(No Model.)

N. H. GRIFFITH.

WRENCH.

No. 331,053. Patented Nov. 24, 1885.

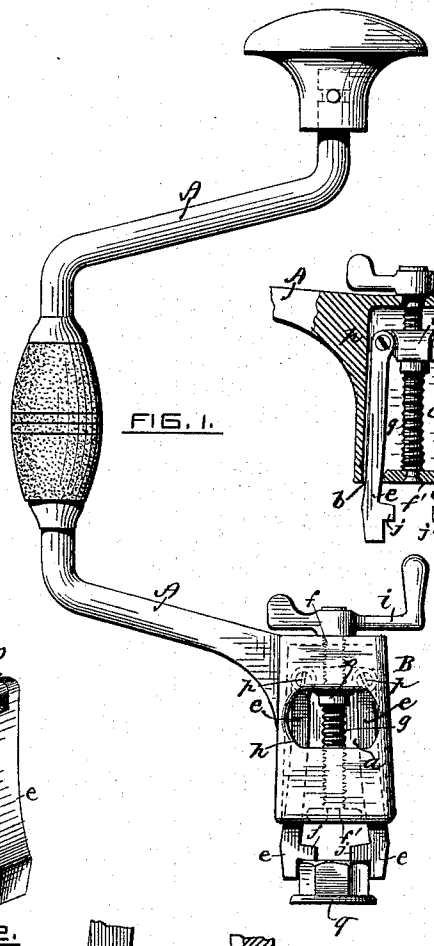


FIG. 1.

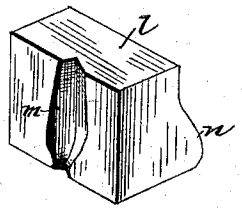


FIG. 7.

FIG. 3.

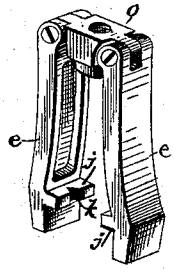


FIG. 2.

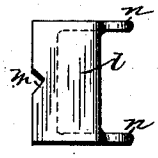


FIG. 6.

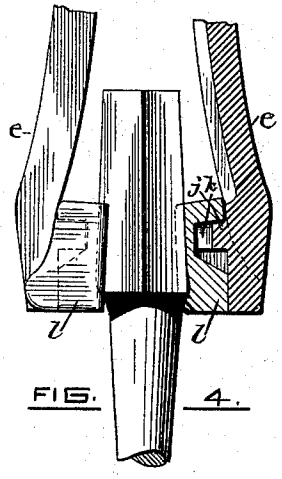


FIG. 4.

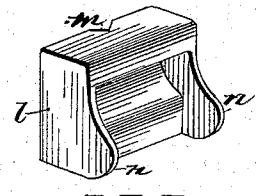


FIG. 5.

WITNESSES:

Chas. F. Schmeh

Joseph J. Scholfield.

INVENTOR:

Nathan H. Griffith

per S. Scholfield

Attorney

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

NATHAN H. GRIFFITH, OF PROVIDENCE, RHODE ISLAND.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 331,053, dated November 24, 1885.

Application filed July 30, 1885. Serial No. 173,097. (No model.)

To all whom it may concern:

Be it known that I, NATHAN H. GRIFFITH, of Providence, in the State of Rhode Island, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My improvement is more especially designed as a carriage-wrench, and it may also be advantageously employed for holding a boring-bit or other tool; and it consists in the improved combination of a screw with the expanding jaws, and also in the combination therewith of a holding-shoe, as hereinafter fully set forth.

Figure 1 is a side elevation of my improved wrench adapted for carriage use. Fig. 2 is a perspective view of the expanding jaws separated from the body of the wrench. Fig. 3 is a detail section showing the operating mechanism of the jaws. Fig. 4 is a detail view, partly in section, showing the jaws with their attached holding-shoes adapted to hold the shank of a boring-bit. Fig. 5 is a perspective view of the holding-shoe adapted for attachment to the jaws of the wrench. Fig. 6 is a top view of the same. Fig. 7 is a perspective view of the same, showing the groove adapted to receive the shank of the boring-bit.

In the accompanying drawings, A is the handle portion of the wrench, which may be either made straight, as in an ordinary monkey-wrench, or be made in the form of a brace, as shown in Fig. 1. The handle A is provided with a socket portion, B, within the chamber *a* of which is placed the jaw mechanism, the said socket portion being provided with the openings *b b*, adapted to receive the jaws *e e*, and with the perforations *f f'*, adapted to form holding-bearings for the screw *g*, which serves to operate the jaws. The socket portion B is provided at one side with a slot-opening, *h*, in order to secure ready access to the chamber *a*, for the purpose of putting the jaw mechanism together. At the upper end of the screw is secured the turning-handle *i*, and the lower end of the screw is held in the perforation *f'* by slightly spreading the extreme end of the screw or otherwise.

The jaws *e e* are provided with the inwardly-projecting lug *j*, which is made with a notch, *k*, adapted to embrace the corner of a nut, or the square shank of a boring-bit or other tool; and by means of the lugs *j*, I attach to the jaws *e e* the shoes *l l*, provided with an angular groove, *m*, (shown in Fig. 1,) which is adapted to embrace the opposite corners of the shank of a boring-bit and to hold the same against forcible endwise withdrawal, as shown in Fig. 4, the shoes *l l* being prevented from moving laterally by means of the projecting ears *n n*.

In putting the parts together, the jaws *e e* are first passed upward through the openings *b b*. The yoke-nut *o* is then inserted within the chamber *a* through the opening *h* and secured to the jaws by means of the joint-screws *p*. The screw *g* is then passed loosely through the perforation *f* at the upper end of the socket portion B and screwed into the yoke-nut *o*, after which the lower end of the screw is headed over at the outer side of the perforation *f'*, as shown in Fig. 3.

When used as a carriage-wrench, the nut *o*, Fig. 1, will be tightly held, so that there can be no danger of dropping the same or of soiling the fingers, and the shoes *l l*, provided with the angular grooves *m*, are admirably adapted for holding the shank of a boring-bit, as shown in Fig. 4.

When the jaws *e e* are made to move outward by means of the screw, they will be caused to separate from each other, and thus nuts of various sizes may be operated upon by means of the same wrench, and by reason of the inward curving of the jaws I am enabled, with the construction employed, to obtain a comparatively rapid opening and closing movement; but when the parts are otherwise properly proportioned a pair of straight jaws may be employed.

I claim as my invention—

1. The combination of the handle, the socket provided at its outer end with holding-openings for the jaws, the operating-screw having a bearing at the opposite ends of the socket, and the yoke-nut with the opposite jaws held in the openings of the socket and jointed to the yoke-nut, substantially as described.

2. The combination of the handle, the socket provided with holding-openings for the jaws, the operating-screw, and the yoke-nut with the opposite jaws held in the openings of the

socket and jointed to the yoke-nut, and the shoes grooved on their adjacent faces and adapted to the projecting lugs of the jaws, substantially as described.

3. The combination of the handle, the socket provided at its outer end with holding-openings for the jaws, and with the side opening, *h*, the operating-screw having a bearing at the opposite ends of the socket, the yoke-nut, and the opposite jaws held in the openings of the socket and jointed to the yoke-nut, and also provided with inwardly-projecting lugs, substantially as described.

NATHAN H. GRIFFITH.

Witnesses:
SOCRATES SCHOLFIELD,
JOSEPH J. SCHOLFIELD.