

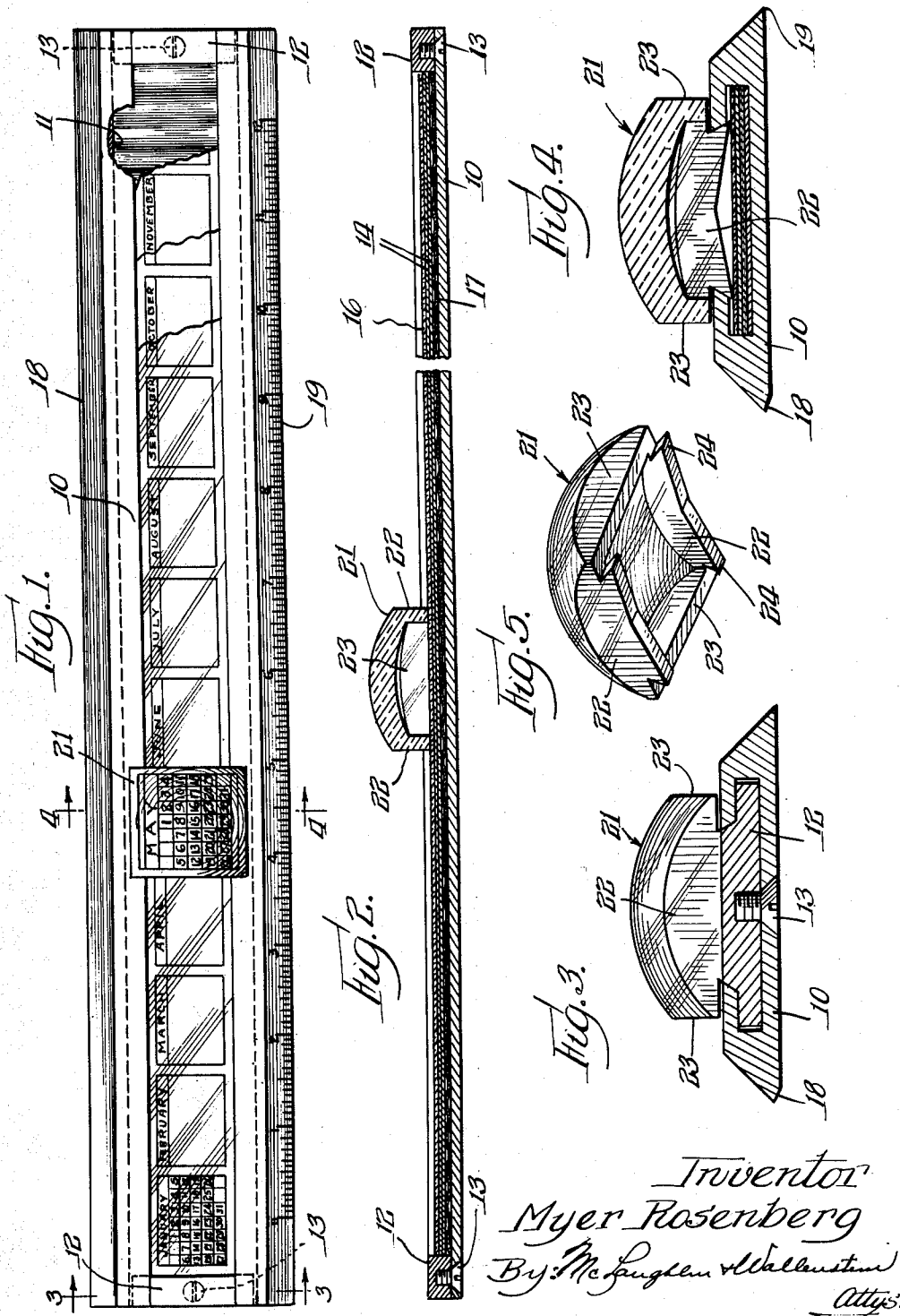
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MOVABLE MAGNIFYING LENS INDICATOR

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MOVABLE MAGNIFYING LENS INDICATOR

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1

My invention relates to a novel desk article.

