

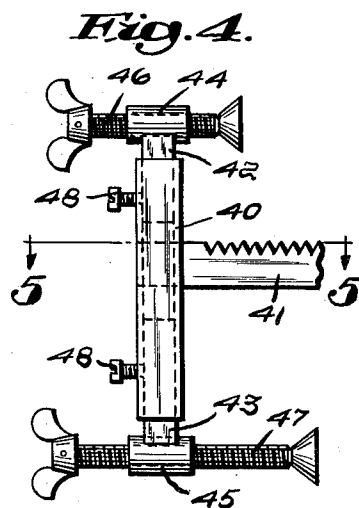
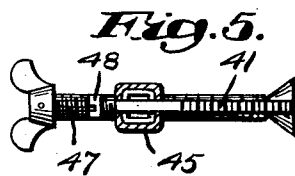
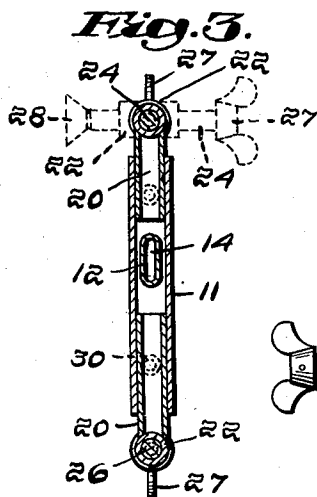
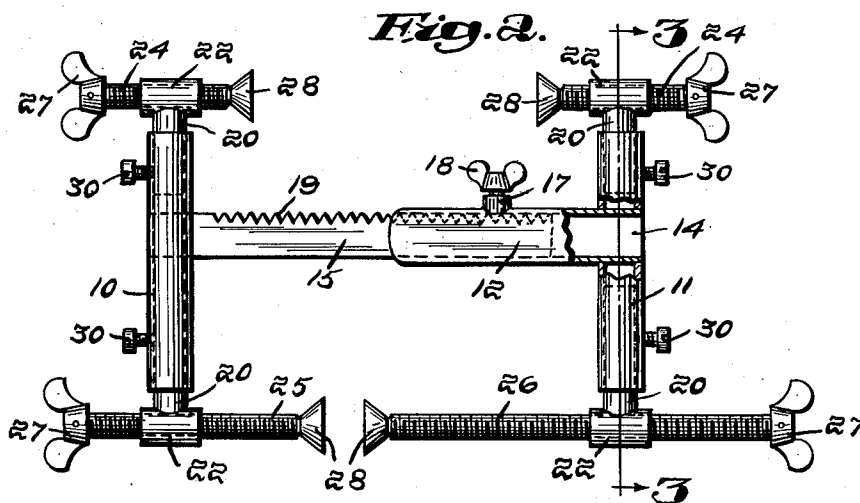
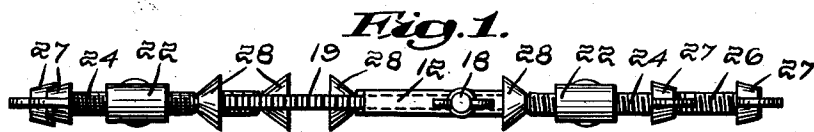
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2,568,233

ADJUSTABLE CLAMPING AND SPREADING FIXTURE

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ADJUSTABLE CLAMPING AND SPREADING
FIXTURE

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1 Claim. (Cl. 144—299)

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My invention relates generally to clamps, and more particularly to an improved clamping device constructed and arranged with universal adjustability and in which objects may be retained securely even though disposed in different planes.

Heretofore, various types of clamps have been devised which embody certain features of combination clamping, but so far as I am aware none of these prior units have combined universal adjustability in its component parts.

The main object of my invention, therefore, is to provide a clamping unit that is much more comprehensive in scope and utility than such prior devices and comprises a plurality of clamping members that are universally adjustable, interchangeable, and capable of use for clamping objects of various shapes and contours.

A further prime object of my invention resides in the provision of adjustable means whereby the lateral and horizontal members sustaining and supporting the clamps may be easily extended or contracted to compensate for the differences in size and shape of the respective objects to be clamped.

Another important object of my invention pertains to the novel and unique details of construction whereby my clamp may be readily adjusted and adapted for use as a jacking device.

Further objects of my invention involve the extreme simplicity of my clamp construction, the ease with which it may be operated, and its inexpensive cost of manufacture.

Further objects, advantages, and details of construction will be hereinafter more fully pointed out in the accompanying description and defined in the appended claim.

