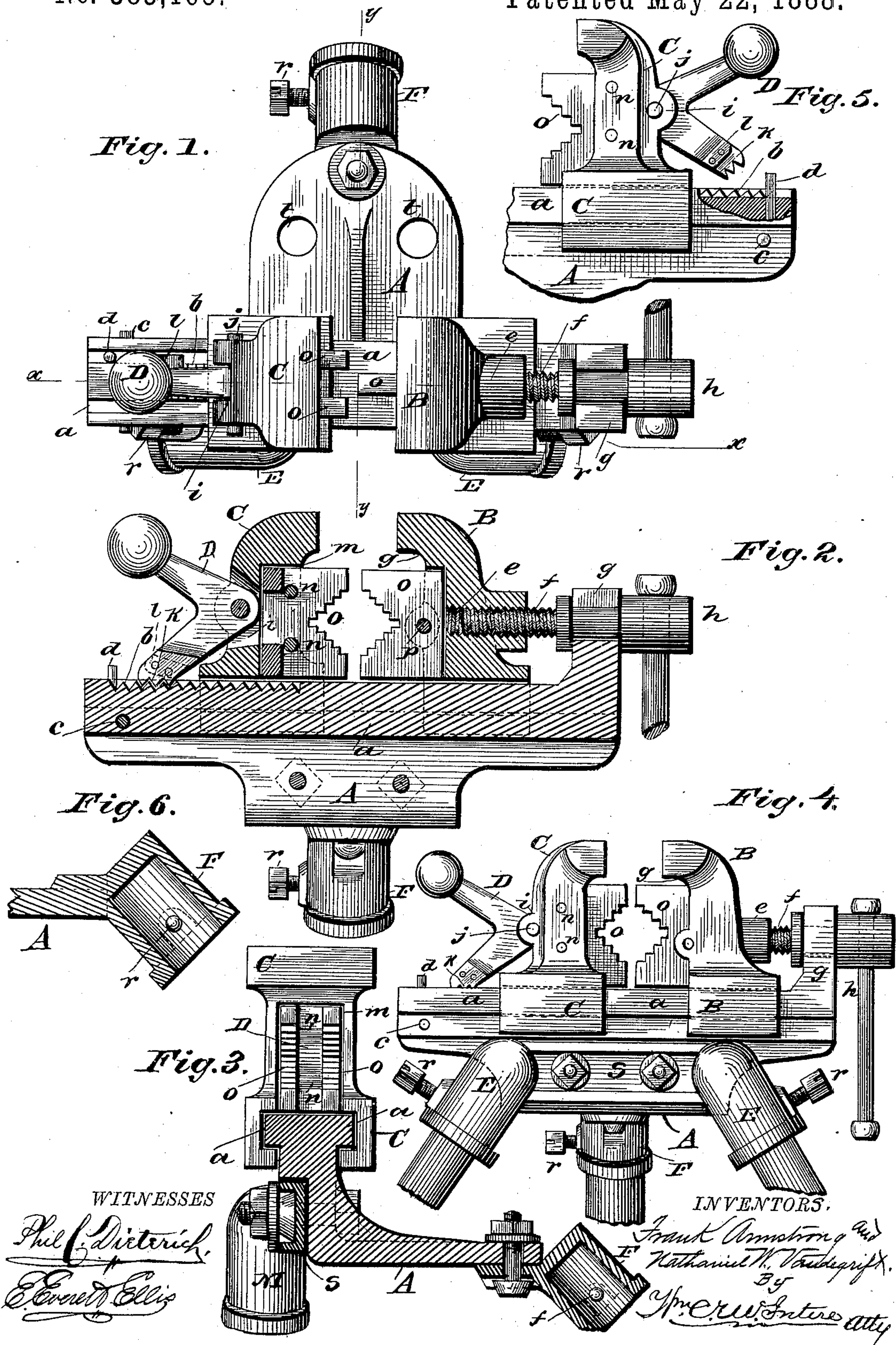


(No Model.)

F. ARMSTRONG & N. W. VANDEGRIFT.
 VISE.

No. 383,165.

Patented May 22, 1888.



UNITED STATES PATENT OFFICE.

FRANK ARMSTRONG AND NATHANIEL W. VANDEGRIFT, OF BRIDGEPORT,
CONNECTICUT, ASSIGNORS TO THE ARMSTRONG MANUFACTURING COM-
PANY, OF SAME PLACE.

WISE.

SPECIFICATION forming part of Letters Patent No. 383,165, dated May 22, 1888.

Application filed January 15, 1887. Serial No. 224,470. (No model.)

To all whom it may concern:

Be it known that we, FRANK ARMSTRONG and NATHANIEL W. VANDEGRIFT, citizens of the United States, residing at Bridgeport, Fairfield county, Connecticut, have invented new and useful Improvements in Pipe or Rod Vises, of which the following is a specification.

This invention relates to certain new and useful improvements in pipe or rod vises; and it consists in the arrangement and combinations of parts, as will hereinafter be more particularly described, and pointed out in the claim.

The principal object of the invention is to provide a vise of the character referred to which is so organized as to either be employed as a portable or stationary bench-vise, other objects more fully appearing from the description hereinafter following.

