M. FRIDAY.

NIPPERS.

APPLICATION FILED DEC. 2, 1908.

938,376. Patented Oct. 26, 1909.

Fig. 1.

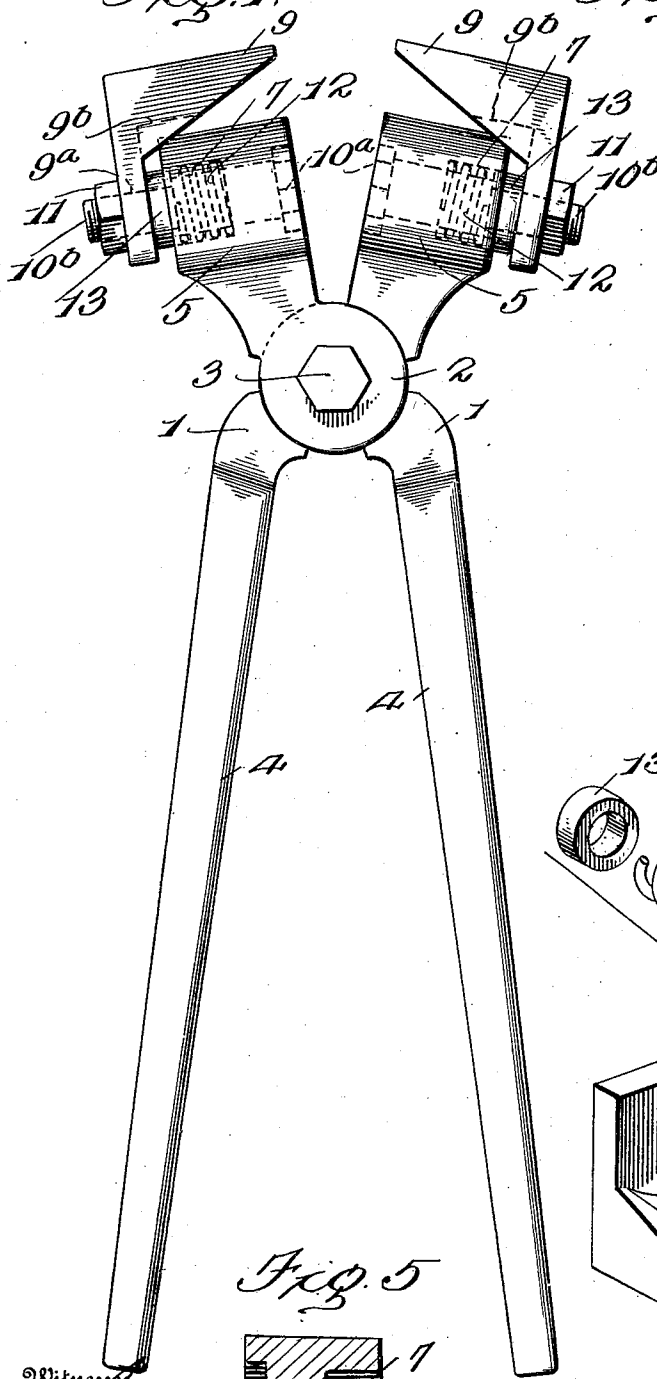


Fig. 2.

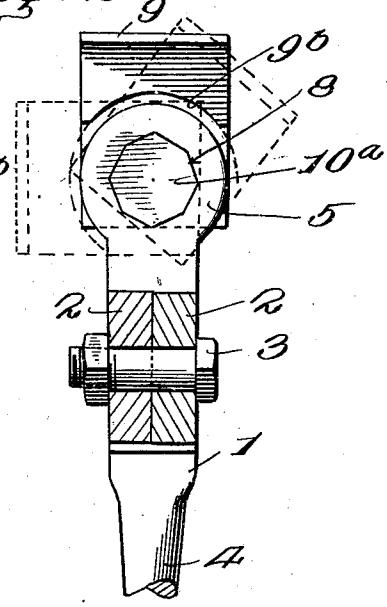


Fig. 3

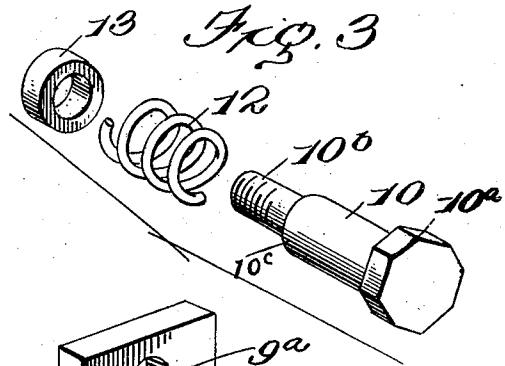


Fig. 4.

