

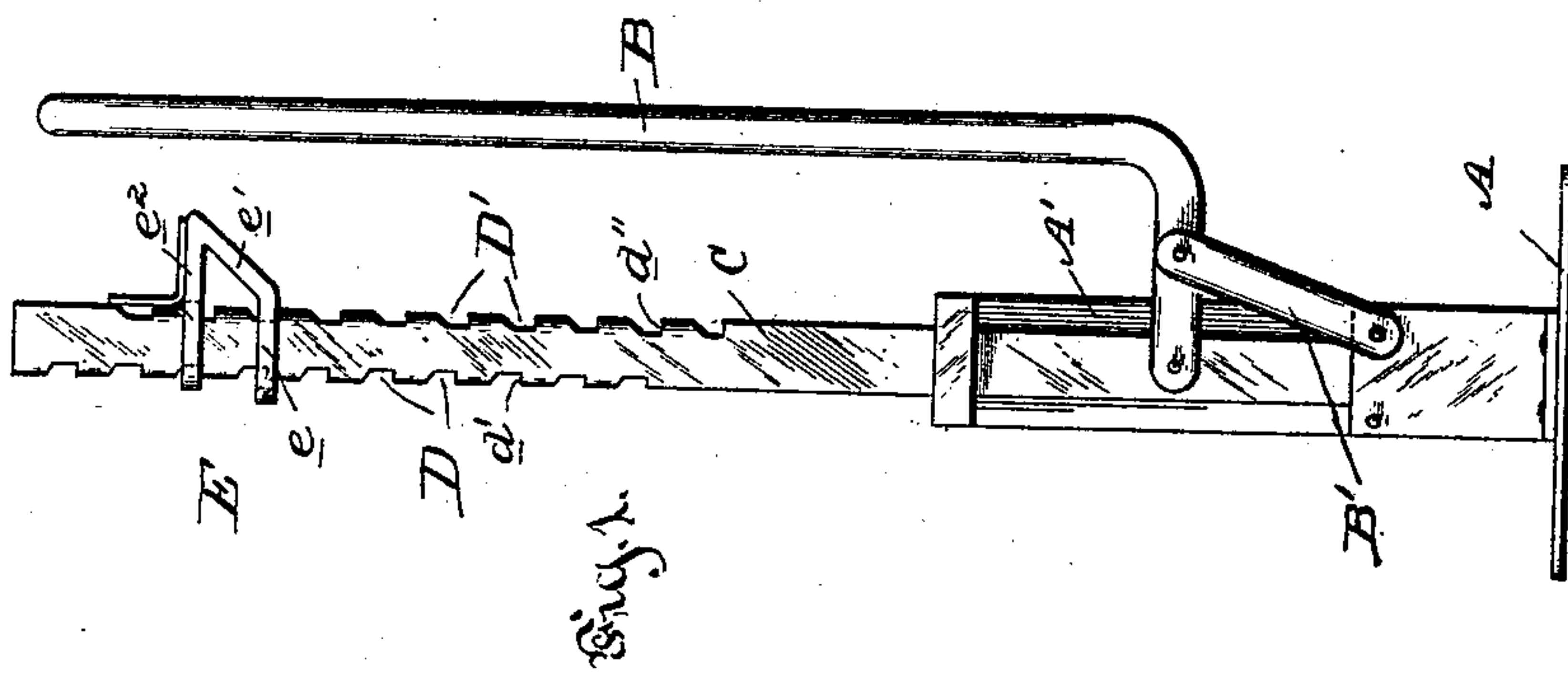
