Oct. 21, 1924. 1,512,650

J. STROBEL

TEMPER SCREW

Filed Feb. 10, 1923

Fig. 1.

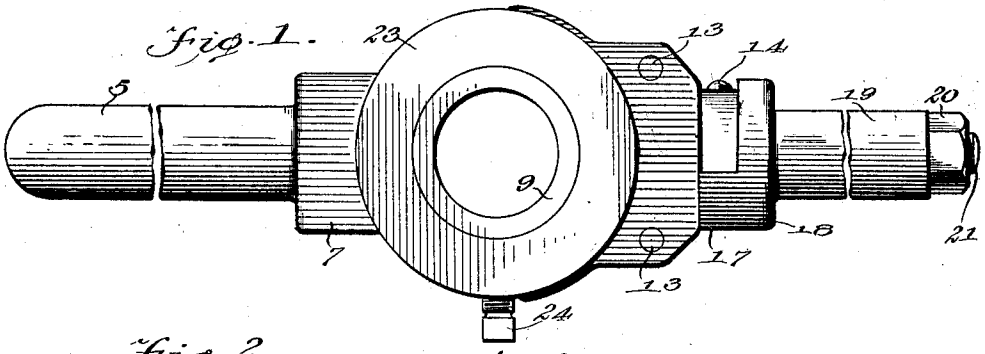


Fig. 2.

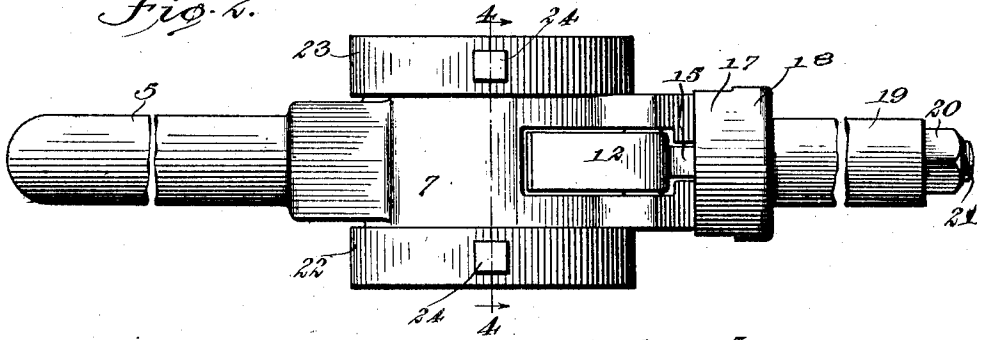


Fig. 3.

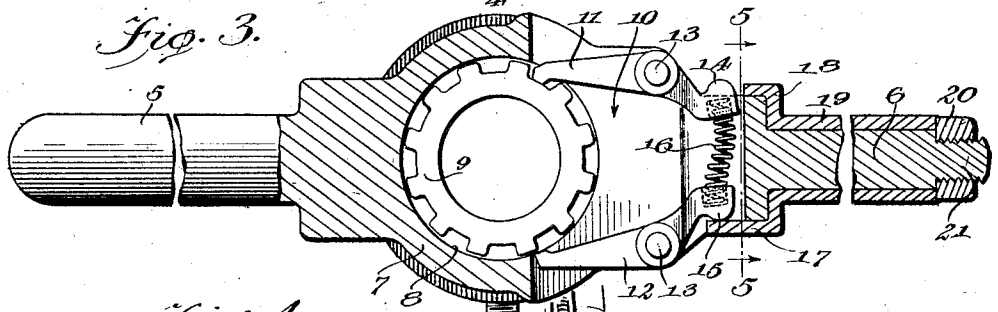


Fig. 4.

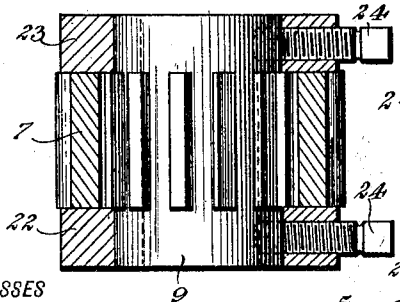
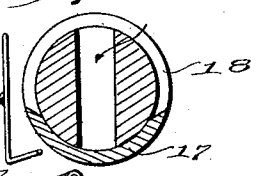


Fig. 5.



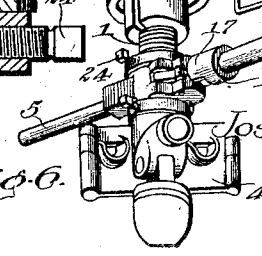


Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH STROBEL, OF TULSA, OKLAHOMA.

TEMPER SCREW.

Application filed February 10, 1923. Serial No. 618,411.

To all whom it may concern:

Be it known that I, JOSEPH STROBEL, a citizen of the United States, and a resident of Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Temper Screws, of which the following is a specification.

My invention relates to improvements in temper screws and consists more particularly in an improvement on the screw handle by which the main screw is raised and lowered.

