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J. W. HOBING
FLAT FILE GAS LIGHTER

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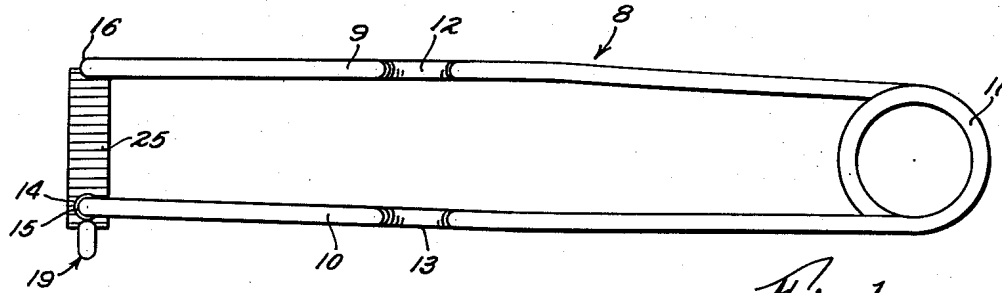


Fig. 1

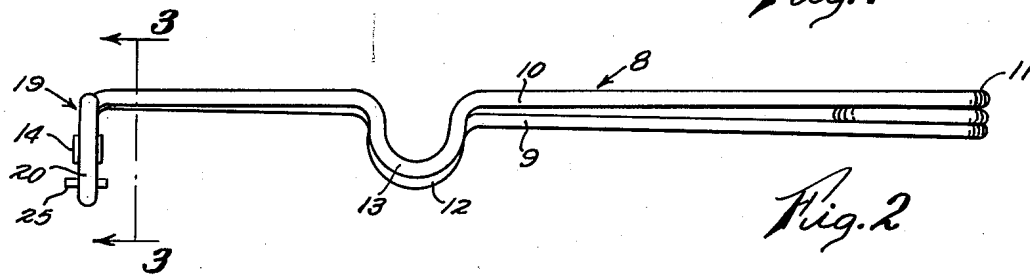


Fig. 2

Fig. 3

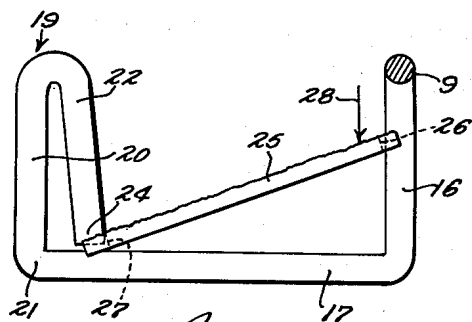
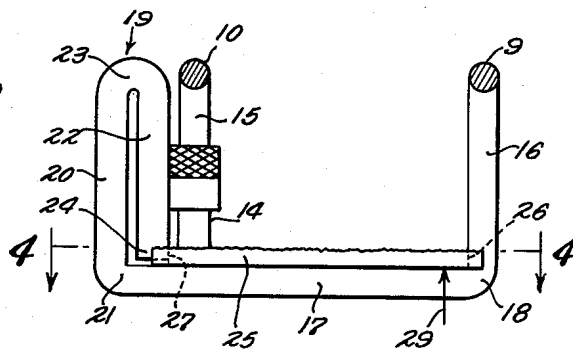


Fig. 5

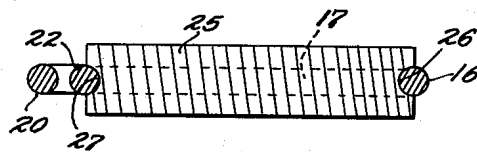


Fig. 4

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FLAT FILE GAS LIGHTER

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1 Claim. (Cl. 67—6.1)

This invention relates to certain improvements in gas lighters and is particularly directed to a gas lighter construction for releasably mounting a flat type abrasive element or file in the lighter.

The main object of the invention is to provide a novel flat file clamp element, integral with the gas lighter handle, which will positively hold the file in position during use and which is readily releasable for replacement of a worn file with a new one.

Another object of the invention is to provide in a gas lighter having the foregoing characteristics an extremely simple but an effective and rugged flat file clamp construction.

A more specific object of the invention is to provide a gas lighter having a U-shaped file clamp element formed integrally on the end of one of the lighter arms in a manner such that a spring finger is continuously effective to exert a clamping pressure on the flat file to mount it in the lighter, said file being readily engageable by common tools for release from the clamp and for new file replacement.

These and other objects of the invention will appear from the following specification and the accompanying drawing and are pointed out in the annexed claims.

In the drawings wherein like reference numerals indicate similar parts throughout the several views:

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

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

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2.

Fig. 4 is a section taken on line 4—4 of Fig. 3.

Fig. 5 is a section similar to Fig. 3 with the pyrophoric element removed, showing the manner of inserting a file in the clamp element of the lighter illustrated in Figs. 1—4.

