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PATENTED OCT. 23, 1906

A. GREENLEAF.
TYPOGRAPHIC MACHINE.
APPLICATION FILED JULY 25, 1904.

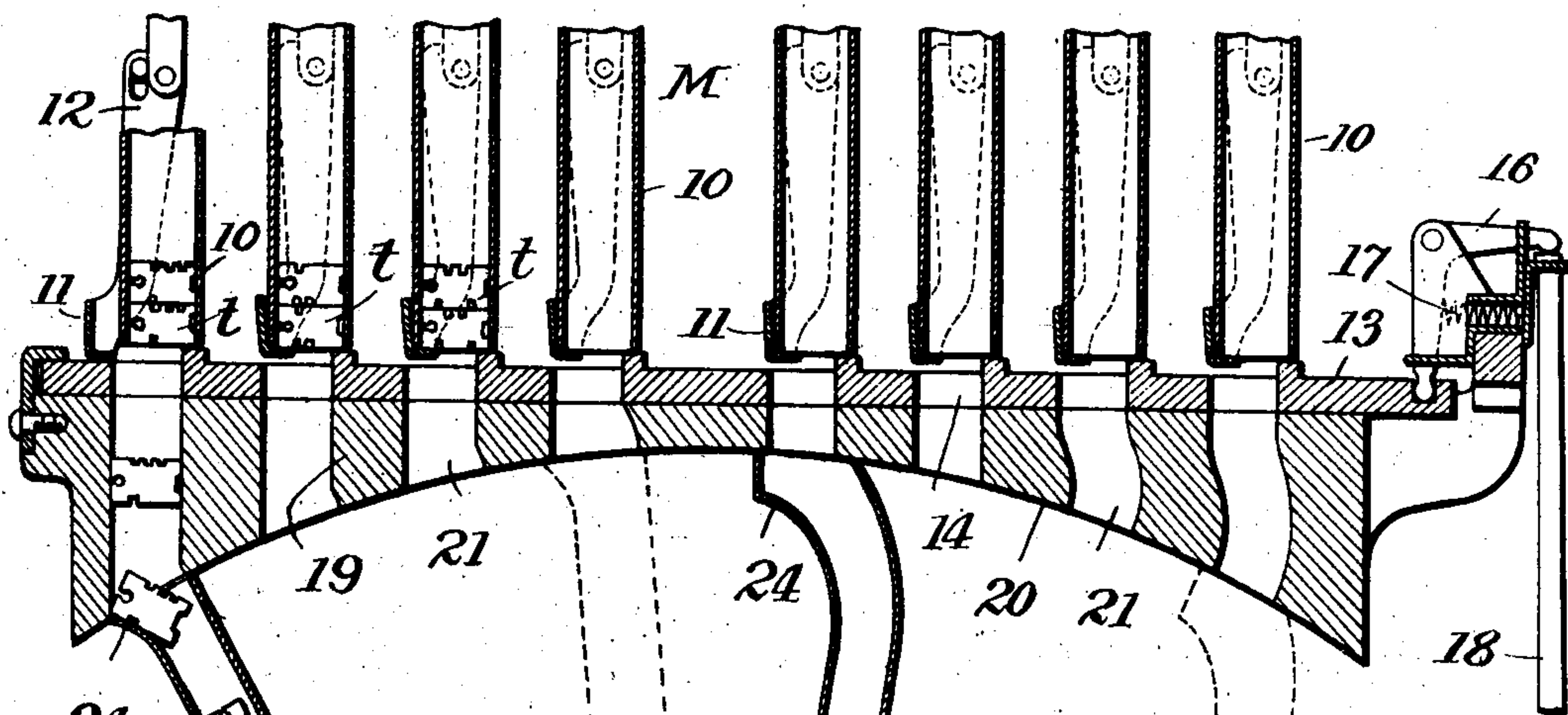
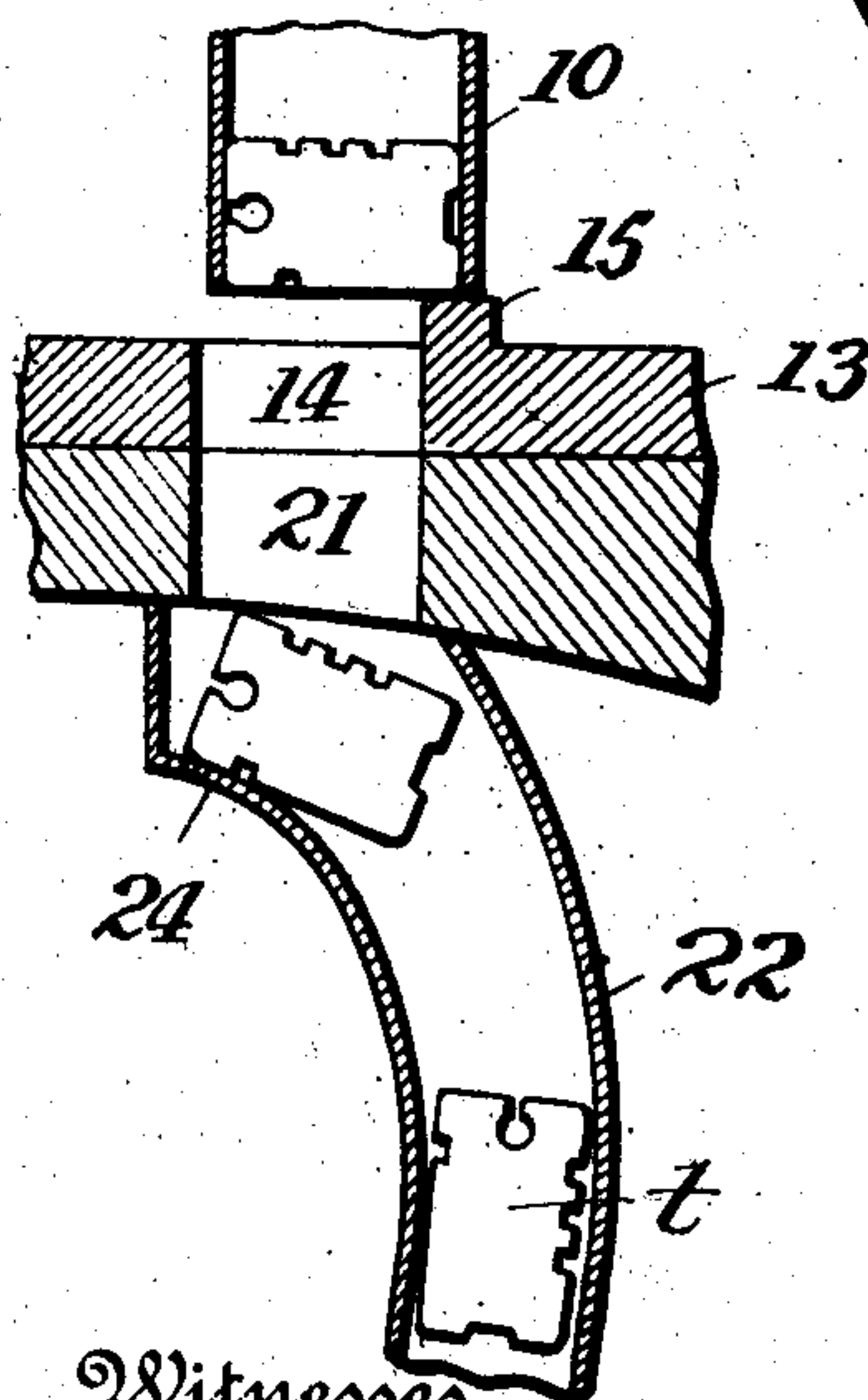


