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GAS LIGHTING IMPLEMENT

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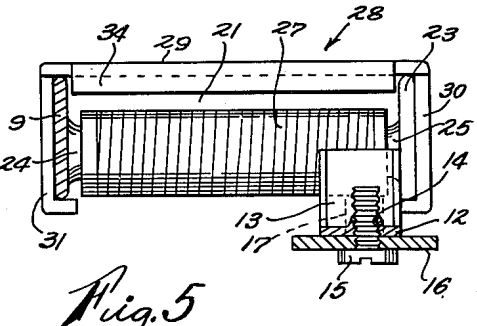
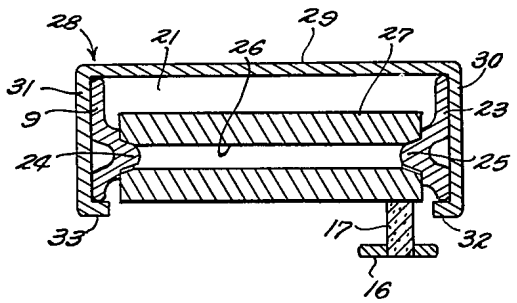
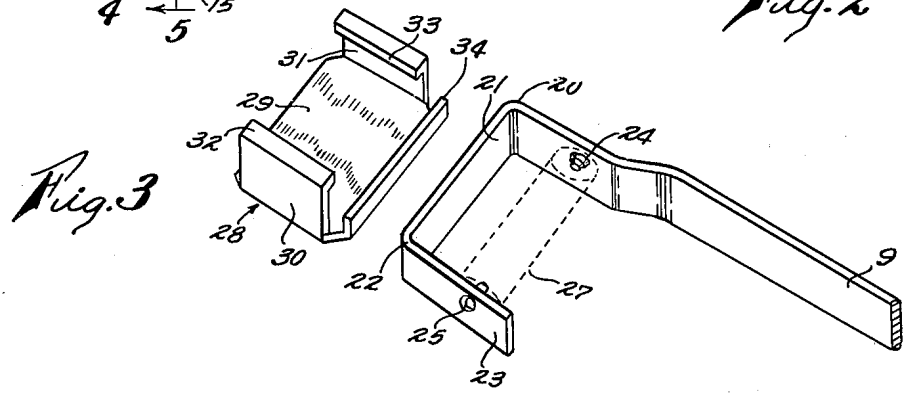
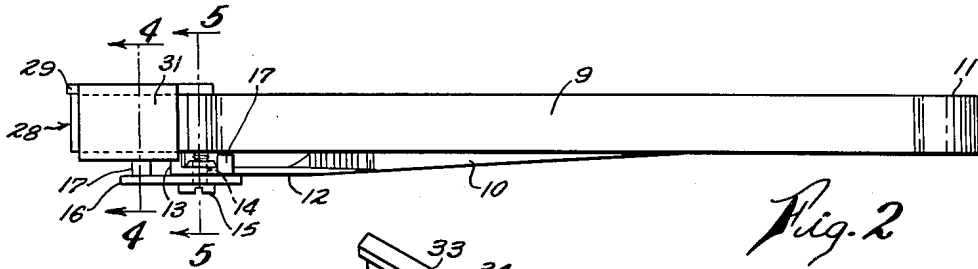
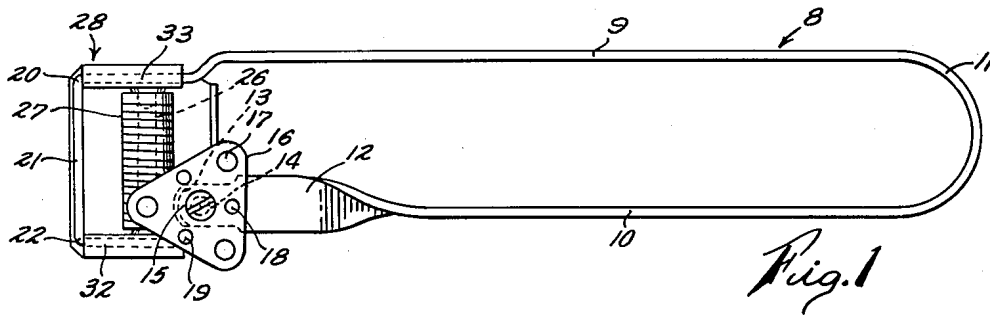


Fig. 4

Fig. 5

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GAS LIGHTING IMPLEMENT

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5 Claims. (Cl. 67—6.1)

The present invention relates to improvements in gas lighters.