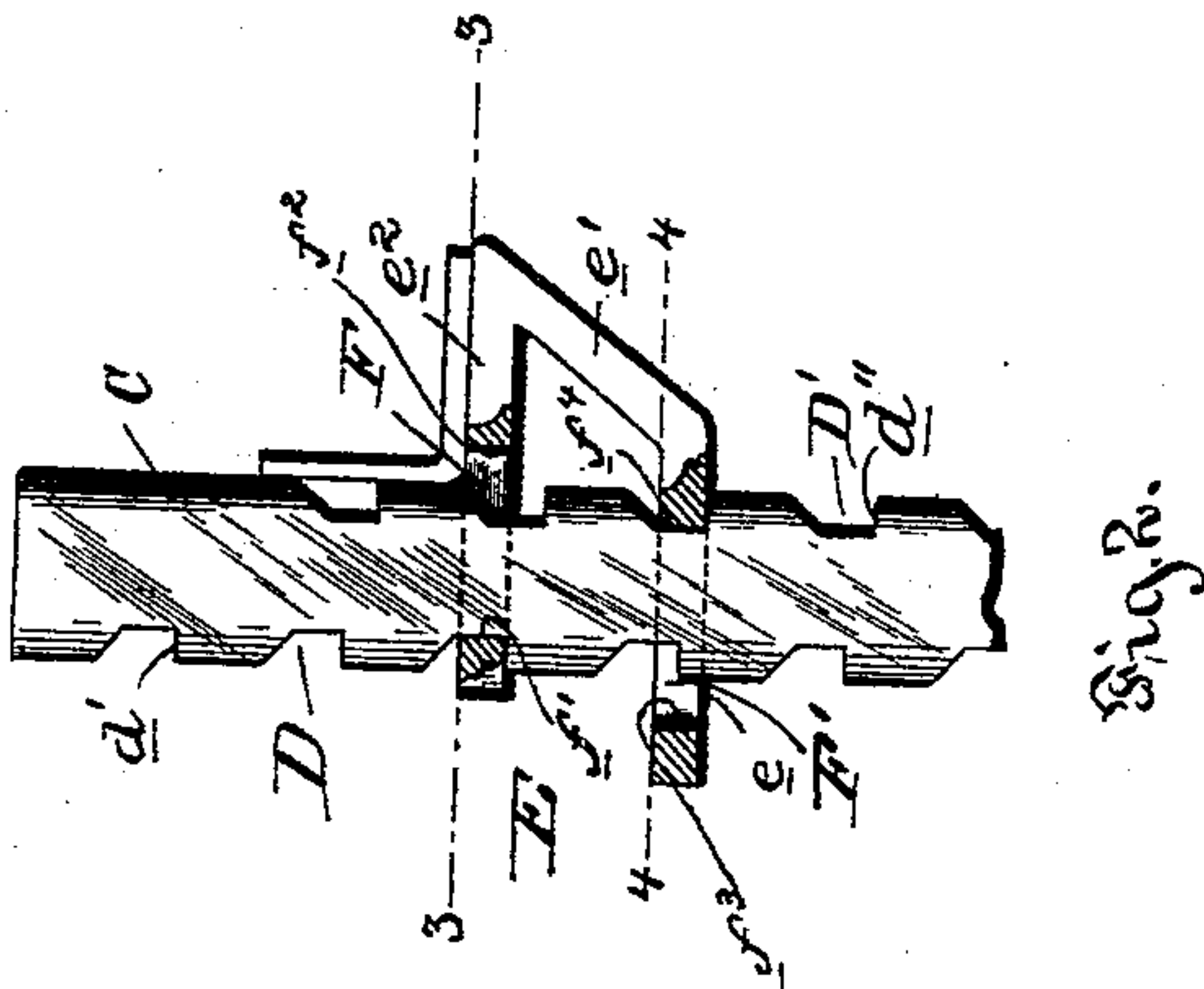
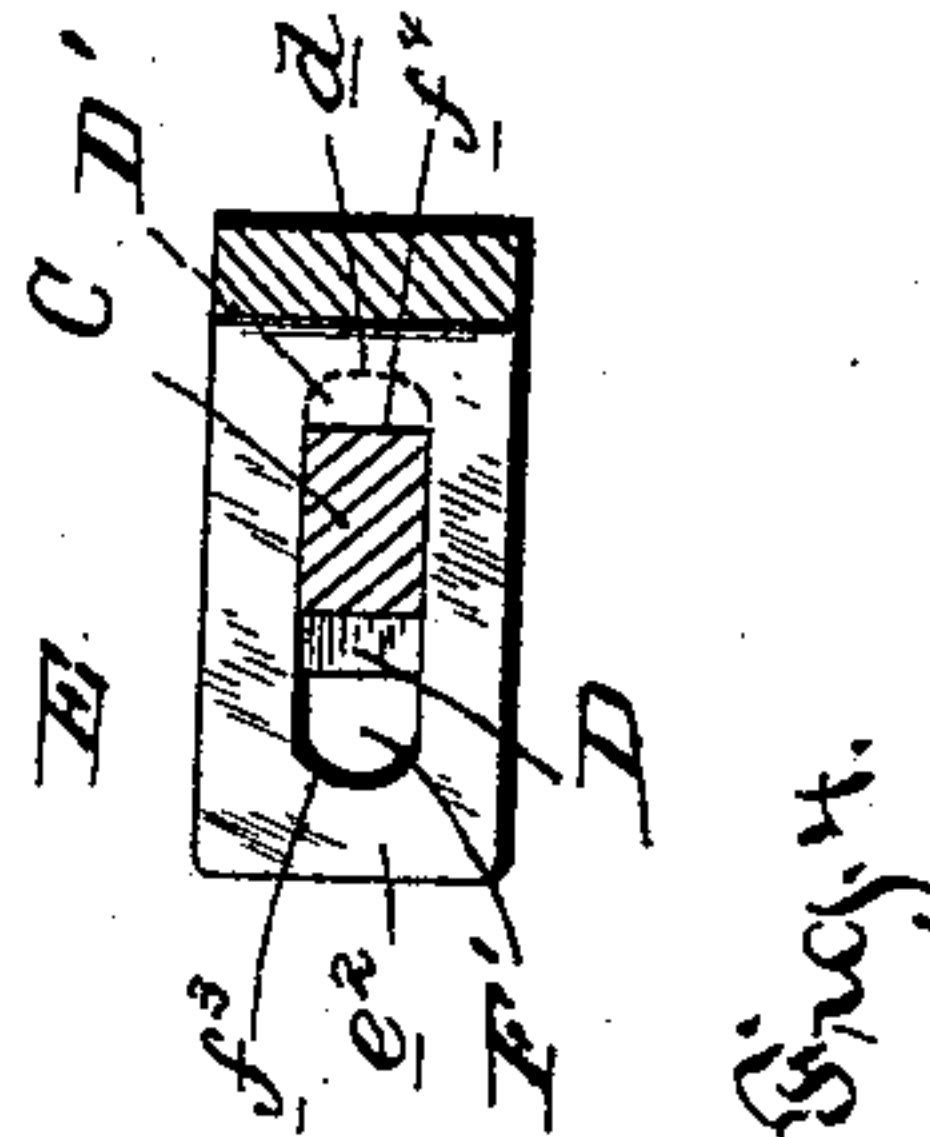
