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C. CHISHOLM

MEANS FOR FEEDING ADDRESS PLATES

Filed June 16, 1921

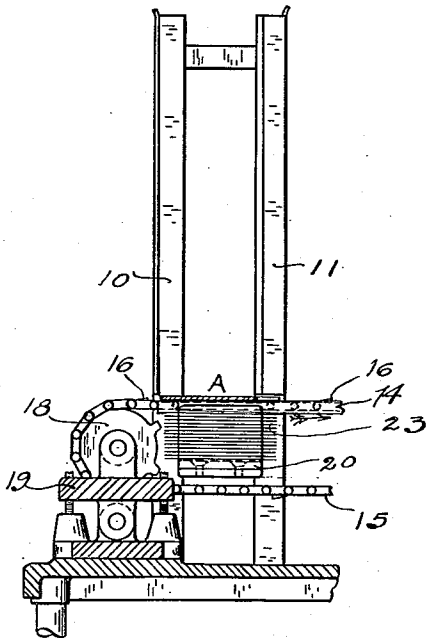


FIG.-1

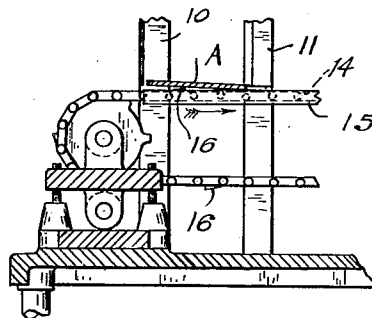


FIG.-2

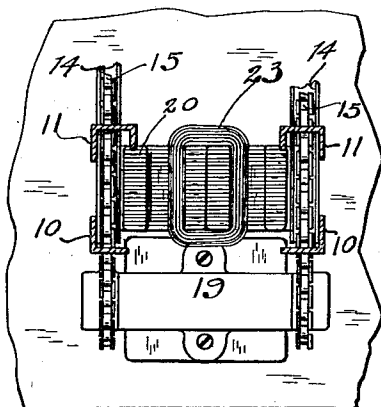


FIG.-3

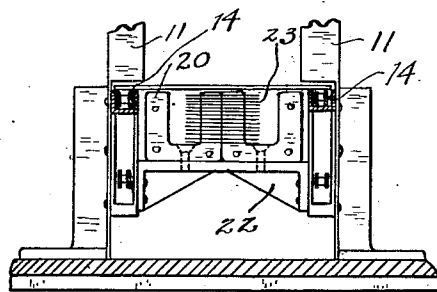


FIG.-4

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MEANS FOR FEEDING ADDRESS PLATES.

Application filed June 16, 1921. Serial No. 477,987.

To all whom it may concern:

Be it known that I, CLIFTON CHISHOLM, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Means for Feeding Address Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to addressing machines wherein there are individual plates fed successively from a magazine in which the supply is stacked. I have found that where the plates descend in the stack to the conveying means simply by gravity, when the magazine becomes nearly empty, sometimes the bottom plate does not properly register with the conveyor, or bounces as it drops thereon, and thus does not feed properly.

It is the object of the present invention to eliminate the defect referred to, I accomplish this in a very simple manner by providing an electro-magnet in such position that the bottommost plate in the stack may act as an armature of the magnet and be drawn by it into contact and proper registration with the conveyor. Address plates are frequently made of steel, and when of other metal are frequently carried by steel holders, so that in either case they constitute effective armatures of the magnet.

The invention is hereinafter more fully described in connection with the drawings and the essential novel characteristics are summarized in the claims.

In the drawing Fig. 1 is a sectional side elevation of a portion of an addressing machine showing an end view of the supply magazine and an adjacent part of a chain conveyor and showing the retaining magnet of this invention holding the lowermost plate in place; Fig. 2 is a somewhat similar illustration showing the position which the bottommost plate is likely to take without the retaining magnet. Fig. 3 is a sectional plan through the magazine; Fig. 4 is an elevation from the right hand of Fig. 1, in a plane at right angles to that figure.

As shown in the drawings, A indicates an address plate. These plates are adapted to be carried one above another in a vertical stack, for instance, in a skeleton magazine

composed of four vertical bars 10 and 11 of angular cross section as shown in Fig. 3.

The plates descend by gravity to a conveyor which may be an endless belt or a reciprocating member. I have herein described my invention in connection with an endless belt conveyor. The lowermost plate rests on the supporting rails 14. These rails may be channel shaped in cross section to accommodate the upper horizontal reaches of two conveyor chains 15. These chains have periodically spaced lugs 16, adapted to engage the plate and feed it, as the chain moves, in the direction of the arrow in Figs. 1 and 2. The chain is shown as passing over a sprocket wheel 18 mounted in a suitably positioned adjustable bracket 19, as will be well understood.

