

No. 776,415.

PATENTED NOV. 29, 1904.

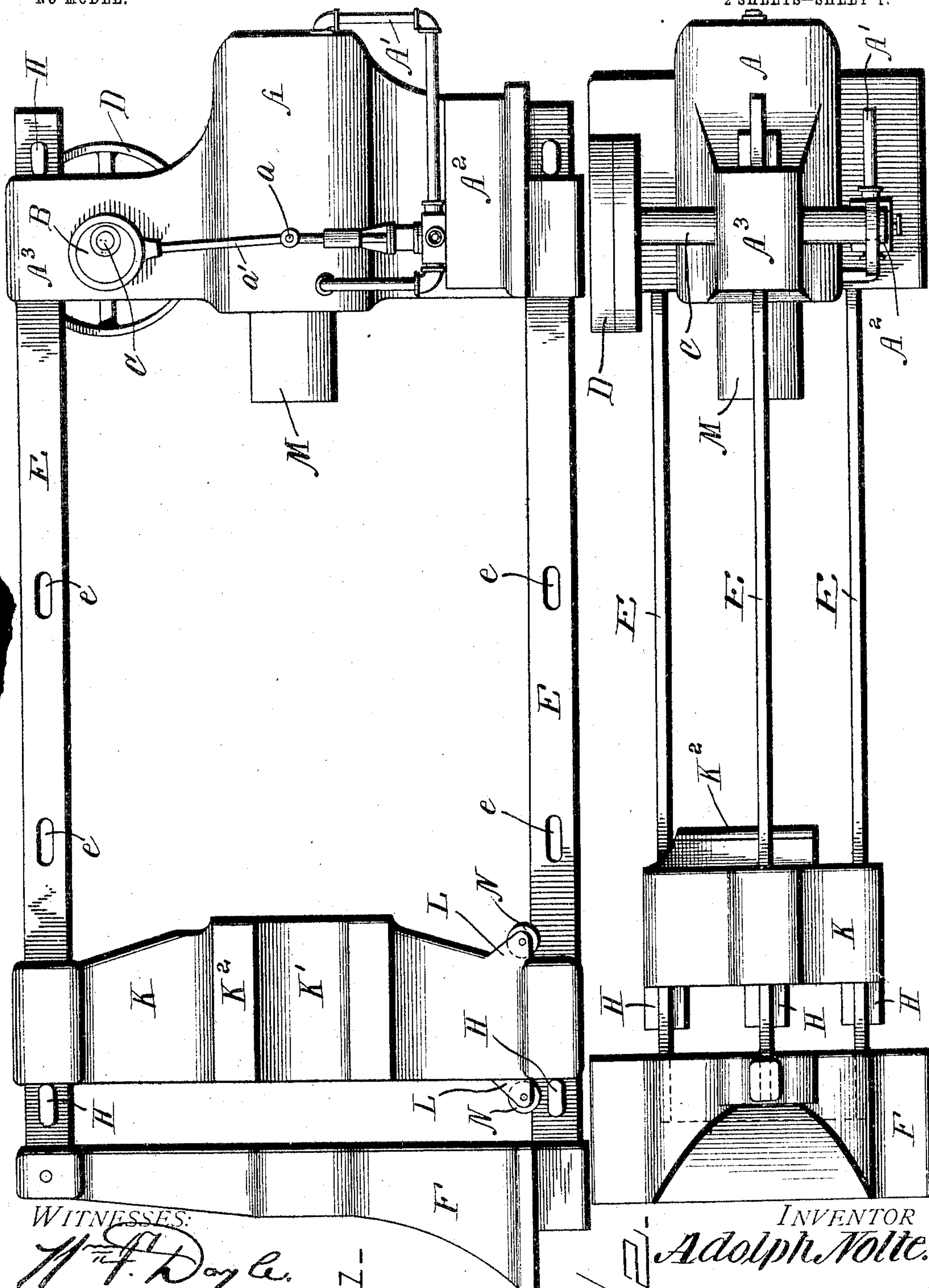
A. NOLTE.

HYDRAULIC PRESS FOR FORCING AXLES INTO CAR WHEELS.

