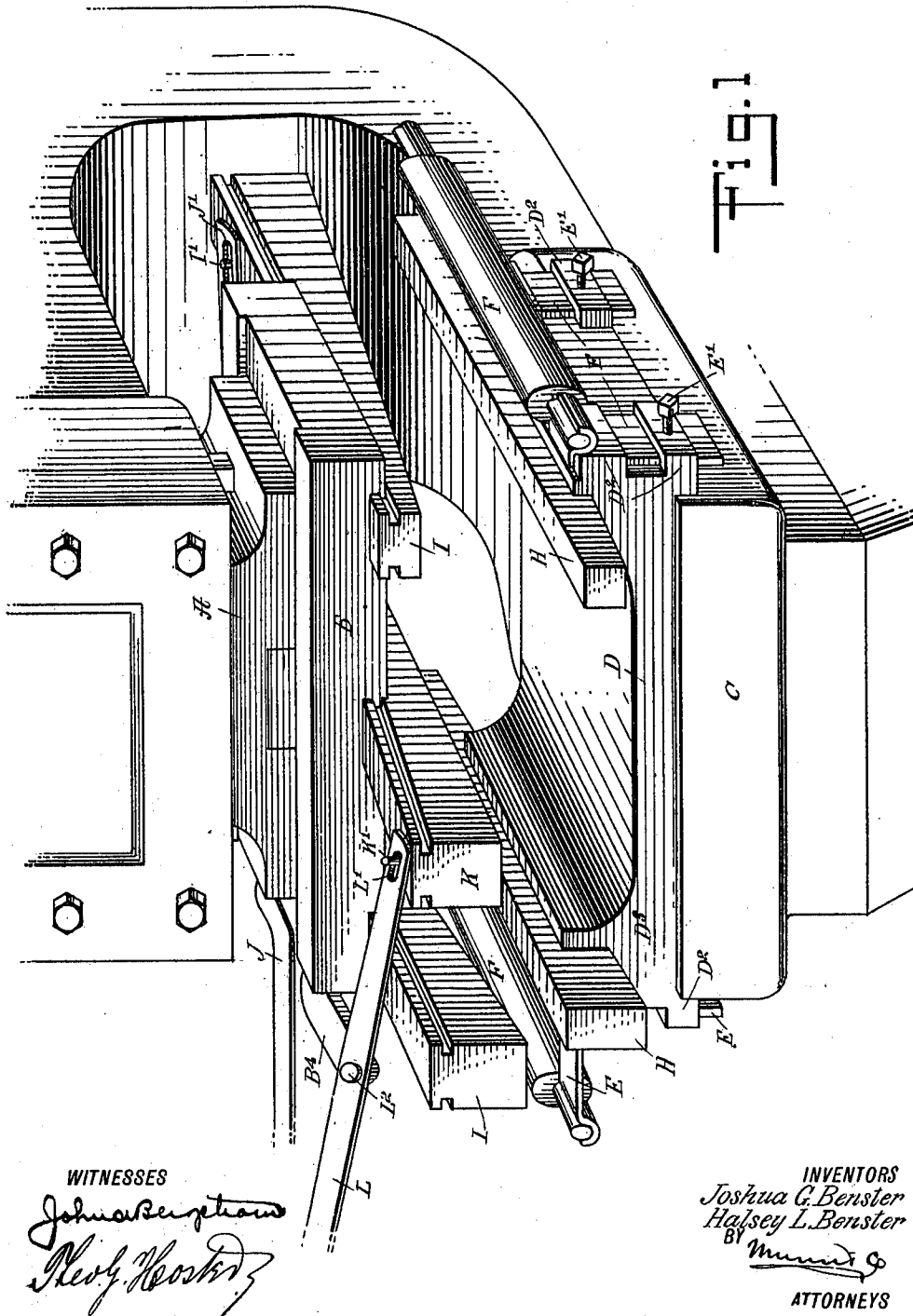


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ATTACHMENT FOR POWER PRESSES.
APPLICATION FILED NOV. 11, 1909.