In such a magazine feed as described, the plates are stacked one above the other, the bottommost plate resting on the rails 14. In operation the chains travel continuously and thus drag the plates, one after the other, from the bottom of the stack. No trouble is ordinarily encountered until the topmost plate, or perhaps the top two or three plates, have reached the bottom. Then there is sometimes jamming by reason of the plates bouncing, allowing the lugs 16 to travel under the plates, as indicated in Fig. 2. To avoid this difficulty I provide the magnet heretofore mentioned.

In Figs. 1, 3 and 4, the magnet designated 20 is shown as a double horseshoe with its poles projecting upwardly, the yoke portions of the horseshoes being secured to a bracket 22 carried by the frame of the machine between the two conveyor chains. This construction of a double magnet core provides four pole faces, each extended laterally of the plate, so that a good electro-magnetic attraction may be obtained over a large surface of the plate. This form of core also adapts itself for very ready installation of the winding 23, which may be coiled independently of the magnet and simply shoved downwardly into place over the two adjacent legs of the core.

The magnet described takes little current and has no effect on the normal operation of the machine. I have found, however, that it is very effective in insuring proper feeding of the last plates in the stack, whenever the plates are of iron or steel, or as is fre-

quently the case, are carried by an iron or steel holder. I am using the term "plate" herein, as covering both a unitary addressing device and a built-up one carried by a suitable holder.

Having thus described my invention, I claim:

1. In an addressing machine, the combination with means for moving address plates, and a stationary magnet for initially positioning the address plates with reference to the moving means.
2. In an addressing machine, the combination with means for holding address plates, of means for moving them therefrom, and electro-magnetic means opposite the folding means for initially positioning an address plate with reference to the moving means.
3. In an addressing machine, the combination with means for holding address plates, a movable conveyor, and a stationary magnet for properly seating an address plate on the conveyor.
4. In an addressing machine, the combination with an endless belt conveyor, of a magnet mounted independently of the conveyor for properly seating an address plate on the conveyor.
5. In an addressing machine, the combination with means for holding address plates, of an endless belt conveyor having plate-engaging lugs, and a magnet for properly seating an address plate on the conveyor.
6. The combination of a magazine adapted to carry a stack of plates descending by gravity, a conveyor adapted to advance the bottommost plates in the stack, one after the other, and an upwardly facing stationary magnet beneath the magazine adapted to insure proper engagement with the conveyor.
7. The combination of a magazine adapted to carry a stack of plates descending by gravity, a conveyor adapted to receive the bottommost plate in the stack, one after the other, and a magnet permanently located beneath the magazine and adapted to draw downwardly on the bottommost plate to insure proper seating on the conveyor.
8. The combination of an upright magazine adapted to carry a stack of plates descending by gravity, an endless conveyor adapted to receive the bottommost plates in the stack, one after the other, and a vertical upwardly facing magnet adapted to draw downwardly on the bottommost plate to insure proper seating on the conveyor.
9. The combination of a magazine adapted

to carry a stack of plates, conveyor troughs, chains movable in said troughs and adapted to receive the bottommost plates in the stack, one after the other, and a magnet adapted to draw downwardly on the bottommost plate to insure proper seating on the conveyor.

10. The combination with a magazine for address plates, of a conveyor extending across the end of the same and a magnet independent of the conveyor and adapted to hold the endmost plate on the conveyor.

11. The combination with a gravity magazine for address plates, of a conveyor chain extending beneath the same, and a stationary magnet adapted to hold the endmost plate on the chain.

12. The combination with a gravity magazine for address plates, of a pair of conveyor chains, and a magnet interposed between the chains and adapted to hold the endmost plate on the chain.

13. The combination with a gravity magazine for address plates, of a pair of conveyor chains, supporting members for the chains extending beneath the same, and a magnet interposed between the chains and adapted to hold the endmost plate on the chain.

14. The combination of an upright supply magazine, of a pair of endless chains passing beneath the magazine and having lugs adapted to engage the bottommost plates therein one after the other, and a magnet between the chains tending to draw the bottommost plate onto the chains.

15. The combination of an upright supply magazine adapted to receive a stack of address plates, a pair of conveyor chains adapted to travel beneath the machine and having lugs to engage the bottommost plates one after the other, an electro-magnet located between the two conveyor chains and adapted to have the bottommost plate in the magazine act as an armature therefor.

16. The combination of a supply magazine adapted to receive a stack of address plates, a conveyor adapted to engage the endmost plates one after the other, a stationary electro-magnet located opposite the end of the magnet and adapted to have the endmost plate in the magazine act as an armature therefor, said magnet having a plurality of poles extended each transversely of the plate to obtain an attraction thereon over a large area.

In testimony whereof, I hereunto affix my signature.

CLIFTON CHISHOLM.