An object of the invention is to provide a ratchet handle for temper screws which may be adjusted so that either right or left hand turns may be made, or that the handle may be made rigid with the main screw according to the desires of the operator.

A further object of the invention is to provide a ratchet handle for temper screws having pawls which may be engaged either separately or together or released entirely.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawing, in which:

Fig. 1 is a plan view of the improved ratchet handle,

Fig. 2 is a side elevation thereof,

Fig. 3 is a longitudinal section,

Fig. 4 is a detail cross section on the line 4—4 of Fig. 2,

Fig. 5 is a detail cross section on the line 5—5 of Fig. 3 and

Fig. 6 is a detail perspective view of a portion of a temper screw illustrating the application of the improved ratchet handle.

Attention is first directed to Fig. 6 which shows enough of a temper screw to illustrate the application of the invention. As is well known in the art a temper screw is used for the purpose of holding various kinds of tools in drilling a well. The temper screw includes a main screw 1 which has threaded engagement with the bottom holders 2 of the reins 3.

At the bottom of the screw there is a yoke 4 which is adapted to support the cable by which a tool is carried. It is necessary to give the screw 1 a turn at each return stroke of the walking beam (not shown) from which the temper screw is carried. This turn of the screw either raises or lowers the tool, depending on the direction in which it is turned. As the reins 3 and holders 2 are the parts directly suspended from the walking beam, it is quite obvious that a turn of the screw 1 will produce a relative movement thereof and of all carried parts in respect to the holders 2 and reins 3.

The aforesaid turning of the main screw 1 is accomplished by handles 5 and 6. These handles form parts of a head 7 which has a bore 8. This bore is occupied by the ratchet 9 which in turn is carried by the main screw 1. The ratchet is composed of a cylinder (Fig. 4) in the middle of which the teeth are formed leaving the ends smooth for the mounting of a pair of collars.

At one side of the axis of the temper screw the head 7 is recessed to form a chamber 10. This chamber is occupied by pawls 11 and 12 which are pivotally mounted on studs 13 so as to be capable of rocking in respect to the ratchet 9. The outermost ends of the pawls have rounded heads 14 and 15 which are adapted to be spread apart by a spring 16.

When spread apart at the heads 14 and 15, the pawls 11 and 12 will both engage the ratchet 9. Whether the pawls are free to do this, however, is controlled by the flange 17 of a collar 18 on the sleeve 19. The handle 6, by which this sleeve is carried, is reduced so that the addition of the sleeve will make both handles appear as of the same diameter. This sleeve is mounted on the handle 6 and is kept in place by a nut 20 on the threaded end 21 of this handle. The collar 18 rides on the circular shoulder formed by the reduction of the handle 6. The sleeve is free to turn, and the reader can see at once that the flange 17 is narrow enough (Fig. 5) to avoid both rounded heads 14 and 15 (should the flange be turned under) and therefore make it possible for both pawls 11 and 12 to engage the ratchet at once and produce a perfectly rigid connection between the ratchet handle and the ratchet 9.

Should the flange 17 be turned to engage the head 15 of the pawl 12, that pawl will be held from engagement with the ratchet 9 making it possible to perform a counter clockwise turning of the ratchet 9 through the instrumentality of the pawl 11. On the other hand, should the flange 17 be turned around to engage the rounded head 14 of the pawl 11, only the pawl 12 will then function, and in this instance the operation of the ratchet handle will cause a clockwise turning of the ratchet 9.

It is to be observed that the ratchet 9

carries two collars 22 and 23. These are of a sufficient thickness to provide an ample supporting flange for the head 7 which is movable between them and around the ratchet 9. These collars may be affixed to the ratchet 9 in any suitable way, set screws 24 (Fig. 4) being illustrated as an example. In practice, the lower collar 22 is sweated in place on the ratchet 9. It is preferable that the fastening of the collar 23 be left permanent because there are times when it is desired to remove the collar 23 so that the ratchet handle in turn may be taken off.

While the construction and arrangement of the improved ratchet handle is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claim.

I claim:—

In combination with a temper screw, a ratchet composed of a toothed cylinder having smooth ends carried by the screw, a double handle having a solid medial head provided with a bore receiving said ratchet and a communicating chamber at one side, one of the handles being reduced and thereby forming a circular shoulder, a collar fastened on each of the smooth ends to provide holding means on which said head turns, a pair of pawls pivoted in said chamber and having rounded heads beyond the pivots, a spring between the heads pressing them apart and tending to move the pawls into engagement with the ratchet, a sleeve revolubly mounted on the reduced handle, said sleeve having a circular collar riding said shoulder and having a flange adapted to engage either one of the rounded heads or to be moved out of engagement with both permitting the spring to move one of the pawls into contact with the ratchet or permit both of the pawls to engage so as to produce a rigid connection, and a threaded end on said reduced handle carrying a nut to hold said sleeve in place.

JOSEPH STROBEL.