No. 860,167. PATENTED JULY 16, 1907.

G. H. WARD.

MACHINE FOR DISTRIBUTING PRINTERS' LEADS.

APPLICATION FILED APR. 10, 1907.

Fig. 1.

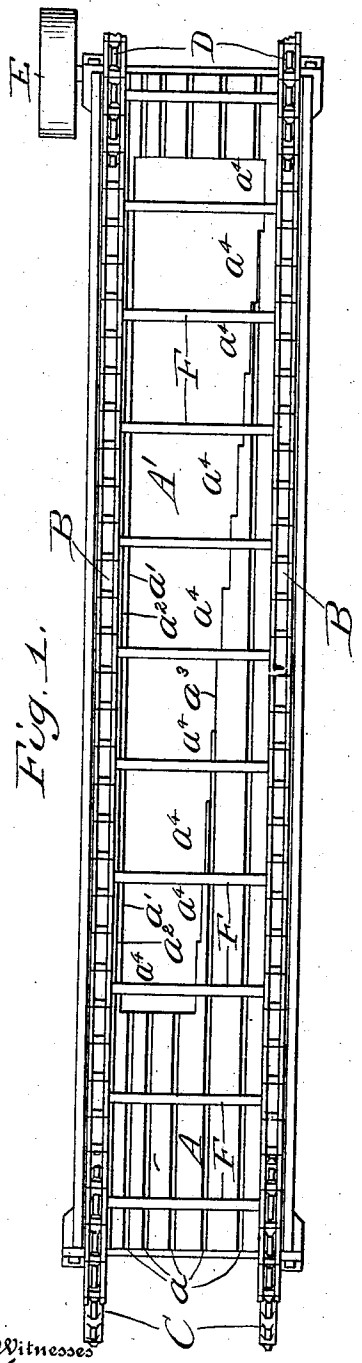


Fig. 3

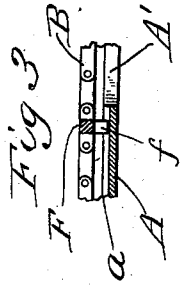
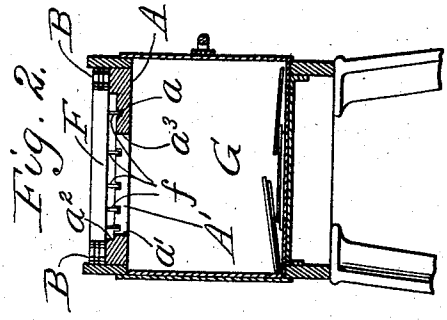


Fig. 2.



Witnesses

A. L. Burdine.

Edward R. Stitman

Inventor

George H. Ward

By Julian C. Howell & Son

his Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE H. WARD, OF NEW YORK, N. Y.

MACHINE FOR DISTRIBUTING PRINTERS' LEADS.

No. 860,167. Specification of Letters Patent. Patented July 16, 1907.

Application filed April 10, 1907. Serial No. 367,343.

To all whom it may concern:

Be it known that I, GEORGE H. WARD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Distributing Printers' Leads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an improved embodiment of the generic invention set forth in my pending application, Serial No. 352,764, filed January 17, 1907, for a machine for distributing printers' leads, the function of which is to assemble or classify the leads according to their sizes. By the term "leads" I refer to the usual thin strips of brass, type-metal or other materials that are commonly employed for spacing or separating lines of type in printing; and for the purpose of this specification said term should also be construed as including any articles which the machine is adapted for distributing, such as slugs, rules and wooden or metal reglets.

The lead-distributing machine as set forth in my former application may be briefly described as follows: It comprises a table or platform over which the leads to be distributed are moved by a suitable conveyer, the leads being arranged athwart or transversely of the direction of movement of the carrier and with their ends against a longitudinal abutment at one side. The table has a series of slots or openings, also disposed transversely of the direction of the movement of the carrier, and of gradually increasing lengths from the aforesaid abutment. As the leads move along the table, they drop into the respective slots or openings intended to admit them, after having passed over any preceding smaller opening or openings, and they fall into or are received in suitable drawers or receptacles below the table.

According to my present construction, the series of distributing slots or openings, instead of being separated or spaced by intervening walls or partitions, are merged together in a large continuous opening having one straight edge beside or adjacent to the aforesaid abutment and having its opposite edge stepped to provide the necessary graduations in the width of the opening to receive the different sizes of leads as they are moved over the table. The principal advantages of this construction are that the table is materially shortened, which may be an important consideration where the leads to be distributed are of numerous different sizes, and the possibility of the leads binding or becoming jammed between the conveyer and the aforesaid separating walls between adjacent openings is eliminated.

My invention will now be described with reference to the accompanying drawings, which form a part of this specification, and then more particularly pointed out in the appended claim.

In said drawings: Figure 1 is a top plan view of a machine embodying my invention. Fig. 2 is a vertical cross-section of the same. Fig. 3 is a detail view of a fragment of the conveyer and a section of the table below.

The letter A denotes a table over which runs an endless carrier or conveyer for engaging and moving the leads. As shown, said conveyer comprises endless carrier-chains B, running at opposite sides of the machine and passing around sprocket-wheels C and D at the front and rear ends thereof; said chains carrying between them spaced cross-bars F provided with depending fingers *f* for engaging the leads, said fingers *f* running preferably in longitudinal grooves *a* therefor in the surface of the table. Slow motion may be imparted to the carrier chains by any proper means, as by application of power to a pulley E on the shaft or axle of one pair of sprocket-wheels. The direction of motion is from the front to the rear of the machine, as indicated by the arrow in Fig. 1.