The principal object of my invention is the provision of a simple, neat desk article so constructed and arranged as to fulfill several needs of the desk worker.

Another object is the provision of a novel desk article in the form of an improved calendar.

Still another object is to provide improved means for making readily available, in easily legible form, a relatively large amount of information used by the desk worker.

In accordance with the main features of my invention, I provide a single piece, relatively long flat frame with exterior straight edges and a central upper undercut channel, within which I dispose strips showing required information such as the months of a particular year, and above the open portion of the channel mount a magnifying lens in such a manner as to permit its being adjustable along the channel. The straight edges are bevelled, preferably on approximately a ninety degree angle, one bevelled surface suitably carrying a scale and one bevelled edge suitably being undercut slightly to provide a ruling edge for inked lines. The frame is preferably extruded to form a single piece and ends of the channel are plugged by removable inserts, thereby permitting the strips to be inserted endwise in the undercut portion of the channel. The lens is preferably formed of clear plastic with undercut portions projecting into the undercut portions of the channel and means is provided to cause friction between the frame and lens. Suitably, a strip of clear plastic is placed above the previously referred to strips and the projections comprising the undercut portion of the lens assembly ride between a lower surface of the frame and the upper surface of the transparent strip, sufficient upward pressure being provided by the strips to establish adequate friction. Spring means is also provided to cause this pressure to be sustained, the spring means suitably being in the form of a lowermost strip formed of suitable material. I have found that a crimped strip of fairly dense but thin paper is adequate for the purpose. When the strip comprises a calendar, the months are individually framed and slightly spaced and the lens is formed square so as to enlarge only the portion within the frame, thereby providing for maximum enlargement. The twelve months are suitably shown in one strip so that the entire calendar is before the observer.

Other detailed features and objects of the invention will be apparent from the following detailed description taken with the accompanying drawings, wherein—

Fig. 1 is a plan view showing a preferred embodiment of the invention, some of the parts being partially broken away to illustrate features of construction;

2

Fig. 2 is a longitudinal central sectional view taken substantially along the center line of Fig. 1;

Fig. 3 is a sectional view taken along the line 3-3 of Fig. 1, looking in the direction of the arrows;

Fig. 4 is a sectional view taken along the line 4-4 of Fig. 1; and

Fig. 5 is a perspective view of the lens member removed from the frame.

Looking now to the drawings, I provide a single piece frame 10, having an undercut channel 11, ends of which are closed by inserts 12, held in position by countersunk screws 13. Within the channel and extending under the undercut portion are a plurality of strips 14 with a transparent strip 16 above them and a crimped strip 17 below them having a tensioning action, as will be described. The ends of these strips butt up against the inserts 12, by which they are held in place.

Side edges 18 and 19 of the frame are bevelled and provide a straight edge, the former being slightly undercut, as shown, to permit ink ruling without smearing. The bevelled portion of the edge 19 is provided with a scale, suitably a foot rule, as shown in Fig. 1.

Supported above the frame is a lens member 21, preferably comprising a single piece plastic molding, suitably finished so that the center portion comprises a magnifying lens and in which there are four flat sides 22-22 and 23-23, forming substantially a rectangle, as shown in Fig. 5. The sides 22 are finished to provide projections 24 which extend under the undercut portion of the channel to support the lens member in slidable but irremovable relation on the frame. The lens is designed to have a relatively short focal length and relatively great magnification when held only a relatively short distance from the object being checked; and even though there may be very pronounced spherical aberration if maximum magnification were employed, the shape and dimension of the side walls 22 and 23 are such as to provide for at least two to one magnification substantially uniformly over the entire field, and with very little observable aberration at the edges.

While the strips 14 may have various kinds of information thereon, I find that providing the twelve months of the year in separate spaced frames, each of which is just big enough to show fully through the lens, produces a very excellent desk calendar. The lens may be left over the current month so that it is readily located and the entire calendar year is in front of the user so that he can count any suitable number of days or weeks backward or forward from a given period. In vending the desk article, several strips 14 may be provided for the successive years so

3

the user may change them as each new year is reached.