Referring now to the drawings illustrating referred embodiments of my invention:

Fig. 1 is a plan view of my novel clamp;

Fig. 2 is a side elevational view of the same;

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary side elevational view showing a modified form of my clamp having a square-shaped barrel member, and

Fig. 5 is a cross-sectional view on the line 5—5 of Fig. 4.

In the drawings, 10 and 11 designate a pair of socket members duly connected by an adjustable cross-construction comprising a sleeve element 12 welded or otherwise strongly secured in a suitable recess 14 cut centrally of the socket 11 and extending therethru, and a cooperating bar 15 similarly secured in a slot 16 formed centrally in the socket 10 but cut thru one surface only thereof.

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Said bar 15 is adapted to slide freely in the sleeve 12, and the end thereof may extend thru the recess 14 and beyond the socket 11.

To secure and lock the bar 15 with the sleeve 12 at any desired point, thus controlling the distance between the sockets 10 and 11, I prefer to weld or otherwise attach on the top surface of the sleeve 12 a lug 17 suitably threaded to receive the correspondingly threaded shank of a wing nut screw 18, the base of which screw is appropriately shaped to impinge upon the saw-toothed edge 19 of said bar 15 in locking association therewith.

Of course, if desired, and for the purpose of effecting more comprehensive transverse adjustment, I may employ a cross-construction having an open sleeve member and a cooperating bar, the two interlocked by an encircling strap member slidably mounted thereabout, and carrying a screw member the shank of which is adapted to fit thru the open top of the sleeve and to impinge upon the suitably notched top edge of the bar. Duly formed to fit slidably in each end of both socket members 10 and 11 are the four stem portions 20—20 having identical transverse barrel members 22—22, which barrels are suitably threaded and individually adapted to carry a correspondingly threaded clamping screw. Each of these clamping screws may be of identical length, such as shown by the screws 24—24, or they may be of varying lengths as illustrated by the screws 25 and 26, each of said four screws being provided at one end with a thumb nut 27, and at the opposite end with a pivoted contact piece 28.

To insure simple and expedient locking adjustment between each stem 20 and the sockets 10 and 11, I provide a plurality of set screws 30—30, each screw adapted to engage a correspondingly tapped hole drilled in each socket 10 and 11 and relatively positioned to coact with each respective stem 20.

In Figs. 4 and 5 I illustrate a modification of my invention, wherein I present a square-shaped socket member 40 having strongly secured therein one end of a cross-bar 41. Slidably fitted into each end of said socket 40 is a pair of similarly square-shaped stems 42 and 43, respectively, formed with threaded barrel portions 44 and 45. As explained above, said barrels 44 and 45 carry suitable clamping members 46 and 47, and set screws 48—48 are provided to fit into tapped holes in the socket 40 to adjustably lock said stems 42 and 43 therewith, as desired.

It will thus be seen that I have devised a novel and handy universal clamp which is uniquely

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constructed and arranged so that the clamping members may be readily adjusted in any direction, in pairs or individually, so that objects of varying sizes, shapes, and contours may be effectively and securely clamped and held in desired position.

Also my adjustable clamping and spreading fixture can be employed as a lifting jack by positioning the contact parts 28 of the clamping members to rest on the floor, workbench, table, or other support, and then turning the thumb nuts.

Of course it will be appreciated that my clamp may be made in various sizes as the occasion may demand, being applicable as an accessory to any machinist's kit or as a heavy-duty clamping or jacking unit when large and bulky objects are involved. And it will be further understood that each component part, all parts together, or any individual member of my unit may be lengthened or shortened, as deemed practicable, without departing from the spirit of the invention.

I claim:

A combined jack and multi-adjustable clamping and spreading fixture of the kind described, comprising a lengthwise telescoping member having two interlocking parts, and means to secure said parts in adjusted position, each part having

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secured to the outer end thereof a transverse socket member holding a rotating and sliding stem therein with set screws to fix each of said stems in desired relation in their respective sockets, the outer end of each of said stems being formed with a transverse internally threaded sleeve carrying a correspondingly threaded clamping screw, and each of said sleeves extending on both sides of said socket members.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
420,216	Tanner	Jan. 28, 1890
442,733	Shampel	Dec. 16, 1890
1,084,130	Cargin	Jan. 13, 1914
1,175,811	Ray	Mar. 14, 1916
1,272,259	Herold	July 9, 1918
1,583,611	Seely	May 4, 1926
2,114,227	Kriss	Apr. 12, 1938

FOREIGN PATENTS

Number	Country	Date
136,209	Germany	Nov. 17, 1902