plate, and communicating at one end with the front edge 8 of the plate and extending parallel to a said groove 16 and communicating adjacent its opposite end with a said recess 17 as shown in Fig. 4. A plunger 20 is slidably mounted in each groove 18 for movement inwardly and outwardly relative to the plate, the outer end of each plunger normally projecting beyond the front edge 8 of the plate and the inner end extending into a said recess 17. Adjacent its inner end each plunger is formed at one edge with a notch 21 to receive a finger 22 provided at the top of a rocker member 23. Such a rocker member is pivotally mounted within each recess 17 on pivot 3 and has a foot 24 which is received in a notch 25 provided adjacent the rearward end and at a side edge of each said ejector 13 (Figs. 4 and 7).

From the foregoing and with reference to Fig. 4, it is evident that when the plunger is pressed inwardly relative to the plate, the rocker is caused to rock about the pivot 3 causing the foot 24 to advance toward the recess 9 thereby causing the ejector to advance from retracted position to enter within the recess 9. As the foot advances its lower portion projects through the notch 25 of the ejector and freely moves within the lower portion of the recess 17.

A U-shaped leaf spring 26 has its base mounted on a seat 27 provided at the lower rearward corner of each recess 17. One arm 28 of each U-shaped spring abuts the rearward wall of the recess 17 and the opposite arm 29 abuts adjacent its end the inner end of the plunger 20 thereby to normally urge the plunger outwardly and to normally maintain the ejector in retracted position (Fig. 4). The forward edge of each seat 27 provides a stop against further rearward movement of the foot 24 of each rocker thereby to limit the rearward movement of the ejector and the outward movement of the plunger.

At its outer end each plunger 20 is provided with a depending finger piece 30 spaced from the front edge 8 of the plate when the plunger is in its outward position and extending downwardly parallel to the front edge and adjacent a said discharge opening, the lower end of the finger piece terminating above the bottom of the discharge opening a sufficient height to permit the free passage of the lowermost type through the discharge opening as shown in Figs. 1 and 4. At its lower end each finger piece is provided with a lateral extension 31 extending transversely of a said discharge opening whereby when the finger piece is pressed inwardly the lateral extension obstructs the opening to prevent passage of the type next above the lowermost type thereby to prevent passage of all but the lowermost type through the opening.

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In using the type dispenser herein described each recess 9 has been first appropriately designated by suitable means her shown by way of example in Fig. 1 by marking the face of the finger piece 30. The appropriate type has been stacked in each recess by inserting the type through the discharge opening above the lateral extension 31 of the finger piece, the foot end of the type facing the discharge opening. The type-setting operator now places his forefinger and thumb in the position shown in Fig. 4 at the appropriate selected finger piece and presses the finger piece inwardly toward the plate. As above described, inward movement of the finger piece causes the plunger to move inwardly of the plate which forces the rocker to rock about its pivot thereby to force the ejector to move from retracted position and to advance within the recess 9. As the ejector advances it contacts the inner end of the lowermost type and ejects it through the discharge opening between the advancing thumb and forefinger of the operator. The lateral extension of the finger piece as it advances inwardly toward the plate prevents the ejection of the remaining type of the stock as above described. When the lowermost piece of type has been thus introduced between the fingers of the operator, he merely pinches his fingers together, withdraws the individual piece of type from the dispenser by retracting his hand and places the properly positioned type into his composing stick.

On release of the inward pressure upon the finger piece and plunger, the spring exerts its force against the inner end of the plunger to cause the plunger to return to its normal position projecting from the front edge of the plate and to cause the ejector to return to retracted position without the recess 9. Simultaneously with the withdrawal of the lowermost piece of type from the recess and the retraction of the ejector the lowermost of the remaining type drops to the floor of the recess and the dispenser is instantaneously ready to successively present to the operator's finger a second piece of type of the same denomination in the manner above described.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A type dispenser comprising a casing having a rectangular-shaped chamber for receiving a stack of type, the chamber extending outwardly to the edge of the casing defining a discharge opening, an ejector mounted to move from a retracted position to an advanced position within said chamber and operative while advancing to contact the inner end of the lowermost type and eject it through the opening, a plunger vertically offset from the chamber and mounted to move inwardly and outwardly relative to the casing and having its inner end interconnected with said ejector and its outer end projecting beyond the open end of the casing, the outer end of the plunger having a finger piece spaced from and extending parallel to said edge of the casing and adjacent the opening, said finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, the parts being so constructed and arranged that inward pressure upon

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the finger piece causes the ejector to advance from retracted position and causes the lateral extension to obstruct the opening thereby to prevent ejection of the remaining type.

2. A type dispenser comprising a casing having a rectangular-shaped chamber for receiving a stack of type, the chamber extending outwardly to the edge of the casing defining a discharge opening, an ejector mounted to move from a retracted position to an advanced position within said chamber and operative while advancing to contact the inner end of the lowermost type and eject it through the opening, a plunger mounted above the chamber to move inwardly and outwardly relative to the casing and having its inner end interconnected with said ejector and its outer end projecting beyond the open end of the casing, the outer end of the plunger having a depending finger piece adjacent the opening, said finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, the parts being so constructed and arranged that inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension to obstruct the opening thereby to prevent ejection of the remaining type.

3. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharge opening and a plunger having its inner end interconnected with said ejector and its outer end projecting beyond one edge of the plate, the plunger being mounted to move inwardly and outwardly relative to the plate and being operative when pressed inwardly to cause said ejector to advance from retracted position.

4. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharge opening, the contiguous face of at least one of each of the opposed plates having a groove vertically offset from the recess and a plunger mounted in the second groove to move inwardly and outwardly relative to the plate, the plunger having its inner end interconnected with said ejector and its outer end projecting beyond the one edge of the plate, whereby inward movement of the plunger causes said ejector to advance from retracted position.

5. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed

plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the opening, the contiguous face of at least one of each of the opposed plates having a groove vertically offset above the recess, and a plunger mounted in the second groove, to move inwardly and outwardly of said plate, the plunger having its inner end interconnected with said ejector and its outer end projecting beyond the one edge of the plate whereby inward movement of the plunger causes said ejector to advance from retracted position.

6. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharge opening, the contiguous face of at least one of each of the opposing plates having a recess rearwardly offset from the first recess and communicating with the groove and having a groove vertically offset from the first recess and communicating with the second recess, a plunger mounted in said second groove to move inwardly and outwardly of the plate and having its outer end projecting beyond the one edge of the plate, and a rocker mounted in the second recess and interconnecting the ejector and the inner end of the plunger whereby inward movement of the plunger causes the ejector to advance from retracted position.

7. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of each of the opposed plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the discharge opening, the contiguous face of at least one of each of the opposing plates having a recess rearwardly offset from the first recess and communicating with the groove and having a groove vertically offset from the first recess and communicating with the second recess, a plunger mounted in said second groove to move inwardly and outwardly of the plate and having its outer end projecting beyond the one edge of the plate, a rocker mounted in the second recess and interconnecting the ejector and inner end of the plunger, and means mounted in the second recess for normally urging the plunger outwardly and for normally retaining the ejector in retracted position, whereby inward movement of the

plunger causes the ejector to advance from retracted position and release of the plunger causes the ejector to retract from advanced position.

8. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of one of each of the opposing plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous faces of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the opening, the contiguous face of the other of each of the opposed plates having a groove vertically offset from the recess of the first plate and a plunger mounted in said second groove, to move inwardly and outwardly of the plate, the plunger having its inner end interconnected with said ejector and its outer end projecting beyond the one edge of the plate whereby inward movement of the plunger causes said ejector to advance from a retracted position.

9. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of one of each of the opposing plates having a recess for receiving a stack of type, the recess communicating with one edge of the plate defining a discharge opening, the contiguous faces of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it through the opening, the contiguous face of the other of each of the opposed plates having a recess rearwardly offset from the first recess and communicating with the groove and having a groove vertically offset from the first recess and communicating with the second recess, a plunger mounted in said second groove to move inwardly and outwardly out of the plate and having its outer end projecting from the one edge of the plate, and a rocker mounted in the second recess and interconnecting the ejector and inner end of the plunger whereby inward movement of the plunger causes the ejector to advance from retracted position.

10. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of the opposed plates having a recess for receiving a stack of type, the recess extending outwardly to one edge of the plate to define a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it from the recess, the contiguous face of at least one of each of the opposed plates having a groove vertically offset from the recess, and a plunger mounted in the second groove to move inwardly and outwardly of said plate, the plunger having its inner end interconnected with said ejector and its outer end projecting beyond the one edge of the plate, the outer end of the plunger having a finger piece spaced from and extending parallel to said edge of the plate adjacent the discharge opening, the said finger piece having a lateral extension ex-

tending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, whereby inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension of the finger piece to obstruct the opening thereby to prevent ejection of the remaining type.

11. A type dispenser having a plurality of plates disposed in face-to-face relationship, the contiguous face of at least one of the opposed plates having a recess for receiving a stack of type, the recess extending outwardly to one edge of the plate to define a discharge opening, the contiguous face of at least one of each of the opposed plates having a groove communicating with the recess adjacent its lower wall, an ejector mounted to move in the groove from a retracted position to an advanced position within the recess and operative while advancing to contact the inner end of the lowermost type and to eject it from the recess, the contiguous face of at least one of each of the opposed plates having a groove vertically offset above the recess, and a plunger mounted in the second groove to move inwardly and outwardly of said plate, the plunger having its inner end interconnected with said ejector and its outer end projecting beyond the one edge of the plate, the outer end of the plunger having a depending finger piece adjacent the discharge opening, the said finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, whereby inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension of the finger piece to obstruct the opening thereby to prevent ejection of the remaining type.

12. A type dispenser comprising a casing hav-

ing a chamber for receiving a stack of type, the chamber extending outwardly to the edge of the casing defining a discharge opening, an ejector mounted to move from a retracted position to an advanced position within said chamber and operative while advancing to contact the inner end of the lowermost type and to eject it through the opening, a plunger mounted to move inwardly and outwardly relative to the casing and having its inner end interconnected with said ejector and its outer end projecting beyond the open end of the casing, the outer end of the plunger having a finger piece spaced from and extending parallel to said edge of the casing and adjacent the opening, said finger piece having a lateral extension extending transversely of the opening but spaced above the bottom of the opening to permit the passage of the lowermost type through the opening, the parts being so constructed and arranged that inward pressure upon the finger piece causes the ejector to advance from retracted position and causes the lateral extension to obstruct the opening, thereby to prevent ejection of the remaining type.

EDWARD W. FLOOD.

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The following references are of record in the file of this patent:

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22,473	Great Britain	1913

Certificate of Correction

Patent No. 2,477,514

July 26, 1949

EDWARD W. FLOOD

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 5, line 63, for the words "the move" read *to move*;
and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of December, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.