An important object of the invention is the provision of a separable, tubular file mounting means formed on one end portion of a flat band lighter handle, and which cooperates in a novel manner with a lighter hood structure that is adapted to retain the mounting means in closed, operative position.

Another object of this invention is to provide an extremely simple yet effective limit stop for the swinging arms of the handle for my flat band lighter, said limit stop being integral on the arm carrying the pyrophoric element and cooperating with a U-shaped file carrying yoke on the other arm of the handle.

With these ends in view, the present invention consists essentially of a handle made of flat strip material and having a U-shaped, separable file mounting yoke formed on one end portion, a hood slidable over the yoke to maintain the legs of the yoke in closed condition against the file, and including a limit stop construction formed on the opposed end portion of the handle for cooperation with the said yoke.

The invention is illustrated in the accompanying drawings wherein like characters indicate similar parts throughout the several views:

In the drawings:

Fig. 1 is a top plan view of the gas lighter.

Fig. 2 is a side elevation of the lighter shown in Fig. 1.

Fig. 3 is a fragmental, perspective view showing the novel lighter parts in disassembled condition.

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 2.

Fig. 5 is an enlarged section taken on line 5—5 of Fig. 2.

The preferred embodiment of the gas lighter illustrated comprises a handle 8 made from a single length of metal strip material and having two relatively swinging arms 9 and 10 secured together at common ends by a return curve portion 11. With particular reference to Fig. 5 the flat end portion 12 of the arm 10 is twisted at right angles to the plane of said arm and is formed with a downturned terminal end 13 which acts as a limiting stop or dog for the arms 9 and 10. The portion 12 has a threaded bore 14 extruded therein for receiving a clamp screw 15 on which is centrally mounted the triangularly shaped head 16 carrying a pyrophoric element 17 at each of its corners. The element is engaged against the outer face of the portion 12 which is opposed to the face from which the dog 13 projects. A dimple 18 (Fig. 1) is formed in and extends upwardly from the portion 12, said dimple cooperating with any one of a number of positioning holes 19 pierced through the head, one between adjacent pyrophoric elements, to locate a selected pyrophoric element on the lighter arm 9 in proper operative position with respect to an abrasive element, as will appear hereinafter.

As best shown in Fig. 3 the end portion of the arm 9 is formed to provide a file yoke for the lighter and has a general U-shaped formation in plan. To this end the strip material is turned at 20 to provide a transverse

member 21, whilst the free end of the transverse member is turned at 22 to provide a terminal end 23. The inner faces of the leg forming portions 9 and 23 of the U-shaped yoke have embossed thereon journal studs 24 and 25, respectively, which are adapted to be entered into bearings formed in opposite ends of an abrasive element 27. The abrasive element is preferably of the conventional tubular type having an axial bore formed therethrough whose open ends provide opposed, file mounting bearing sockets that cooperate with the journal studs 24 and 25. It is also contemplated that the abrasive element could be solid with a socket formed in each of its ends to receive said journal studs. The journal studs on the legs of the U-shaped yoke are maintained in operative condition in close proximity to bearing sockets in the file by a hood structure, generally indicated by the reference numeral 28, which is slidably secured to and detachable from the yoke.

The slidable hood 28 comprises a flat rectangular top wall 29 that has downwardly turned sides 30 and 31 which terminate at their lower ends in inturned flanges 32 and 33, respectively. As indicated in Fig. 3 it is now thought to be the better practice to form the hood in a manner such that the sides 30 and 31 thereof converge slightly inwardly from the top wall 29. The forward edge of the top wall 29 may have a downturned gas deflecting lip 34 formed thereon.

