Dec. 28, 1954 C. E. KIRBY, SR 2,698,161

LEVER DIE BAR

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Fig. 1.

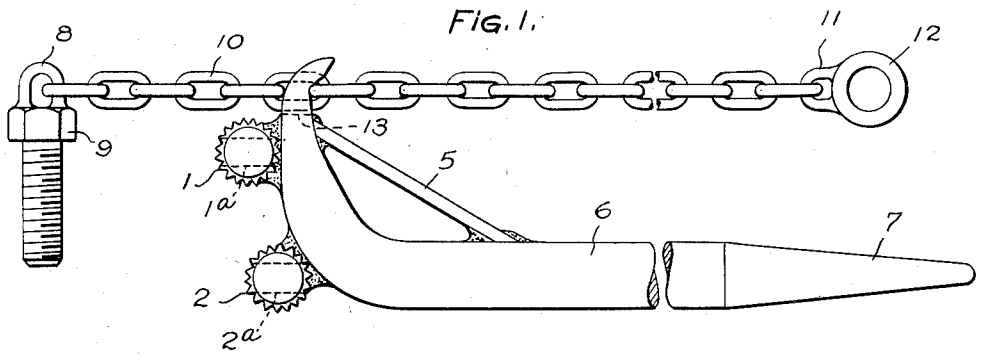


Fig. 2.

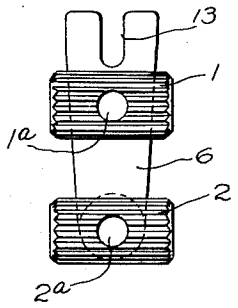


Fig. 4.

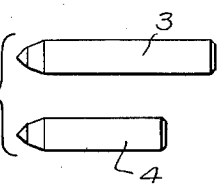
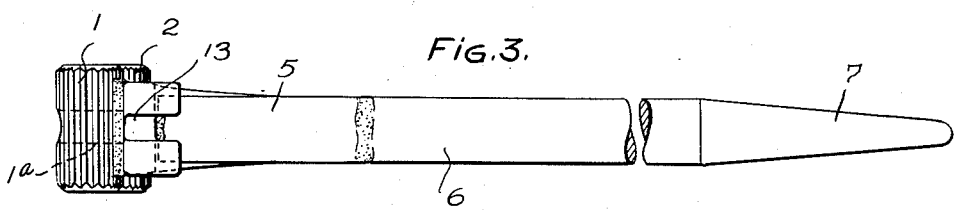


Fig. 3.



INVENTOR.