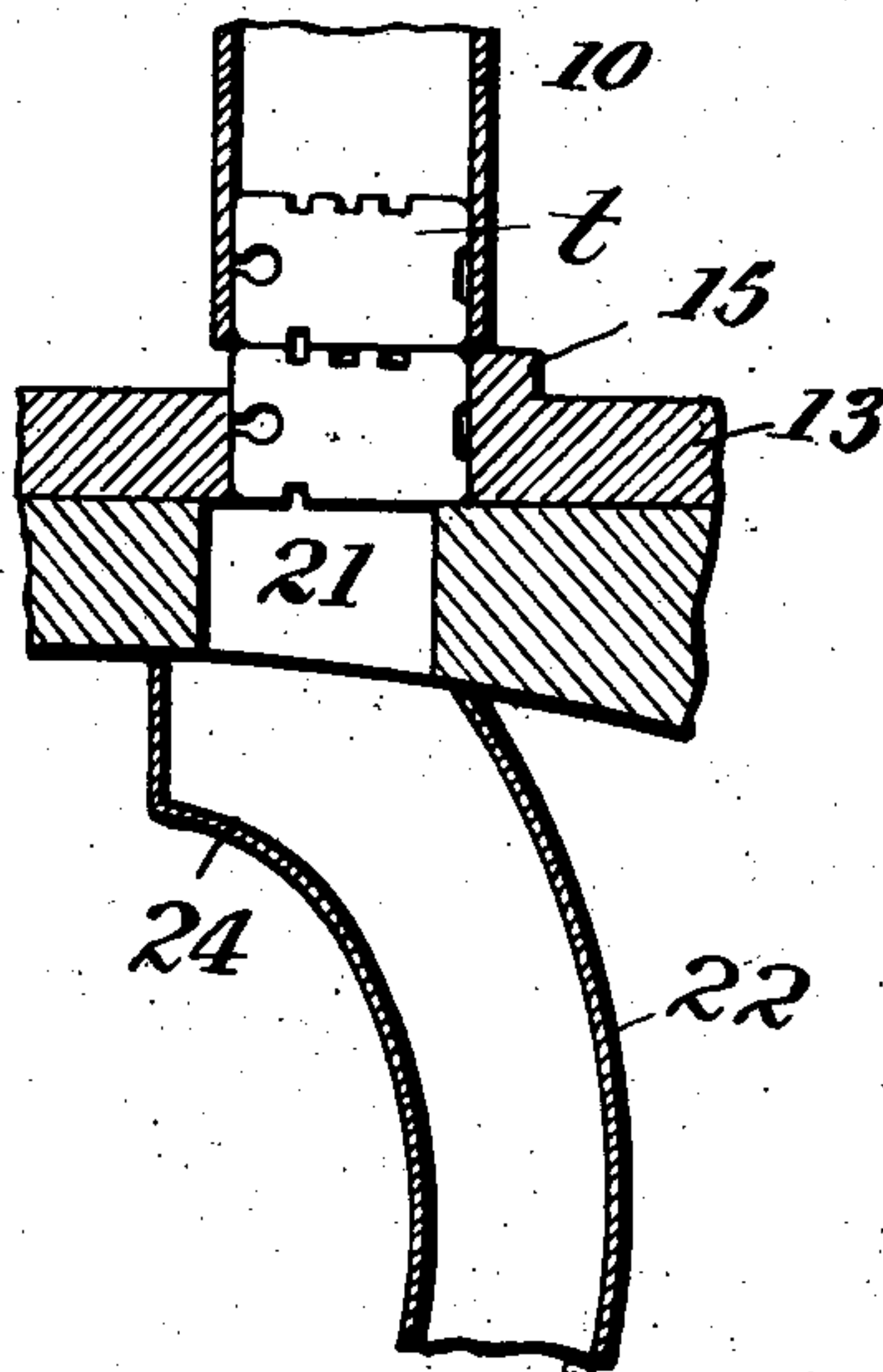
Fig. 1.