980,047.

Patented Dec. 27, 1910.

3 SHEETS—SHEET 1.



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Henry H. Benster

INVENTORS

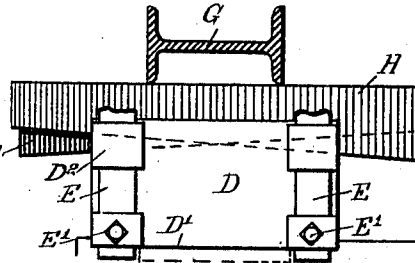
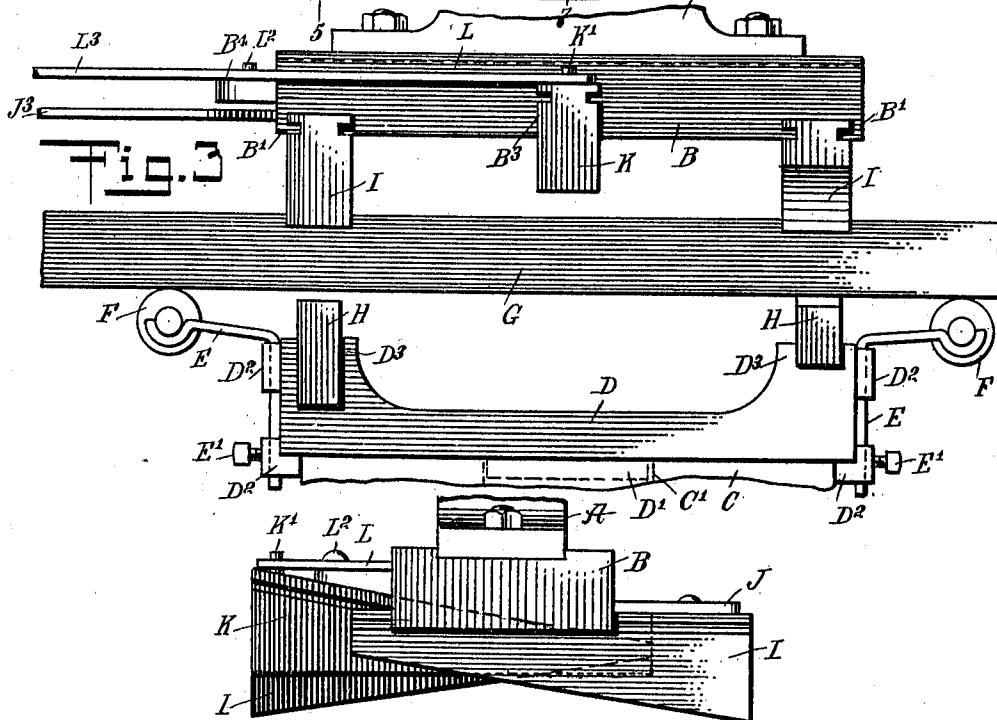
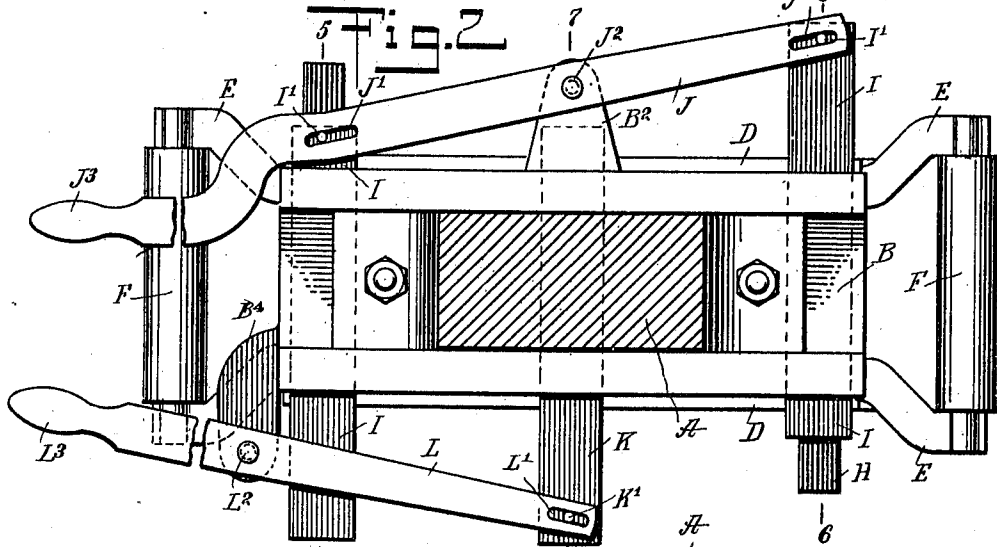
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2 SHEETS-SHEET 2.