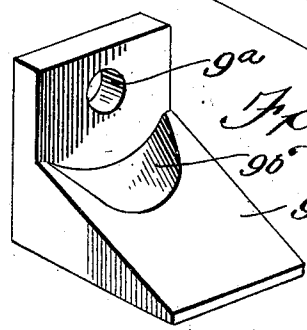
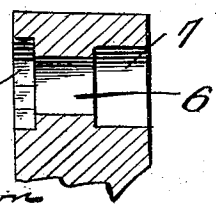


Fig. 5



Witnesses

Inventor

Marion Friday

By Hall & Lacy, Attorneys

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARTON FRIDAY, OF BLUFFS, ILLINOIS.

NIPPERS.

938,376. Specification of Letters Patent. Patented Oct. 26, 1909.

Application filed December 2, 1908. Serial No. 465,623.

To all whom it may concern:

Be it known that I, MARTON FRIDAY, a citizen of the United States, residing at Bluffs, in the county of Scott and State of Illinois, have invented certain new and useful Improvements in Nippers, of which the following is a specification.

The invention relates to improvements in that class of implements commonly styled pincers and provides particularly a special construction of coöperating jaws which may be angularly disposed to the plane of the handles and manipulated to grip the object being operated upon.

The invention specially resides in the construction of the jaw members, as above premised, and in special means whereby said jaw members are held in their normal and angularly disposed positions relative to the handles.

In implements of this character, the gripping and retaining efficiency combined with simplicity and durability are paramount features of construction and the present invention is adapted to meet these requirements and to provide another feature equally advantageous and characterized by the laterally adjustable jaw members, resulting in an increased gripping capacity of the implement.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a side elevation of the tool; Fig. 2 is a vertical longitudinal section taken through the pivotal point of the handles; Fig. 3 is an enlarged detail illustration of the parts comprising the pivot and retaining connection of the jaw members; Fig. 4 is an enlarged detail view of one of the jaw members; and, Fig. 5 is a detail illustration hereinafter described.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates symmetrically formed bars, made preferably of metal, each of which is provided intermediate its extremities with a circular recessed portion. These recessed portions extend half way into the bar and are each provided with a central opening. The said recessed portion, and the central opening of one bar corresponds in size and shape with the central opening of the other bar, that is to say, the bars are symmetrically and similarly formed in every respect and when assembled the recessed portions will dove-tail or fit together, and by passing a headed pin 3 through the central openings upon one side of one of the bars and properly securing the end of said pin upon the exposed side of the opposing bar, a smooth, neat, and strong pivot or joint is formed.

The bars 1 from their pivotal point or circular recessed portion 2 are extended at one extremity to form handles 4 designed for the manipulation of the implement, and the opposite extremities are formed with elongated cylindrical members 5 slightly extended longitudinally from said recessed portions and in slightly offset relation to the line of the handles 4. These elongated cylindrical members, (Fig. 5) are provided with longitudinal openings 6 circular in cross section and enlarged at one end as indicated at 7. The opening 6 at the opposite end of the elongated member is also enlarged as indicated at 8 and of angular formation in cross section, the purposes of which will hereinafter be more specifically described.

The numeral 9 designates adjustable jaw members of angular formation provided with apertures 9^a, (Fig. 4.), and pivotally secured to the outer ends of the elongated members 5 by pivot pins 10. Said pivot pins coöperating with the elongated members 5 constitute the adjustable retaining means for the jaws 9, and are provided with angular heads 10^a which when the several parts are assembled are seated in the angular openings 8 flush with the inner ends of said elongated members. In this position the pivot pins 10 protrude through the openings 6, enlarged portions 7 of said openings and apertures 9^a of the jaw members, and are secured as by nuts 11 screwed on the reduced threaded ends 10^b of the pivot pins, while nuts clamp the jaw members between them and the shoulder 10^c. Spiral springs 12 surround the pivot pins within the enlarged portions 7 of the openings 6, the tension of said springs at one end being directed against stops or collars 13 carried by the pivot pins upon the reduced end portions 10^b, and interposed between the jaws 9 and ends of the elongated members 5, and at the opposite ends against the shoulders formed

upon the inner surfaces of the elongated members by the enlarged portions 7 of the openings 6.