Before proceeding with the details of construction and arrangement of our invention we desire to state that we are aware that a pipe or rod vise possessing these combined characteristics is not new, broadly; but, so far as our knowledge on the subject extends, we are not aware that a vise possessing our elementary features of improvement has ever heretofore been devised.

Referring to the accompanying drawings, Figure 1 represents a top or plan view of vise embodying the features of our invention, and Fig. 2 is a longitudinal sectional view thereof on the line *xx*. Fig. 3 is a transverse sectional view on the line *yy*, Fig. 1. Fig. 4 is a vertical front elevation of the vise by which to more clearly indicate the arrangement of leg-sockets. Fig. 5 represents in detail and partly in section a detached portion of the frame, together with the adjustable stationary jaw and the devices for holding it in its positions of adjustment; and Fig. 6 is a sectional detail illustrating the manner of formation of the rear leg-socket as an integral part of the bed or base plate.

Reference being had to these several parts by the letters marked thereon, A represents the base or bed plate of our vise, the same being cast or formed with an upright longitudinal frame or

rail, *a*, having notches or serrations *b* in its top for a portion of its length, the said rail having extending therethrough at near one end a stop-pin, *c*, for the adjustable jaw and an upright pin, *d*, located at such a point relatively as that when the pivoted pawl or detent has been lifted and the movable jaw moved to such position outwardly as would bring the pawl to a point a degree beyond that at which all of its teeth would be engaged by the last teeth of the rail, by virtue of a lug or shoulder, *l*, on one side thereof, the said pawl when lowered will not be allowed to descend far enough to have any of its teeth engaged, thus obviating any breakage of teeth of the pawl, as is apt to occur if only a portion thereof be held to engagement in the use or operation of the vise.

B represents the movable jaw, which surrounds and travels the rail *b*, as shown, and which is screw-threaded internally, as at *e*, for the reception of the operating screw *f*, having its bearing in the part *g* of the frame or rail *a*, and provided with a suitable handle, *h*. The said jaw is caused to move back or forth, according to the direction of rotation of the screw, as is evident.

C represents the stationary adjustable jaw, fitted to the rail in like manner as the jaw B, the said jaw being cast with a recess, *i*, between the walls of which is pivotally held by a pin, *j*, the weighted pawl or detent D, provided on the under side of its lower end with teeth *k*, for taking into or engaging the notches or serrations *b* in the top of the rail. The tendency of the weighted end of the detent D is to throw its lower end downward and inward; hence it will be seen that the jaw C may be moved forward toward the other jaw without lifting the detent; but on a pressure being brought to bear upon the said jaw C from the opposite or reverse direction the detent will be firmly held to its engagement with the teeth of the rail. The said pivoted pawl or detent is provided with a small lug or shoulder, *l*, on one side of its lower end, which is for the purpose of resting upon the upright pin *d* and maintaining the teeth of the pawl out of engagement entirely when the said pawl has

been brought to a point a degree beyond that at which all of its teeth would be engaged by the teeth of the rail.

Held in recesses *m* of the jaw C by pins *n n* are two supplemental jaws, *o o*, while secured in like manner within the jaw B by pin *p* is a similar supplemental jaw, the latter designed to enter between the two former, and each of the said supplemental jaws is formed with angular notched edges for gripping and holding the pipe or other work. The said jaws *o o* and *p* can be removed when it is desired, thus enabling the vise to be used for other purposes than for holding pipes and rods.

It will be seen from the foregoing description that the jaws B and C can be so regulated and adjusted as to suit all sizes of work; and that at whatever position brought the latter jaw will always be firmly held or secured against the pressure necessary to be exerted for holding the work.

It should be here stated that the sides of the jaw B are so recessed or formed at *g* as that the supplemental jaws *o o* will be received or accommodated when the opposing sides of the two main jaws are brought together.

E E represent two metal sockets arranged at the front of the vise, and F represents a similar socket arranged to the rear of the plate A about centrally of the others. These sockets diverge outwardly and downwardly, and are for the reception of legs, which form a tripod for the support of the device, each socket being provided with a set-screw, *r*, for tightening the legs in place. We may either cast these sockets with or make them detachable from the plate; but we prefer to cast or form them separate and attach them to the plate,

the drawings herein representing the two front sockets as being cast with a strip, *s*, connecting the two, and by which they are secured to the plate A, beneath the rail, by means of bolts and nuts, as shown, the rear socket, F, being secured to the under side of the plate by a bolt and nut in like manner. In casting the latter socket with the plate we prefer that its point of juncture or unison therewith shall be above instead of beneath the same, as is the case when formed separate and attached. The plate A is formed with suitable holes or openings, *t*, by which the vise may be secured to a bench or like support when the leg sockets are detached.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a pipe or rod vise, the bed-plate A, formed with the longitudinal rail notched or serrated on its top surface and having the upright pin *d*, in combination with downwardly-diverging sockets removably secured to said bed-plate and adapted to receive supporting legs, a movable jaw working on the rail and operated by a screw, and a stationary adjustable jaw having a pawl engaging the teeth of the rail and provided on one of its sides with the lug or shoulder *l*, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

FRANK ARMSTRONG.
NATHANIEL W. VANDEGRIFT.

Witnesses:

ISAAC C. FOWLER,
F. T. STAPLES.