In the table A is the elongated opening A^1 having at one side a straight edge a^1, adjacent to a longitudinal abutment a^2, preferably at the left-hand side of the machine, and having at the opposite side a stepped edge a^3, thereby increasing the width of the opening A^1 toward the rear of the machine, and providing in effect a series of graduated distributing spaces a^4 of successively increasing lengths from the abutment a^2. The straight edge a^1 of the opening A^1 is spaced from the abutment a^2 by a narrow ledge or margin.

In operation, the leads to be distributed are deposited on the front end of the table and are shoved endwise against the abutment a^2. Then as the carrier advances, the depending fingers *f* thereof engage the leads and move them onward until they reach their respective distributing spaces a^4 of the opening A^1, through which the leads drop down and into suitable receptacles or drawers G below the table, the shorter leads falling through the corresponding sized spaces at the front and the longer ones passing over the smaller spaces until they reach the larger spaces intended to admit them.

It may be desirable to repeat, substantially, some further description as to the sizes of the distributing spaces, as explained in the specification of my aforesaid application. As well known, printers' leads are generally of uniform width, but vary in lengths, as (for the purpose of the present description) from forty-eight points for four-pica, to one hundred and fifty-six or one hundred and sixty-two points for the average present day newspaper column, or three hundred and eighteen to three hundred and twenty-four points for double newspaper columns. There are of course, shorter and longer leads than these, but they need not be considered for the purpose of this description. In a series of leads, there is usually a variance of only six points (one-twelfth of an inch) between the lengths of each lead and

the lead of the next smaller or larger size, up to a lead of thirteen or thirteen and a half picas, the average width of present day newspaper columns; after which the variance in lengths between the leads is usually twelve points (one-sixth of an inch). These relatively minute differences in length render the manual distribution of the leads exceedingly tedious. In the present machine, the length of each distributing space a^4 of the opening A^1, as measured from the abutment a^2 to the opposite end of said distributing space or to the stepped line a^3, is preferably about three points longer than the lead which such space is intended to admit. Interposed, however, between the abutment a^2 and the straight edge a^1 of the opening A^1, is the narrow ledge aforesaid, which is preferably of about twelve points width. If, therefore, the shortest distributing space a^4 of the table is adapted to receive a forty-eight point lead, the entire length of such space from the abutment a^2 would be fifty-one points, but the actual length of said space from the straight edge a^1 would be thirty-nine points; it being understood that these dimensions are arbitrary and may be varied. The next step or distributing space would be six points longer than the first, and so on; each succeeding distributing space increasing in length by six points for all leads adapted to newspaper work or for leads up to fourteen pica in length, after which each succeeding distributing space would be twelve or six points longer than the preceding one, as circumstance may require. That is, the regular fall of each succeeding step of the stepped line a^3 would be twelve or six points as the case may be, from the preceding step in the series. Now, when the shortest lead for which the machine is adapted passes to a position over the first step of the opening A^1, one end of said lead being supported on the narrow ledge, adjacent to the abutment a^2, the opposite end of the lead will be unsupported, and will consequently drop endwise down through the first distributing space, and into the drawer or receptacle placed to receive leads of that size. Longer leads will, of course, continue to travel over the shorter portion of the opening A^1 until they reach the respective distributing spaces adapted to receive them. Thus the several sizes of leads will be readily and accurately distributed or classified according to their respective sizes. It is understood, of course, that the foregoing explanation is merely with reference to the usual sizes of leads now in use, and that the length of the dstributing opening A^1, and the number, widths and lengths of its successive steps or distributing spaces a^4, may be modified as necessary to adapt the machine to the distribution of any sizes of leads.

In Fig. 1 of the drawings, the opennig A^1 does not represent an entire series of distributing spaces but only a sufficient consecutive number of said spaces to clearly illustrate the present invention. As shown, the opening A^1 begins with a space for a lead considerably longer than forty-eight points or four pica, and the last space is considerably shorter than the longer lengths of lead; it being understood that this illustration is intended only to explain the principle of the invention.

Various statements made in the specification of my aforesaid application, regarding mechanical features of the machine and suggested alternative constructions or modifications, are also applicable here, but need not be specifically mentioned, since the present application pertains more particularly to the opening A^1, regardless of the specific construction of machine in which the invention is embodied.

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

1. In a machine for distributing printers' leads, the combination of a table having an elongated opening with a substantially straight side and opposite stepped side, thereby providing a series of contiguous transversely arranged distributing spaces of successively increasing lengths, a longitudinal abutment running beside said straight side of said opening, said table having a supporting surface in advance of said opening upon which leads to be distributed can be placed and shoved endwise against said abutment, and a conveyer for moving leads over the table comprising cross-bars with intervening open spaces permitting the leads to be placed upon the supporting surface of the table for engagement by said conveyer.

2. In a machine for distributing printers' leads, the combination of a table and means for moving leads thereover arranged transversely of the direction of motion, there being a continuous longitudinally arranged opening in said table having one substantially straight side and having its opposite side stepped, providing a series of transversely-disposed distributing spaces of successively increasing lengths, substantially as described.

3. In a machine for distributing printers' leads, the combination of a table provided with longitudinal grooves and a longitudinal irregular opening, a longitudinal abutment along one side of said opening, and a carrier movable over said table having fingers which travel in said grooves, said opening having a substantially straight side near said abutment and having its opposite side stepped and gradually increasing the width of said opening toward the rear of the table.

In testimony whereof I affix my signature, in presence of two witnesses.

GEORGE H. WARD

Witnesses:
WILLIAM F. GREINER,
H. G. HANSEN.