No. 649,516. Patented May 15, 1900.

J. P. KELLY.

FORGING PRESS.

(Application filed Dec. 16, 1899.)

(No Model.)

Fig. 1.

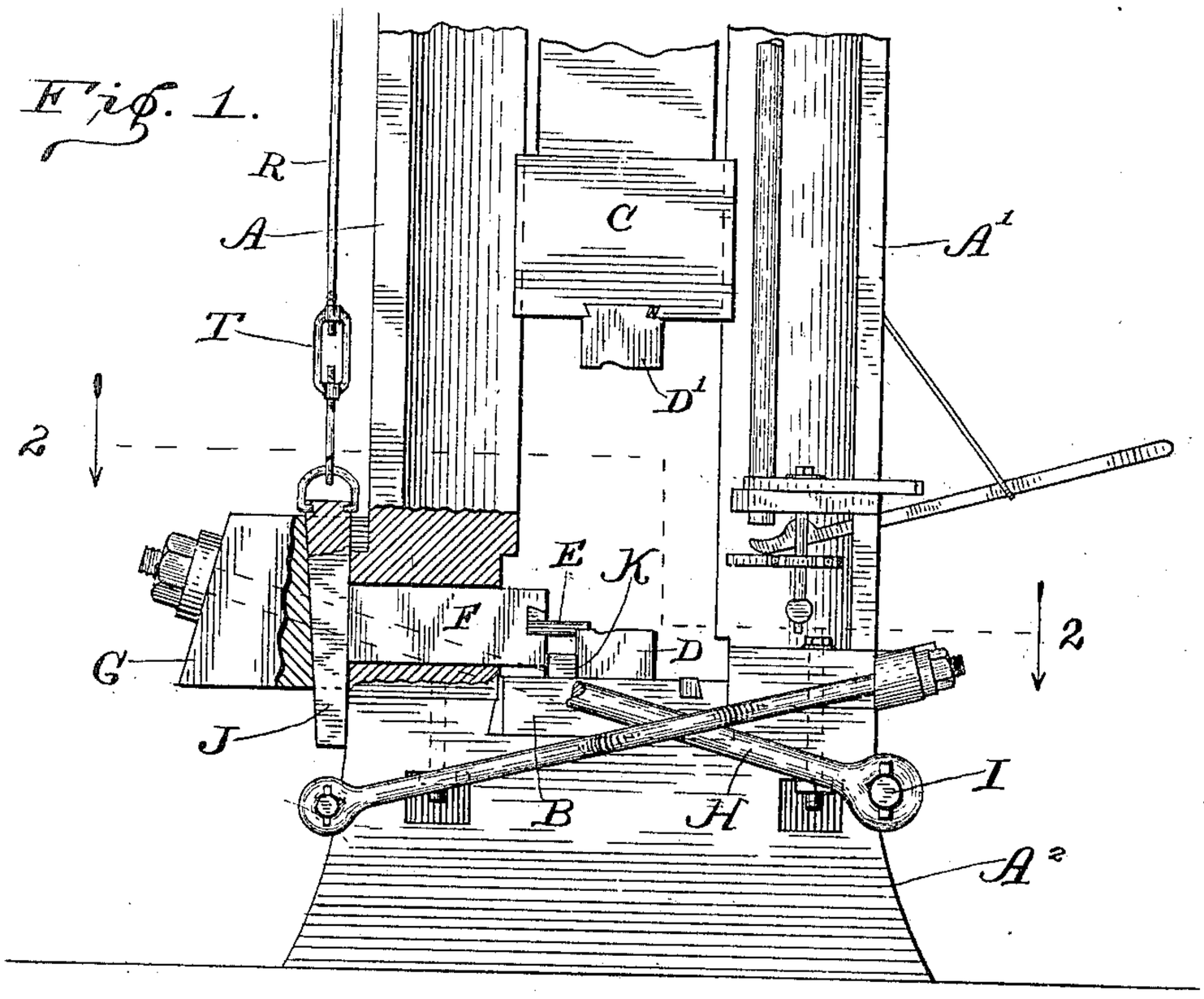
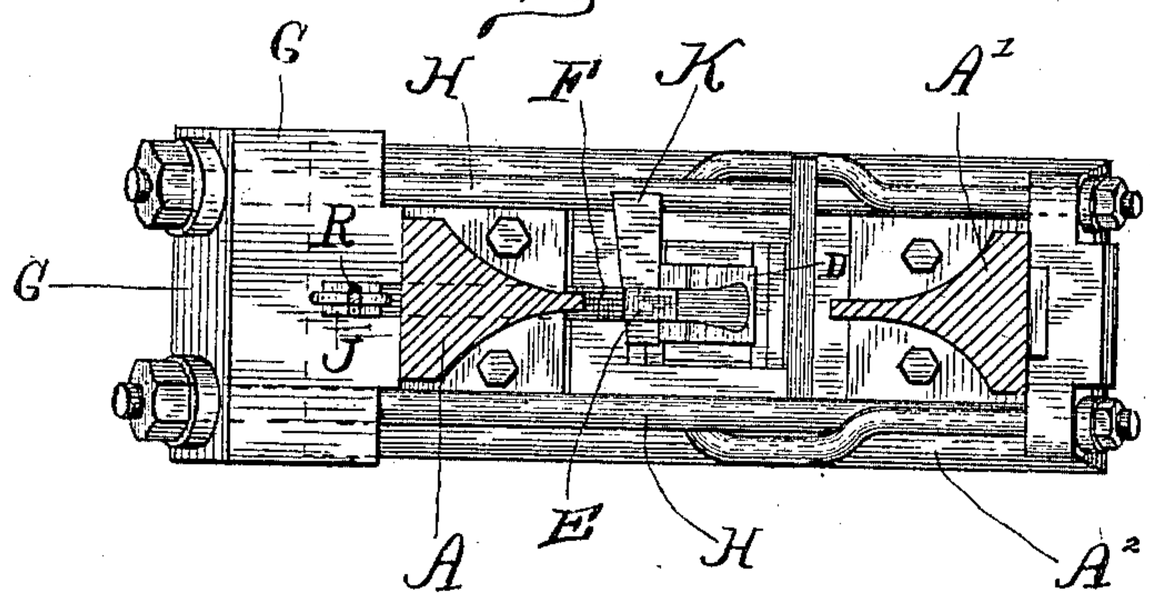