With respect to Fig. 3 it will be noted that the U-shaped yoke formed on the end portion of arm 9 has the leg portions initially diverging outwardly from the lateral member 21 in order that the abrasive element may be entered therebetween for engagement with the separable file mounting means carried by said legs. To this end the legs may be slightly sprung outwardly to position the file on the journal studs 24 and 25 whereupon the hood 28, located as depicted in Fig. 3, is slid over the U-shaped yoke. The sliding movement moves the legs 9 and 25 of the U-shaped yoke together and securely mounts the file against endwise displacement while allowing for free rotation on the journal studs 24 and 25. Compression of the legs of the yoke by the hood causes the sides 30 and 31 of the hood to spring slightly outwardly thus providing good frictional contact between the sides of the hood and the legs which prevents accidental removal of the hood from the yoke.

Referring now to Fig. 5 it is to be noted that the limit stop 13 extends laterally from opposed sides of the clamp screw 15 and that relative reciprocating movement of the arms 9 and 10 will alternately bring the edges of the stop into contact with the sides 9 and 23 of the U-shaped yoke thus providing a positive and simplified stop for the arms which also protects the clamp screw from direct or indirect impact with the lighter parts.

It will therefore be understood that I have produced an improved band type gas lighter which provides a readily separable file mounting means for replacement of abrasive elements therein. It will be noted in this respect that the pyrophoric carrying head may also be renewed thus securing a gas lighter holder that may be utilized with a great number of replacement files and pyrophoric elements.

What is claimed is:

1. A gas lighter comprising a handle made from a single piece of strip metal and formed to provide a pair of relatively movable arms joined together at common ends, a U-shaped yoke formed on the free end of one arm to provide a pair of spaced legs interconnected by a transverse base portion, a freely rotatable tubular file removably positioned between the legs of the U-shaped portion, a journal stud embossed on the inner face of each of the said legs and each extending into an adja-

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cent end of the tubular file, a hood having a top wall, side walls depending from the top wall and each of said walls having an intumed flange formed on its lower terminal end, said hood being slidable over the U-shaped member into a position such that the interior faces of the hood side walls engage against the exterior faces of the legs of the U-shaped portion to hold said legs together under compression and move the journal studs carried by the legs into proximate positions with respect to the ends of the file.

2. A gas lighter comprising a handle made from a single piece of strip metal and formed to provide a pair of relatively movable arms joined together at common ends, a U-shaped yoke formed on the free end of one arm to provide a pair of spaced legs interconnected by a transverse base portion, a cylindrical file removably positioned between the legs of the U-shaped portion and having a bearing socket formed in each end thereof, a journal stud embossed on the inner face of each of the said legs and each extending into an adjacent bearing socket in the file, a hood having a top wall, side walls depending from the top wall and each of said walls having an intumed flange formed on its lower terminal end, said hood being slidable over the U-shaped member into a position such that the interior faces of the hood side walls engage against the exterior faces of the legs of the U-shaped portion to hold said legs together under compression and move the journal studs carried by the legs into close bearing positions within their respective sockets.

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3. A gas lighter comprising a handle made from a flexible and resilient length of strip metal and formed to provide a pair of arms pivotally joined together at common ends, a U-shaped yoke formed on the free end of one arm and consisting of a lateral base portion and a pair of relatively movable opposed legs, a freely rotatable, tubular file located between the legs of the yoke, detachable journal bearing connections between the adjacent ends of the file and the internal faces of the legs, said connections being severable by outward flexing of the said legs, and a hood having a top and opposed sides slidable endwise over the yoke to operatively move the legs into contracted positions under compression to hold the file in position against endwise movement on its journal bearings whilst maintaining a frictional connection between the yoke and the operative position of the hood.

4. A gas lighter according to claim 3 characterized by the fact that the opposed legs of the U-shaped yoke initially diverge outwardly from the base portion.

5. A gas lighter according to claim 4 further characterized by the fact that the sides of the hood converge inwardly from the top for engagement against the outer faces of the legs of the yoke.

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