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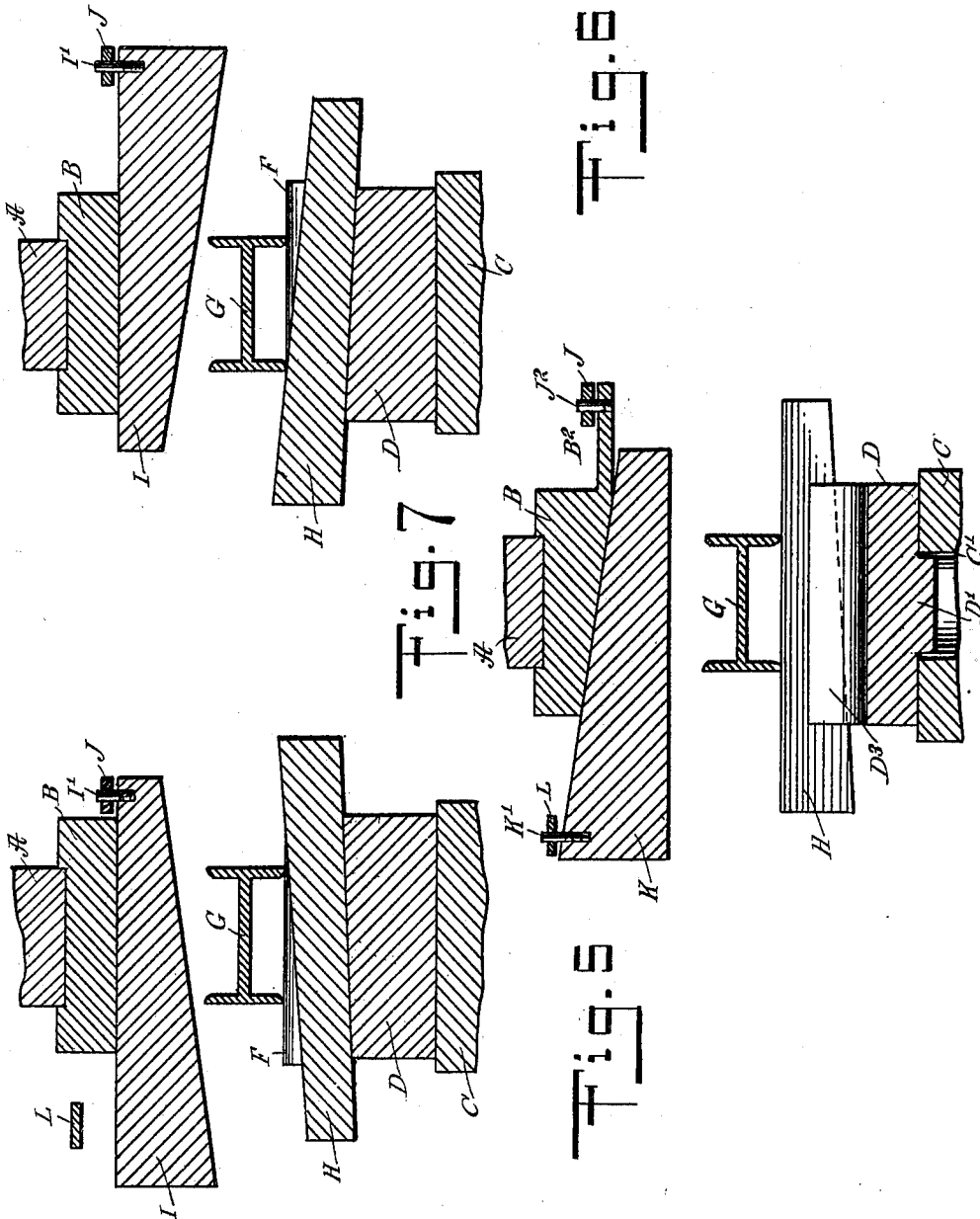
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JOSHUA G. BENSTER AND HALSEY L. BENSTER, OF MOLINE, ILLINOIS.