Fig. 2.



WITNESSES:

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JAMES PAUL KELLY, OF ALEXANDRIA, INDIANA.

FORGING-PRESS.

SPECIFICATION forming part of Letters Patent No. 649,516, dated May 15, 1900.

Application filed December 16, 1899. Serial No. 740,581. (No model.)

To all whom it may concern:

Be it known that I, JAMES PAUL KELLY, a citizen of the United States, residing at Alexandria, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Forging-Presses, of which the following is a specification.

The general object and design of the present invention is the same as that of Letters Patent of the United States No. 631,573, issued upon the application of William C. Kelly and myself August 22, 1899; and it consists in means whereby said object may be carried out more efficiently and conveniently.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of the lower portion of a drop-press provided with my said invention, some portions being broken away and cut in section to show the invention more plainly; and Fig. 2, a horizontal sectional plan view of the lower portions as seen when looking downwardly from the dotted line 2 2 in Fig. 1.

The main structure of the press consists of the columns A A′ and base A^2. Within the base is an anvil-block B, and guided between the columns is the drop C. The die members D D′ are the ordinary box-dies with open head ends, into which open ends the head-die E enters, and said die is carried by a heavy rigid bar F.

So far the parts are, generally speaking, of an ordinary and well-known form, and therefore will not be further described herein except incidentally in describing my invention.

Secured firmly to the structure of the drop-press and over the outer end of the bar F is a heavy solid metallic block G. Said block is secured in position upon the press, so as to form substantially an integral part thereof, by means of two large rods or bolts H, which extend through the sides of said block G and thence down diagonally across the base of the press, where they are connected to a cross-bar I. These rods H as I have used them in actual use are three inches in diameter and the cross-bar I is four inches in diameter, while the block G weighs approximately two tons. Said block has its face next the press of a suitable configuration to fit the surface of the press closely, except that it has extending through it a tapered wedgeway, within which a heavy wedge J is placed, with which the rear end of the bar F comes in immediate contact. This wedge is preferably carried by a suspending-rod R, containing a turn-table T, by which it may be quickly, easily, and accurately lengthened or shortened, and the wedge J thus moved down or up, whereby the bar F and head-die E are adjusted outwardly or inwardly for purposes fully explained in the Patent No. 631,573 above referred to. At the other end of the bar F, between it and the die-block D, I put another wedge K. As will be readily seen, these two wedges J and K hold the bar F, and consequently the head-die E, with the greatest rigidity to exact position. As one wedge is loosened the other is correspondingly tightened, and the consequence is that the whole structure is when adjusted substantially integral.

As is well known to those familiar with the operation of drop-presses, the blows from such presses occasion a considerable jar and vibration both of the press itself and of immediately-surrounding parts and structures. Such vibrations, even when not sufficient to seriously affect such structures when considered singly, nevertheless, when continued for a considerable period, strongly tend to shatter and render useless any structure not of the most solid and rigid character. While, therefore, a much smaller and weaker structure than that now shown and described is entirely efficient to withstand the force of such blows as are delivered upon the head-die in the operation of forging axes, I have learned by experience that such structures during a long period of use become shattered by the repeated blows and after a time become inefficient. For example, the structure shown in the Patent No. 631,573, above referred to, when first erected was strong and rigid and answered the requirements perfectly, but in time became shattered and inefficient. My present machine, however, being wholly composed of heavy metal parts, shows no signs of deterioration under use.

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

1. The combination, in a forging-press, of

the anvil-die, the hammer-die, said dies containing corresponding matrix-cavities, a head-die entering said matrix-cavities, a bar carrying said head-die and extending to the outside of the press, a heavy block secured to the frame of the press behind said bar and containing a wedgeway, a wedge situated within said wedgeway with which said bar immediately comes in contact, and a second wedge at the opposite end of said bar between said bar and the anvil-die, whereby, by manipulation of said two wedges, the bar and the head-die carried thereby are adjusted longitudinally, substantially as set forth.

2. The combination, in a drop-press, of the frame composed of a base and columns, an anvil-die carried by said base, a hammer-die, a drop by which said hammer-die is carried, a head-die, a bar by which said head-die is carried, a heavy rigid block secured to the frame of the press behind said bar, heavy rods connecting said block to the base of the press, a wedge interposed between said block and said bar, and a corresponding wedge at the opposite end of said bar, said bar being adjusted and held rigidly in adjusted position by the manipulation of said two wedges, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 12th day of December, A. D. 1899.

JAMES PAUL KELLY. [L. S.]

Witnesses:
CHESTER BRADFORD,
JAMES A. WALSH.