Means is provided to produce sufficient friction to hold the lens member in the position to which it is adjusted. A suitable arrangement is to provide friction between the projections 24 and the frame. In the present embodiment, I form the strip 16 of relatively thick transparent plastic and the under strip 17 of a suitable material to cause a continuous upward pressure against the plastic, and of the plastic against the projections 24. These projections are thereby slightly pinched between the lower undercut surface of the frame and the upper surface of the plastic. While I have successfully used a thin crinkled metal strip, thin strips of sponge rubber and the like, I have found that suitable results are also obtained if this strip is formed of a relatively dense but thin paper crimped to have an overall thickness several times the normal thickness of the paper and sufficient resiliency so that it tends to return to its crimped position when released. I have also found that I can obtain suitable friction by merely forming a thick enough pile of flat paper strips below the transparent strip 16, but after continued use the friction established by this means is not retained.

The device of my present invention is suitably formed by extruding the frame portion, using a relatively light alloy of aluminum or magnesium for the purpose. The strips are extruded in suitable lengths to finished cross section and then cut to the length desired. The inserts 12 are preferably formed of opaque plastic and the lens member 21 is preferably formed of transparent plastic. The lens is produced by a molding and finishing operation, including polishing, where required, to produce proper light characteristics. When assembling, one of the inserts 12 is preferably first secured in position, the strips 14, 16 and 17 slid into position at the open end of the channel, the lens member 21 introduced in the same manner, and the remaining insert 12 then inserted and secured in position.

The device of my present invention forms a very useful desk article, performing the function of rule, straight edge, calendar, and paper weight in a novel and convenient manner.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A desk article comprising a frame having an undercut upper channel, a strip in said channel showing the months of the year in separate frames, an enlarging lens of a size to enlarge one such frame and having undercut projections extending into the undercut portions of said channel, whereby said lens may be moved along said channel to a position above any one of such frames, means to provide friction between said undercut lens portion and frame, a transparent strip disposed in the channel above said calendar strip and a crimped strip beneath said calendar strip to provide for continuous frictional engagement of said undercut lens portion between said transparent strip and frame.

2. A desk article comprising a frame having an undercut upper channel, a strip in said channel showing the months of the year in separate frames, a single piece lens member comprising a generally rectangular base portion, a central lens portion, angular projections below said base portion extending beneath edges of said undercut portion to support the lens member on the frame in slidable relation above said strip, a transparent strip in said channel above said calendar

4

strip, and means in the channel to force said strips upwardly to pinch the said angular projections slightly between said transparent strip and a contiguous portion of the frame at said undercut channel.

3. A desk article comprising a frame having an undercut upper channel, a strip in said channel showing the months of the year in separate frames, a single piece lens member comprising a generally rectangular base portion, a central lens portion, angular projections below said base portion extending beneath edges of said undercut portion to support the lens member on the frame in slidable relation above said strip, a transparent strip in said channel above said calendar strip, and a crinkled strip below said calendar strip in the channel to force said strips upwardly to pinch the said angular projections slightly between said transparent strip and a contiguous portion of the frame at said undercut channel.

4. A desk article comprising a frame having an undercut upper channel, a strip in said channel showing the months of the year in separate frames and a single piece lens member comprising a generally rectangular base portion, a central lens portion, and angular projections below said base portion extending beneath edges of said undercut portion to support the lens member on the frame in slidable relation above said strip, said frame having straight exterior edges on opposite sides of the channel, one of said straight edges being bevelled and having a scale provided thereon and the other being bevelled and having a slightly undercut lower edge for ink ruling.

5. A desk article of the character described comprising a single piece relatively elongated, relatively flat frame having an upper undercut channel open at its ends, at which point a strip or strips may be introduced to underlie said undercut portion of the channel and expose the center portion thereof to view, a strip in said channel showing indicia in separate framed rectangular portions, a single piece enlarging lens structure having a portion engaging above said frame and projections engaging below said undercut portion, and a center lens portion of a size to enlarge matter comprising said frame portions, and means closing ends of said channel, whereby the lens structure is adjustable along said frame when introduced at an end thereof and said closing means prevents removal of said strip and lens structure.

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