ATTACHMENT FOR POWER-PRESSES.

980,047.

Specification of Letters Patent. **Patented Dec. 27, 1910.**

Application filed November 11, 1909. Serial No. 527,402.

To all whom it may concern:

Be it known that we, JOSHUA G. BENSTER and HALSEY L. BENSTER, both citizens of the United States, and residents of Moline, in the county of Rock Island and State of Illinois, have invented a new and Improved Attachment for Power-Presses, of which the following is a full, clear, and exact description.

The invention relates to attachments for power presses, such as are used for punching structural steel I-beams, channel beams and like articles, and its object is to extend the range thereof and to permit straightening, bending, twisting or untwisting of a beam or a similar article, in a very simple economical and accurate manner.

For the purpose mentioned use is made of an anvil having reversely, inclined guideways and flanked by rollers for the beam or other article to rest on, a pair of wedges in the guideways, and a reciprocating head provided with a series of adjustable wedges operating in conjunction with the said rollers and the said anvil wedges, to straighten, bend, twist or untwist the beam or other article.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the attachment in position on the power press; Fig. 2 is a plan view of the same, the ram of the press being shown in section; Fig. 3 is a front elevation of the same; Fig. 4 is a side elevation of the same; Fig. 5 is a sectional side elevation of the same on the line 5—5 of Fig. 2; Fig. 6 is a similar view of the same on the line 6—6 of Fig. 2; and Fig. 7 is a similar view of the same on the line 7—7 of Fig. 2.

On the lower end of the ram A is bolted or otherwise secured a head B, and on the bed C of the power press rests an anvil D, the said head B and the anvil D extending in the operating space of the power press, as plainly indicated in Fig. 1. In order to hold the anvil D against movement on the bed C, the under side of the anvil D is provided with lugs D' fitting into the waste hole C' of the bed C (see Fig. 3), and the sides of the anvil D are provided with bear-

ings D², of which the lowermost fit against the sides of the bed C to hold the same against sidewise movement.

In the bearings D² are held vertically adjustable brackets E, in the upper ends of which are journaled rollers F for supporting the beam G or other article to be operated upon, as hereinafter more fully described. The brackets E are secured in place in the bearings D² by set screws E' after the brackets are adjusted to bring the rollers F into proper supporting position. The brackets E are made of spring steel, and are of sufficient elasticity to yield under the pressure of the ram A but not under the weight of the beam G alone. By this arrangement the lower edge of the beam G is supported clear of the wedges H, H, while the ram A is in its upper position.

On the upper face of the anvil D are formed transversely-extending, reversely inclined guideways D³, in which are slidably mounted anvil wedges H, above which are arranged head wedges I extending transversely and mounted to slide in transverse, horizontal guideways B' formed on the under side of the head B. The rear ends of the head wedges I are provided with upwardly-extending pins I' passing into elongated slots J' formed in a lever J fulcrumed at J² in a bracket B² projecting from the rear of the head B. One end of the lever J terminates in a handle J³ under the control of the operator, to impart a swinging motion to the lever J with a view to shift the head wedges I in their guideways B' but in opposite directions one relatively to the other, the head wedges I being so arranged that the planes of their inclined or oblique under surfaces intersect at the center line of attachment (see Fig. 4).