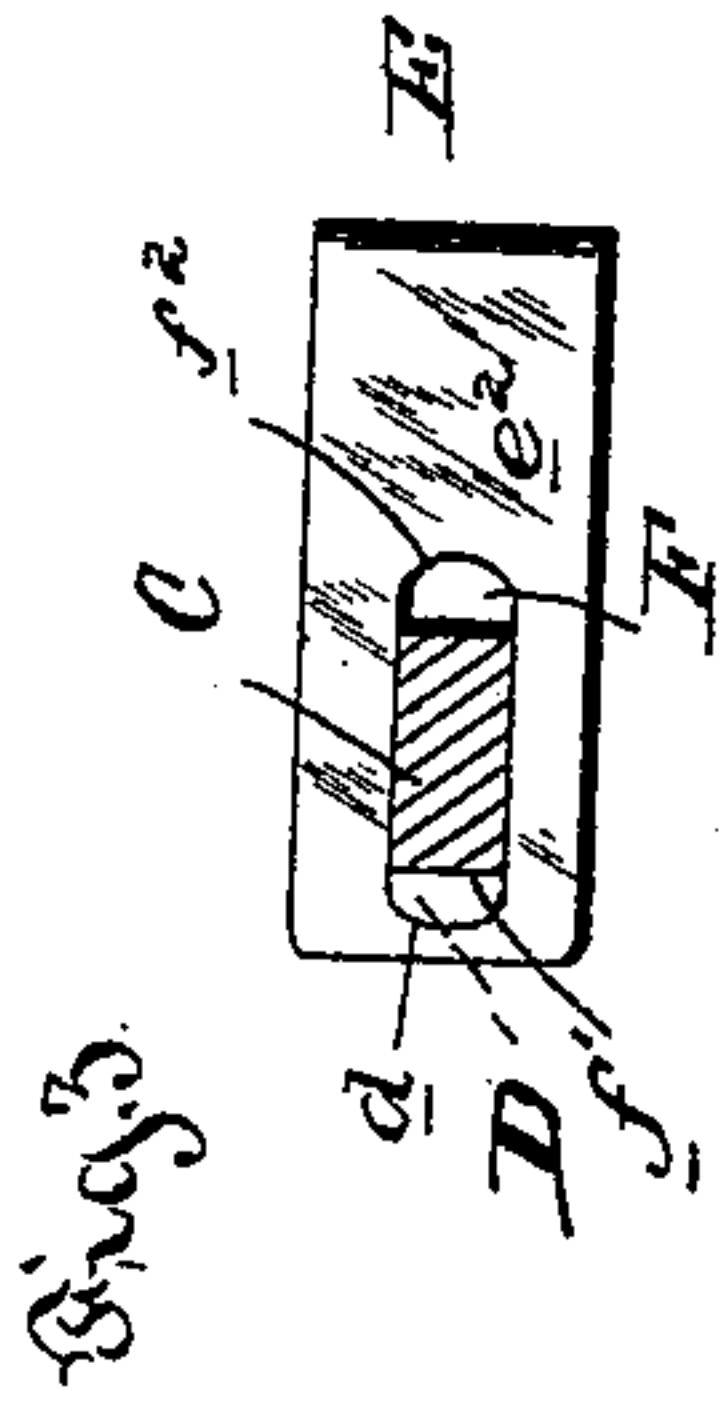
No. 615,809.

