No. 848,252. PATENTED MAR. 26, 1907.

J. KITTERMAN.

RIVET DISPLACING DEVICE.

APPLICATION FILED DEC. 27, 1906.

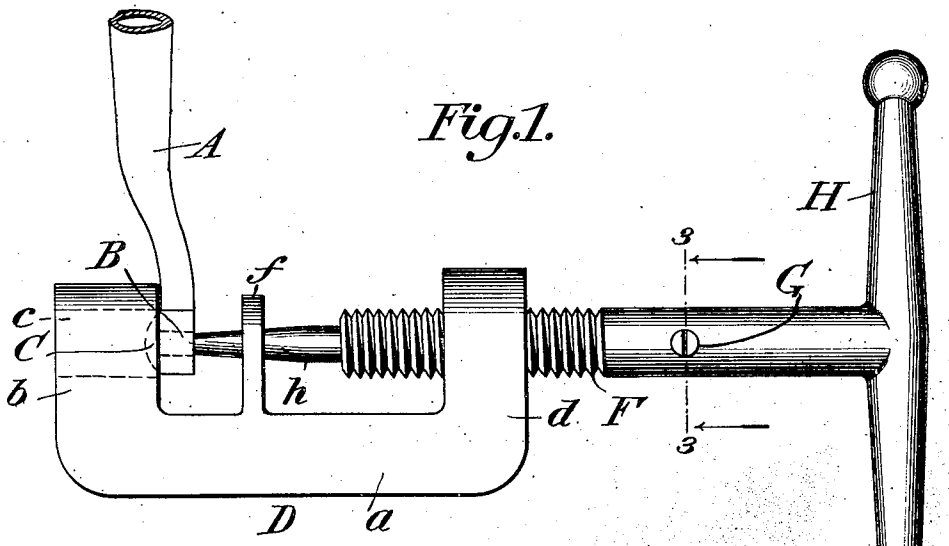



Fig.1.

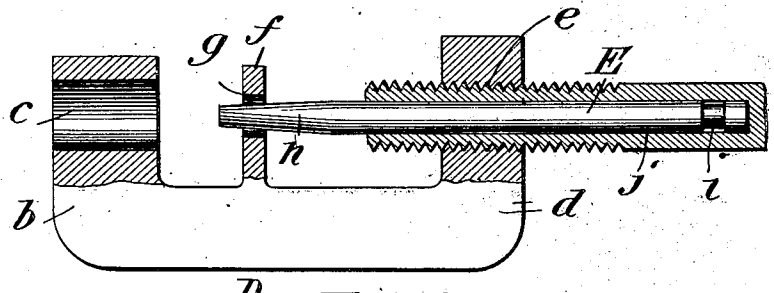
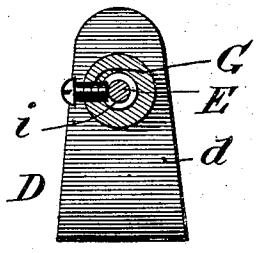



Fig.2.

Fig.3.




Witnesses

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# UNITED STATES PATENT OFFICE.

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## RIVET-DISPLACING DEVICE.

No. 848,252. Specification of Letters Patent. Patented March 26, 1907.

Application filed December 27, 1906. Serial No. 349,712.

*To all whom it may concern:*

Be it known that I, JEROME KITTERMAN, a citizen of the United States, residing at Chillicothe, in the county of Wapello and State of Iowa, have invented new and useful Improvements in Rivet-Displacing Devices, of which the following is a specification.

My invention relates to devices of the pin-removing type; and it seeks to provide a device through the medium of which broken rivets may be expeditiously removed from buggy-bow sockets and this with but little effort on the part of the user of the device and without entailing any injury whatsoever to the buggy-bow socket.

With the foregoing in mind the invention will be fully understood from the following description and claim, when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view illustrating my novel device in side elevation as properly positioned relative to a buggy-bow socket from which a broken rivet is to be removed. Fig. 2 is a detail view, partly in side elevation and partly in longitudinal section, of the forward portion of the device. Fig. 3 is a transverse section taken in the plane indicated by the line 3 3 of Fig. 1 looking in the direction indicated by arrows and showing the pin for displacing the rivets as connected with the screw in such manner that the screw is adapted to turn independent of the pin.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is a portion of a buggy-bow socket from which is to be removed a broken pin B, having at one end the usual head C, and D is the frame of the device, constituting the present and preferred embodiment of my invention. The said frame D is formed in one piece of metal suitable to the function of the device and comprises a main portion *a*, an arm *b*, reaching at a right angle from one end of the main portion *a* and having a bore *c* disposed longitudinally of the device and designed to receive the head of the rivet B after the manner shown in Fig. 1, an arm *d* reaching at a right angle from the opposite end of the main portion *a* and having a longitudinally-disposed threaded aperture *e*, alined with the bore *c*, and an upright *f*, extending upward from the main portion *a* at a point intermediate the arms *b* and *d* and preferably nearest to the arm *b* and having a comparatively small longitudinally-disposed aperture *g*, arranged in alinement with the longitudinal centers of the bore *c* and aperture *e*. In practice the frame D is designed to be used in the position illustrated in Fig. 1, when, as will be readily apparent, the main portion *a* will form a convenient hold for the left hand of the operator and the arms *b* and *d*, as well as the upright *f*, will extend upward from the said main portion *a*. I would have it understood, however, that the frame D may be used in any other position suitable to the purpose of my invention in the discretion of the operator.