On the under side of the head B at the middle thereof is formed a transversely-extending, inclined guideway B³, in which slides a wedge K, the under surface of which is horizontal, but the wedge is raised or lowered on sliding the same transversely in its guideway B³. For this purpose the forward end of the wedge K is provided with a pin K' projecting into an elongated slot L' formed in a lever L fulcrumed at L² on a bracket B⁴ at one side of the head B. The lever L terminates in a handle L³ adapted to be taken hold of by the operator, for

shifting the wedge K transversely in its guideway B³, as hereinafter more fully explained.

The operation is as follows: When it is desired to twist or untwist a beam G, then use is made of the wedges H and I, while the wedge K is moved forwardly to its full extent to become inoperative for the time being. The beam G to be operated on is placed on the rollers F (see Figs. 3, 5 and 6), and the wedges H, H so inserted that their upper surfaces are reversely inclined are shifted in a transverse direction until their upper surfaces engage the lower edges of the ends of the beam, as will be readily understood by comparison of Figs. 5 and 6. The power press is now set in motion so that the ram A descends and with it the head B, whereby the wedges I engage the upper edges of the ends of the beam G to twist the beam. It is understood that during the reciprocation of the ram A the operator gradually moves the lever J to shift the head wedges I, I simultaneously to gradually lower the same and thus gradually twist the beam to the desired extent, the amount of the twist being determined by straight edges held at various points on the beam by the operator. In a like manner, the operator may proceed to take a twist out of a twisted beam by reversing the operation. When it is desired to bend a beam, then the wedges I are moved in inoperative position, while the wedges H are reversed from end to end, so that their upper surfaces extend in a horizontal plane, as indicated in Figs. 4 and 7, with the beam G resting on the rollers F and the wedges H. The power press is now actuated so that the ram A is reciprocated and thereby moves the under surface of the wedge K into engagement with the top of the beam G, thus bending the beam in a downward direction for straightening or bending purposes, as the case may be. During the reciprocating movements of the ram A, the operator manipulates the lever L so as to gradually move the wedge K transversely in a rearward direction, thus lowering the wedge and consequently bending the beam G to the desired extent.

It will be seen that the head B and the anvil D with the parts mounted thereon can be readily placed in position on the power press and used to extend the range of the power punch for straightening, bending, twisting or untwisting purposes, as above explained.

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

1. A device of the class described, comprising an anvil having reversely inclined guideways, anvil wedges slidably engaging the said guideways and having their upper faces horizontally disposed and

adapted to be inclined, vertically adjustable rollers on the sides of the anvil for the beam to rest thereon, a reciprocating head above the said anvil, and a wedge held adjustably on the said head intermediate the said anvil wedges, and operating in conjunction with the said rollers and anvil wedges to straighten or bend a beam or like article.

2. An attachment for power presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having reversely inclined guideways, and wedges slidably engaging the said anvil guideways, vertically adjustable rollers mounted on the sides of the anvil, a head for attachment to the reciprocating ram of the press and provided at its bottom near the sides with horizontal guideways and at the middle with an inclined guideway, head wedges slidably engaging the said head guideways, and manually-controlled means for moving the said head wedges in their guideways.

3. An attachment for power presses, comprising an anvil for removable attachment to the head of the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidably engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the ram of the power press and provided at its bottom with horizontal guideways directly opposite the said anvil guideways, and head wedges slidably engaging the said head guideways.

4. An attachment for presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidably engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the ram of the power press and provided at its bottom with horizontal guideways directly opposite the said anvil guideways, head wedges slidably engaging the said head guideways, and manually-controlled means for shifting the said head guideways simultaneously in opposite directions.

5. An attachment for power presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidably engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the

ram of the power press and provided at the middle with an inclined transversely-extending guideway, a head wedge slidingly engaging the said head guideway, and manually-controlled means connected with the said head wedge to adjust the same transversely in its guideway.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

JOSHUA G. BENSTER.
HALSEY L. BENSTER.

Witnesses:

FRED. W. ADELMAN,
GEO. W. WOOD.