Patented Dec. 13, 1898.

J. C. COVERT.
LIFTING JACK.

(Application filed Sept. 26, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JAMES C. COVERT, OF WATERVLIET, NEW YORK.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 615,809, dated December 13, 1898.

Application filed September 26, 1898. Serial No. 691,926. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. COVERT, a citizen of the United States, residing at Watervliet, in the county of Albany and State of New York, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in lifting-jacks, and more particularly in that part of the jack commonly known as the "lifting-bar" and its associated rest or bracket; and it is embodied in the construction and arrangement of parts hereinafter described, and defined in the claims.

The invention is designed more particularly for use in connection with that type of jack commonly known as a "lever-lifting-bar" type; but I desire it understood that the same is applicable or adapted for use with other types of jacks.

Heretofore the step or rest of a lifting-bar has been adjustable up or down either by a clutch connection or by having a series of teeth or indentations formed on one edge of the bar, against which a tooth or projection on the rest engages. The objection to these various types and constructions resides in the fact that the step when the jack itself is suddenly moved or jarred or turned from the proper upright position becomes disengaged, and the step, of its own weight falling down, therefore has to be raised when the jack is to be used. To overcome these objections, friction-springs have been employed, which are carried by the step and rest against the bar, the friction being sufficient to prevent the jar from unseating the engaging parts and also preventing the step from its own weight sliding down the bar. It will be appreciated that when such springs are used it requires considerable force to adjust the step, and, further, the constant frictional contact soon causes the springs to wear away as the step is being adjusted. Another objection to this type of spring-holding step is the necessary expense of equipping the same with the

springs. My invention is designed to overcome these objections.

A further object of the invention is to provide a successful and satisfactory step or bracket attachment of an open or bent-strip type as distinguished from the cast type. The objection to the latter type is that they are frequently broken and require a core when molding, increasing thereby largely the expense. The former type is much preferred owing to the fact that it can be made of steel strips readily bent into proper shape and the bar-openings punched, thereby forming a very strong, cheap, and comparatively light structure.

Further objects of my invention will be presently stated.

In the drawings I have shown the invention as applied to the ordinary lever-and-bar jack for the purpose of illustration.

Figure 1 is an elevation of the jack having the improvement thereon. Fig. 2 is an enlarged detail view of the upper end of the lifting-bar with the rest or bracket portion applied to the same, the parts being shown in section. Figs. 3 and 4 are cross-sections on the lines 3 3 and 4 4 of Fig. 2.

In the drawings, A represents the base, A' the standard, B the actuating-lever, and B' the fulcrum-link, of the jack proper.

C designates the vertically-movable lifting-bar, which is conveniently formed of metal and of oblong cross-section. On the forward edge of the lifting-bar is formed a series of elongated vertical depressions D, the length of which is greater than the thickness of the material of the step, presently to be referred to. The lower horizontal walls of these depressions are horizontal, while the upper walls are inclined. These depressions are spaced in equal distance apart and extend for a considerable distance along the edge of the bar, the material left between the depressions constituting what may be termed "projections," "teeth," or "ledges," the outer faces being curved or rounded, as shown at *d*, while the bases *d'* of the depressions D are flat, for purposes presently to be stated. The opposite edge of the bar is formed with a like series of

depressions D' , with bases d'' , and consequent ledges or teeth. This series of depressions or ledges, however, extend from a point below the plane of the uppermost depression to a point below the lowermost depression of the opposite side.