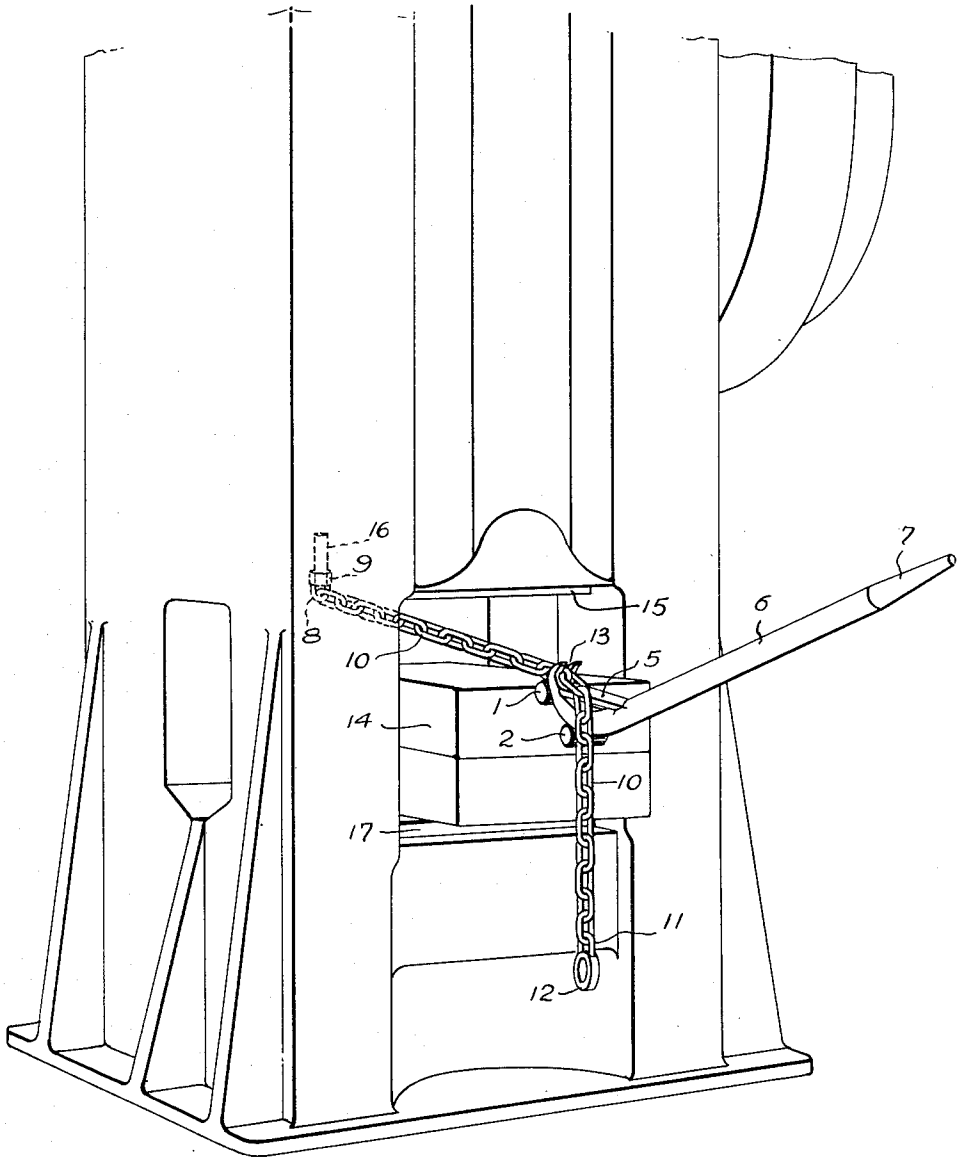
Chester C. Kirby, Sr.

Dec. 28, 1954 C. E. KIRBY, SR 2,698,161

LEVER DIE BAR

Filed March 9, 1951 2 Sheets-Sheet 2

Fig. 5.



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United States Patent Office

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LEVER DIE BAR

Chester E. Kirby, Sr., Flint, Mich.

Application March 9, 1951, Serial No. 214,735

2 Claims. (Cl. 254—130)

This invention relates to improvements in tools, and it is the principal object of the invention to provide a new form of tool for moving or adjusting heavy sheet metal dies or similar objects with little effort, and added convenience to the user.

Other objects will be in part obvious, and in part pointed out hereinafter.

In the more detailed description of the invention which is to follow, reference is made to the accompanying drawings, but it will be understood that only one form of the invention is illustrated therein, and that various changes and modifications can be made without departing from the spirit or scope of the invention, as defined in the claims.

In the drawings:

Figure 1 is a side view of the improved tool.

Figure 2 is an end view of the improved tool with the chain removed.

Figure 3 is a top view of the improved tool with the chain removed.

Figure 4 is a side view of the extension pins that may be used in conjunction with the tool.

Figure 5 is a partial perspective sketch of one of the many applications of the bar.

Referring now more specifically to the drawings, in connection with which like reference characters will designate corresponding parts throughout the several views, **1** represents the top serrated fulcrum, which is a short piece of tool steel circular in cross section which has been straight knurled, and then hardened to a Rockwell reading of C 50–52; **2** is the same as **1**, but is in a different location; **3** and **4** are two hardened tool steel pins that are used in conjunction with the holes **1a** and **2a** in the fulcrums **1** and **2**; **5** represents a cold rolled steel brace which is welded at its opposite ends to the arms of a substantially L-shaped forged steel bar **6**; **7** represents the tapered end of one arm of the bar proper **6** which is so shaped as to be used as an ordinary pry bar; **8** represents a half link of straight link chain which is welded on to a standard cap screw **9**; **10** represents a length of straight link chain with a minimum length of six feet; **11** represents a half link of chain that is welded on to a large flat washer **12**, which has a suitable inside diameter to meet the maximum job requirements; **13** represents a slot in the end of the other or shorter arm of the bar **6** which is designed on the principle of a forked grab hook, so as to obtain maximum purchase on different links of the chain **10**; **14** represents a die or similar heavy object; **15** represents the ram of a press; **16** represents a mounting hole in the ram; **17** represents the bed of the press.