As illustrated in Fig. 4 of the drawings the jaws 9 are provided with concave recessed portions 9^b which in the operation of the implement permit relative rotative movement of the jaws and elongated members when it is desired to change their relative angular positions.

In the practical operation of the implement the jaws 9 may be turned from a normal perpendicular to an angularly disposed position relative to the elongated members 5 and handles 4, and the number, extent and degree of such angular adjustments is determined by the angular formation of the openings 8 and the coöperating angular heads 10^a of the pins 10. The jaws 9 are held rigid with the pins 10 by the pressure of the nuts 11 clamping the angular extensions of the jaws against the shoulder 10^c, and the angular or inclined positions of the jaws, indicated by the dotted line positions illustrated in Fig. 2, are effected by forcing the angular headed ends 10^a of the pins from the seats or angular openings 8 whereupon said pins and jaws may be turned in either direction, and the pins returned to a seated position within the elongated members 5 by the spring 12 upon release of pressure.

From the foregoing description in connection with the accompanying drawings, it will be apparent that the adjustable arrangement of the jaws 9 to angular or inclined positions relative to the operating handles 4, will greatly increase the usefulness of the implement, in that gripping positions may be obtained upon inconveniently located objects not otherwise permitted by the perpendicular or normal operative position of said jaws.

Having thus described the invention what I claim as new is:

1. An implement of the character described, having operating handles pivotally connected together, each of said handles having jaw-carrying members at one end, jaws axially rotatable about the jaw-carrying members, and the jaw-carrying members and the jaws having mutually contacting faces having means whereby they are held in engagement with each other against relative rotation, means whereby the jaws may be longitudinally moved out of locking engagement with the jaw-carrying members, and resilient means for urging them into said locking engagement.

2. An implement of the character described, having opposed pivotally connected handles, each of said handles, having a jaw-engaging member at one end, jaws axially rotatable about the jaw-carrying members, the said jaws having bolts connected therewith extending through the jaw-carrying members, the jaw-carrying members and said bolts having mutually engaging interlocking faces, and a spring acting to hold the jaw-carrying members and said bolts in engagement with each other.

3. In an implement of the character described comprising operating handles pivotally connected and provided at one of their ends with jaw carrying members, said jaw carrying members comprising elongated cylindrical portions provided with longitudinal openings, said openings at one end being of angular formation, pins provided with an angular portion designed to coöperate with the angular openings of said jaw carrying members, springs surrounding said pins within said jaw carrying members, and jaw members carried by said pins and locked in set position relative to the jaw carrying members.

4. An implement of the character described, comprising operating handles pivotally connected to each other and each provided at its end with a tubular jaw-carrying member, the axis of said member being transverse to the pivotal axis of the handle, a bolt passing through said tubular jaw-carrying members, a jaw carried on the other end of said bolt, an angular head formed at one end of said bolt and engaging with an angular recess in the jaw-carrying member, and a spring surrounding the bolt and normally holding the head thereof in its locked engagement, said bolt being shiftable against the force of the spring to withdraw the head thereof from its locked engagement.

5. An implement of the character described, comprising operating handles pivotally connected to each other and provided at one of their ends with jaw-carrying members, a jaw attached to each of said members for a rotative movement thereabout and a longitudinally shiftable movement, means whereby when the jaw is in one of its longitudinally shifted positions, the jaw-carrying member and the jaw shall be interlocked against relative rotative movement, and a spring permitting the shifting of the jaw out of its locking engagement, but acting to hold the jaw in locked engagement with the carrying member.

In testimony whereof I affix my signature in presence of two witnesses.

MARTON FRIDAY. [L. S.]

Witnesses:

JOHN KNOEPPEL,

SYLVESTER ALLEN.