Fig. 2.



Witnesses
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Fig. 3.



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ABNER GREENLEAF, OF BALTIMORE, MARYLAND, ASSIGNOR TO
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TYPOGRAPHIC MACHINE.

No. 834,123.

Specification of Letters Patent.

Patented Oct. 23, 1906.

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To all whom it may concern:

Be it known that I, ABNER GREENLEAF, a citizen of the United States, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Typographic Machines, of which the following is a specification.

This invention relates to typographic machines. In such machines the type or matrices are often arranged on their sides in the magazines, and it is desirable to turn them so that they will stand on their "feet" or ends when assembled.

The present invention relates to assembling mechanism having means for turning the type or matrices as they descend from the magazine.

The invention will be described in connection with the accompanying drawings, in which—

Figure 1 is a sectional view of a portion of a magazine and a funnel for directing the type or matrices to the assembling-point; and Figs. 2 and 3 are similar sectional views, on an enlarged scale, illustrating the operation of the invention.

In the following specification the term "type" will be used in a sense broad enough to include either ordinary type or matrices such as are used in linotype and other composing-machines.

Referring to the drawings, 10 indicates the tubes or channels of a magazine M, and *t* indicates the type, which, as shown, are arranged to rest on their sides in the channels. The type may be sustained in the magazine and delivered therefrom by any suitable means. As shown, the type are normally sustained in their channels by angle bars or pieces 11, which are connected to pivoted arms 12. Beneath the series of channels is a bar 13, having a series of openings 14, through which the type may pass, and a series of shelves or projections 15, on which the type rest temporarily when the angle-bars 11 are withdrawn. In the particular escapement or delivery mechanism shown it is designed that but one angle-bar shall be moved from normal position under its channel at a time, thus permitting the type from but one channel to be withdrawn when the escapement-bar 13 is reciprocated. As shown, the angle bar or retainer 11 at the left in Fig. 1 is

withdrawn from the mouth of the channel while the remaining retainers are in normal position. The escapement-bar 13 may be operated by the elbow-lever 16, which is normally held in the position shown in Fig. 1 by a spring 17 and rocked in the other direction by a rod 18, which may be operated by a finger key or power in any suitable manner.

Beneath the escapement-bar 13 is a part 19, having a circular lower surface 20 and a series of type-channels 21, through which the type may fall when released from the magazine. Beneath the part 19 is a funnel 22, adapted to rock about an axis 23, concentric with the surface 20. The particular magazine illustrated has four channels for upper-case type and four channels for lower-case type, and the funnel 22 has two branches, one adapted to receive upper-case and the other lower-case type. The channels 21 are either straight or curved, as may be necessary to conduct the type to the funnel. The funnel is shown in its forward position in full lines and in its rearmost position in dotted lines.

It has heretofore been proposed to turn the type by arranging in the channels of the part 19 steps or shoulders, which would intercept the ends of the type and cause them to turn. It was found that in this construction the type sometimes became jammed in the channels, and it was very difficult to release them on account of their inaccessibility.

According to the present invention the type pass through the channels 21 without turning, and they are turned in the upper part of the funnel by striking a shelf or lateral wall 24 at the upper end of the funnel. This shelf is preferably curved and inclined downwardly, so that the type may slide over it and assume a more or less vertical position as they pass through the funnel. Should a type be jammed in the funnel, the latter may be tilted forward until its channels are in front of the part 19 and open for inspection. It will be obvious that the funnel illustrated is adapted to guide type from any one of the magazine-channels to the assembling-point adjacent the trunnion or pivot 23.

The operation of the invention is illustrated in Figs. 2 and 3. In Fig. 2 the escapement-bar is shown in its forward position, the shelf 15 sustaining the type in the channel. When the bar is drawn to its rearward

position, as shown in Fig. 3, the type drops into the opening 14. When the escapement-bar is returned to its normal position, (shown in Fig. 2,) the opening 14 registers with the opening 21 and the type drops through the opening 21 into the funnel.

As illustrated in Fig. 2, one end of the type strikes the shoulder or lateral wall 24 and the type is thus turned by gravity and drops end foremost through the funnel.

It will be obvious that changes in the mechanical details of the invention may be made without departing from the spirit and scope of the invention. Thus the lateral shelf or support 24 for turning the type might be arranged lower in the funnel than illustrated, and a single instead of a double funnel might be used. The double funnel is preferred, because it requires a shorter adjustment than the single funnel for the same range of work.

It will be understood that each of the type-channels shown in Fig. 1 is but one of a series forming a section of the magazine.

One of the advantages of the invention not heretofore mentioned is that a single turning device suffices for the corresponding types of a plurality of fonts.

Having described my invention, what I desire to secure by Letters Patent is—

1. In an assembling mechanism for a typographic machine, the combination with a plurality of type-channels and with means for discharging the type sidewise from said channels, of a funnel movable to receive type respectively from a plurality of said chan-

nels, the said funnel being provided with means for turning the type and guiding them endwise to the assembler.

2. In an assembling mechanism for typographic machines, the combination with a plurality of type-channels and means for discharging type sidewise therefrom, of a funnel adapted to receive type from a plurality of said channels, the said funnel being movable to cooperate with different channels and being provided with a shoulder adapted to turn the type as they pass therethrough.

3. The combination with a magazine and an escapement device, of a funnel provided with means for turning the type as they pass through it, the said funnel being movable to permit of inspection of its channels.

4. The combination with a magazine and an escapement device, of a pivotally-mounted funnel provided with means for turning the type as they pass through it.

5. The combination with a magazine and an escapement device, of a pivotally-mounted funnel having two branches, each branch being provided with a lateral wall or shoulder adapted to intercept one end of each type whereby the type are turned as they pass through the funnel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

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Witnesses:

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