One use of the improved tool will be explained from Figure 5, however I do not wish to be understood as confining the invention to the particular embodiment chosen for illustration herein, nor to the exact construction, arrangement, and adaptation of parts shown and described, but I reserve the right to make any changes and alterations as fairly fall within the spirit and scope of the invention.

In using the improved tool, the cap screw **9** is placed in one of the holes **16** in the ram **15**, and a particular hole being chosen so as to provide an angle suitable for exerting leverage with the bar **6**. The U hook **13** is then engaged on the chain **10** by straddling a link and engaging the end of a link next thereto for obtaining a purchase

of the top fulcrum **1** on the die **14**. The purchase is obtained through the "biting in" of the circumferentially formed serrations on the fulcrum **1**. When pressure is applied to the end **7** of the bar **6**, the die will move. If it is necessary to move the die farther, the lower fulcrum **2** is brought into contact with the die **14**, and the above procedure is repeated. All of this movement has been accomplished with just one purchase of the U hook **13** on the chain **10**. If the die is light enough, an additional leverage can be obtained by placing the tool steel pin **4** into the hole **1a** provided in the fulcrum **1**. Then the longer of the two tool steel pins **3** is placed in the hole **2a** in the lower fulcrum **2** and pressure is again applied to the end **7** of the bar **6**. If the die is too heavy to be moved by the use of the tool steel pins **3** and **4**, a new purchase on other links of the chain **10** will have to be made with the U hook **13**. It will of course be understood that this improved tool, including the length of chain can be made in various sizes to meet the general requirements of the anticipated jobs.

By the use of my improved tool, dies or other heavy objects can be moved or adjusted with a minimum of physical exertion.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A die positioning tool comprising a substantially L-shaped bar having one arm thereof shorter in length than the other, a pair of elongated fulcrum lugs fixed to the outer side of the shorter arm of said bar and arranged transversely of said arm in spaced relation to one another, said lugs having their projecting portions rounded in cross section and their surfaces longitudinally serrated, each of said lugs also having a transverse hole therein with a closed end, pins of different lengths adapted to be partially and removably received in said holes and to project outwardly of said lugs and provide extended fulcrums for said bar, a chain, means for attaching one end of said chain to an object, and a forked hook on the free end of said shorter arm of said bar for straddling and engaging adjacent links along the chain.

2. A tool for sliding dies on the bed of a press to position the dies relative to the bed and ram of the press, said tool comprising a substantially L-shaped bar having one arm thereof shorter than the other, a pair of spaced and transversely extending fulcrum lugs fixed to the outer side of the shorter arm of said bar adapted to engage a side of a die, each of said lugs having a cylindrical hole therein with a closed end, pins of different lengths adapted to be partially and removably received in said holes and to project outwardly of said lugs for engagement with the dies, a chain, means on said chain for attaching one end thereof to the ram of the press, and a forked hook on the free end of the shorter arm of said bar that straddles and engages adjacent links along the chain while edging the die to position by manual movement of the longer arm of the L-shaped bar and engagement of either lug or either pin with the die.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
28,645	Beard	June 12, 1860
436,157	Slocom	Sept. 9, 1890
444,948	Capewell	Jan. 20, 1891
546,521	Gatti	Sept. 17, 1895
815,064	Campbell	Mar. 13, 1906
979,915	Baggett	Dec. 27, 1910
1,293,026	Burgess	Feb. 4, 1919
1,329,458	Cobb	Feb. 3, 1920
1,412,356	Knoop	Apr. 11, 1922
1,793,060	Clements	Feb. 17, 1931
2,087,148	Hempy	July 13, 1937

FOREIGN PATENTS

Number	Country	Date
385,773	Germany	Sept. 7, 1922