E designates a rest or step which is formed of a single piece of metal, conveniently of steel, having a lower horizontal portion e , an outer oblique portion e' , and a relatively long upper horizontal portion e^2 , lying parallel with the horizontal portion e . Through the upper and lower portions of the step are formed elongated openings $F F'$. The upward opening has a squared or straight outer end wall f' and a curved inner end wall f^2 , corresponding in curvature to the curvature of the teeth or ledges of the bar. The lower opening is formed like that of the upper opening, but in a reverse manner—that is to say, the outer end wall f^3 is curved, while the inner end wall f^4 is straight. These openings are arranged with the outer end wall of the lower opening laterally beyond the plane of the outer end wall of the upper opening, so that when the rest is not in engagement in the depressions D the step will be at an incline and when in engagement in the depressions the step will be perfectly horizontal. By this arrangement it will be seen that when the step is adjusted to the various depressions the upper portions will have the outer end wall of its opening brought in contact with the base of the depression D in which the same is placed, thereby moving the lower face of the portion adjacent to the end wall against the straight face of the tooth or projection immediately below. When in this position, the straight end wall of the lower opening of the rest is carried into the depression on the opposite side of the bar, and the under face adjacent thereto rests against the upper face of the projections immediately below. By this means it will be appreciated that when pressure is brought against the upper face of the step the tendency will be to draw the upper straight wall closely into the depression and against the flat base thereof and to force the lower one into close engagement with the base of its associated depression. This necessarily holds the step firmly in position. Heretofore in this class of step when the pressure has been brought to bear on the upper horizontal portion the pressure usually tends to bend the portion downward, thereby making the step useless, for the reason that the relative positions of the parts are disarranged, and it is impossible to properly regulate or move the step.

By the construction above described it will be seen that both the upper and lower portions of the step are independently supported by the respective projections and any bending or disarranging of parts is prevented,

and when it is desired to lower the step it is only necessary to tilt the toe or point upward and force it inward, and by a reverse movement of the lower portion thus carries the curved end walls into engagement with the bar, and owing to their curvature they are prevented from entering into the grooves or depressions and are allowed to slide easily and readily over the teeth or projections. It will be seen also that in this construction it is practically impossible to jar or cause the rest or bracket to move downward without assisting it by taking hold of same with the hand and adjusting the parts as above described. When it is desired to move the step upward, the same can be done without preliminary adjustment, owing to the inclination of the lower sides of the teeth or projections.

By actual test and use I have found by the construction above described that the objections to the prior-known devices are entirely overcome.

It will be observed that the edge of the lifting-bar adjacent to the supporting portion of the step will endanger the breaking of the paint or marring the finish of its axle by reason of the teeth or projections. To avoid this, I secure to the upper face of the rest or bracket a leather strip F , securely fastened to the step in any convenient manner and having its inner end loose, so that the same can be bent upward parallel with the edge of the bar, as shown. This protector is preferably of leather, but may be of other material, and prevents marring as well as forms a pliable rest for the under side of the axle.

The construction that I have shown and described may be slightly varied without departing from the nature and principle of the invention.

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

1. In a lifting-jack, a lifting-bar provided with a series of teeth or projections on its opposite edges in combination with a step or rest having engaging portions oppositely arranged for engaging the projections, substantially as described.

2. In a lifting-jack, the combination with a lifting-bar having a series of projections on its opposite edges, of a step or rest consisting of a bent strip formed with oppositely-arranged openings through which the bar passes and having surfaces at the opposite ends of the openings for engaging the projections, substantially as described.

3. In a lifting-jack, the combination with a lifting-bar having projections on its opposite edges, of an open step or rest, having oppositely-arranged openings, the end walls at one end of the respective openings being fashioned to correspond substantially with

that of the projections of the bar and the opposite end walls being fashioned to engage the projections, substantially as described.

5 4. In a lifting-jack, the combination with a lifting-bar having a series of projections on its opposite edges, of a rest or bracket loosely placed on the bar and having diagonally-arranged portions to engage with the projections, and a flexible pad or strip secured to

the upper face of the step, having its inner end bent upwardly to rest against the edge of the bar, substantially as described.

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

JAMES C. COVERT.

Witnesses:

WILLIAM COLVIN, Jr.,

JOHN B. BAXTER.