With reference to Figs. 1 and 2 there is illustrated, for the purpose of disclosure, a gas lighter body 8 made from a length of resilient and flexible wire stock and comprising a pair of arms 9 and 10 connected together at common ends by a double coil 11. The lighter is manually operated by pressing the arms together whilst the coils 11 act to swing the free ends of the arms away from each other, thus providing an alternating closing and opening action for the lighter. The arms 9 and 10 are each provided with an offset thumb portion 12 and 13, respectively, which serve as an effective hand hold for the lighter body during use.

A pyrophoric element 14 is suitably mounted on a downwardly extending terminal end 15 of the arm 10, and the intermediate portion of the other arm 9 is turned downwardly and then laterally to respectively form an upstanding file holder portion 16 and a transverse base portion 17 connected together by a right angled bend portion 18. An inverted U-shaped file clamp element 19 is formed on the end portion of the base portion 17 and as best shown in Fig. 3, said file clamp has an upwardly extending outer leg 20 connected at its lower end to the

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free end of the transverse base portion 17 by a right angle bend portion 21, said leg being joined at its upper end to an inner spring finger 22 by a smooth return bend 23. The spring finger is substantially coextensive with the leg 20 and has its free terminal end 24 located adjacent to, but unconnected with the transverse base portion 17. Thus the finger is free to flex laterally in the plane of the holder around the return bend 23 as a pivotal point due to the resiliency of the material of the gas lighter body and the relatively long extent of the finger itself.

A flat file 25 is mounted in the holder in position such that its roughened surface is frictionally engaged by the pyrophoric element 14 (Fig. 3). For this purpose the opposite ends of the flat file are provided with notches 26 and 27 which respectively receive the lowermost inner portions of the upstanding holder portion 16 and the terminal end 24 of the spring finger 22. As indicated in Fig. 3 the lower face of the file is substantially in contact with the transverse base portion 17 and it will further be noted that the terminal end of the finger is spaced vertically away from the base a distance substantially less than the thickness of the file body.

In Fig. 5 there is shown the manner of inserting the flat file 25 in the gas lighter illustrated in Figs. 1—4. It will there be noted that the spring finger 22 normally projects inwardly in the direction of the upstanding file holder portion 16 and that the straight line distance between the portion 16 and the terminal end 24 of the finger is less than the longitudinal extent of the file body between the opposed notches. To insert the file in the holder it is only necessary to engage the notch 27 with the inner side of the terminal portion 24 of the finger 22 and engage the notch 26 with an intermediate part of the upstanding portion 16. By forcing the raised side of the file downwardly in the direction of the arrow 28 with a pair of pliers, or the like, the file will assume the operative position against the base portion, indicated in Fig. 3, with the file placed under positive and continuous clamping action between the terminal end 24 of the spring finger and the base of the upstanding portion 16. To remove the file from the lighter it is only necessary to apply a force in the direction of the arrow 29 in Fig. 3 by wedging a screw driver between the base portion and the file, whereby the file will be raised to the position indicated in Fig. 5 where action of the spring finger 22 will be ineffective to secure the file in the holder.

It will therefore be understood that I have provided a file holder for a gas lighter which has an integrally formed spring finger that releasably secures the file in positive operative position in the holder, the holder construction affording a readily operable means for inserting or removing the file for replacement purposes. It is another feature of the invention that all the parts of the U-shaped element 19 flex when a file is clamped in the holder, thereby precluding the possibility that any one part will be bent beyond its modulus of elasticity. Thus when a file is inserted and held in the clamp by the element 19 the outer leg 20, return bend 23, as well as the spring finger 22 flex and remain under clamping tension until that file is removed for replacement purposes.

What is claimed is:

A gas lighter holder having distinct and integral parts and made from a length of resilient and flexible wire stock comprising a pair of relatively movable arms joined together at common ends; a downwardly extending terminal end formed on one arm for mounting a pyrophoric element thereon; the intermediate portion of the other arm being turned downwardly and then laterally to form a fixed, upstanding file holder portion and a transverse base portion, respectively, on the said arm; an inverted U-shaped file clamp element formed on the end portion

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of the said other arm and having its outer upstanding leg
 joined to the free end of the base portion by a bend
 portion, and its inner spring finger spaced from the leg
 and having its terminal end unconnected with and free
 to flex laterally adjacent the base portion; a flat file fric- 5
 tionally engaging the pyrophoric element and positioned
 adjacent to and parallel with the base portion; said file
 having a notch formed in one end to engage the inner,
 lowermost end of the upstanding portion; and a notch
 formed in the opposite end of the file for engagement 10

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with the terminal end of the spring finger, said file being
 releasably held in the holder by the flexure of the spring
 finger outwardly upon forcible insertion of the file be-
 tween said finger and the upstanding file holder portion.

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