E is the rivet-displacing pin of the device, which is preferably of steel. The said pin E is preferably provided with a tapered forward portion *h*, and at a point adjacent to its rear end it has a circumferential groove *i*, Figs. 2 and 3, for a purpose presently set forth. The diameter of the major portion of the pin E is preferably slightly less than that of the guide-aperture *g* in the upright *f*, and hence it will be appreciated that when the pin is moved forward rectilinearly, as hereinafter pointed out, it will be held against lateral deflection by the upright *f* and will be reinforced by said upright while pressed against the rivet to be displaced.

F is the screw of the device, the office of which is to powerfully push the pin E forward. The said screw F is of an exterior diameter to snugly fit in and engage the threaded aperture *e* of frame D, and it is provided with a longitudinal bore *j*, which is of a diameter slightly greater than that of the pin E and of the proportional length illustrated, this latter to permit the rear end of the pin to abut against the end of the bore *j*, so that strain is taken off the pin-securing screw, presently described, when the device is in use.

G is the pin-securing screw, which bears in the screw F and has its inner end arranged in a circumferential groove *i* of the pin E after the manner best shown in Fig. 3. By virtue of this provision the pin E and screw F are connected together so as to enable the latter when retracted to withdraw the forward end of the pin from a buggy-bow socket, and yet it will be observed that when the screw is turned forward through the aperture *e* in the frame D the pin E will also be moved forward, but will not be turned about its axis. On the other hand, the pin E will have

but one movement and that a rectilinear movement, and consequently it will be apparent that when moved forward by the screw the pin E will be found highly efficient in displacing rivets, such as B.

Any suitable means may be resorted to to facilitate turning of the screw F; but I prefer to provide said screw with a shank G, on which is a handle H, through the medium of which the screw may be turned by hand and with the expenditure of but little effort.

In the practical use of my novel device the same is so arranged relative to a buggy-bow socket from which a broken rivet is to be removed that the socket rests at the inner side of the frame-arm *b*, and the head C of the broken rivet B is received in the inner end of the bore *c* in said arm. When the device is placed as stated relative to the buggy-bow socket, the pin E is in the position shown in Fig. 2, and after the described positioning of the device the screw F is turned forward through the aperture *e* in frame-arm *d*, when the pin E, which is moved forward by the screw F, will engage the end of the broken rivet-shank and press the broken rivet out of the socket of the bow, and this without marring or injuring the bow in any manner whatsoever. Subsequent to the displacement of the broken rivet the screw F is turned outward to withdraw the pin E from the socket in the bow, and then the improved device may be removed from the bow.

In addition to the practical advantages hereinbefore ascribed to my novel device it will be noted that the device is compact, easily handled, and expeditiously operated with the expenditure of but little effort and is well adapted to withstand the rough usage to which analogous devices are ordinarily subjected.

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

In a device for the purpose described, the combination with a frame comprising a main portion, an arm reaching laterally from one end of the main portion and having a longitudinal bore, an arm reaching laterally from the opposite end of the main portion and having a longitudinally-disposed, threaded aperture alined with the bore in the first-mentioned arm, and a guide reaching laterally from the main portion, at a point intermediate the arms, and having a smooth aperture comparatively small in diameter alined with the longitudinal centers of the bore and threaded aperture; of a screw bearing in the threaded aperture of the frame and having a longitudinal central bore extending rearward from its forward end and closed at its inner end, a smooth pin, of slightly less diameter than the smooth aperture of the guide on the frame arranged in said aperture and in the bore of the screw and having its rear end arranged to abut against the closed inner end of said bore and coöperating means on the screw and the pin for connecting the screw and the pin while permitting the former to turn independent of the latter.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JEROME KITTERMAN.

Witnesses:
ROSCOE KITTERMAN.
F. M. WADDELL.