

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 combina-
tions of parts, as will hereinafter be more par-
ticularly 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 descrip-
tion hereinafter following.

Before proceeding with the details of con-
struction and arrangement of our invention
we desire to state that we are aware that a pipe
or rod vise possessing these combined charac-
teristics 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 *x x*. Fig. 3 is a transverse sectional
view on the line *y y*, Fig. 1. Fig. 4 is a verti-
cal 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, to-
gether 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 hav-
ing extending therethrough at near one end a
stop-pin, *c*, for the adjustable jaw and an up-
right 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 en-
gagement in the use or operation of the vise.

B represents the movable jaw, which sur-
rounds 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
and provided with a suitable handle, *h*. The
said jaw is caused to move back or forth, ac-
cording 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*, be-
tween the walls of which is pivotally held by
a pin, *j*, the weighted pawl or detent D, pro-
vided 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 in-
ward; 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 de-
tent 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 shoul-
der, *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.