APPLICATION FILED DEC. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Wm. F. Doyle
A. L. Hough

Fig. 1

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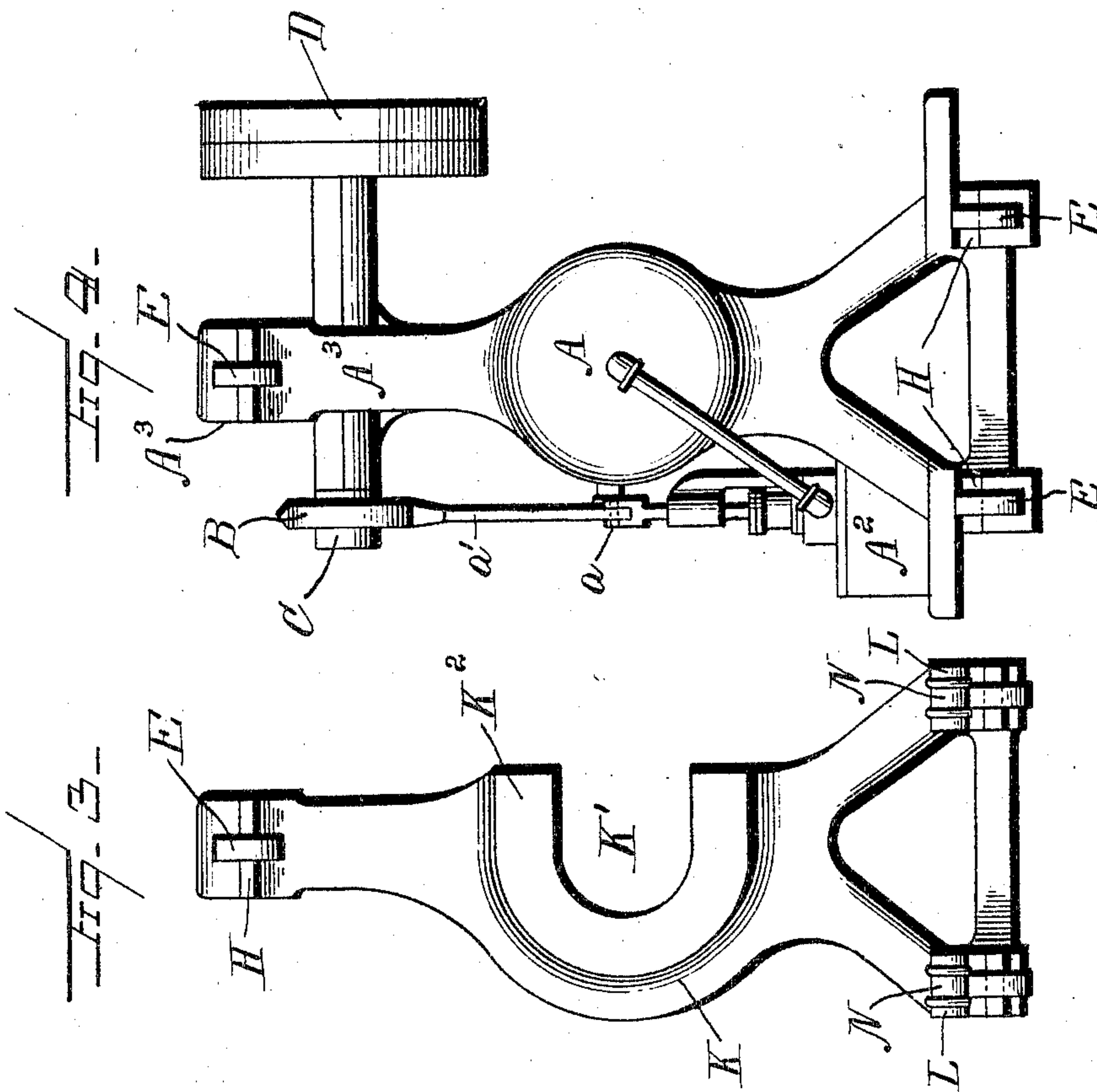
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INVENTOR

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UNITED STATES PATENT OFFICE.

ADOLPH NOLTE, OF ROCHESTER, NEW YORK.

HYDRAULIC PRESS FOR FORCING AXLES INTO CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 776,415, dated November 29, 1904.

Application filed December 18, 1903. Serial No. 185,693. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH NOLTE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Hydraulic Presses for Forcing Axles into Car-Wheels, &c.; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to hydraulic presses which are adapted for forcing axles into and out of hubs of car and engine wheels and pressing shafting into and out of couplings, gears, and various other apparatus; and the object of the invention is to provide a means for accomplishing this work in such a manner that the wheel will be truly set upon the shaft or axle without necessitating the truing up of the wheel after it has been forced upon a shaft and by a subsequent operation.

Heretofore presses for accomplishing the purpose for which the present invention is intended were built with two tension-bars, and when forcing an axle into the hub of a car-wheel the yoke to which the wheel is held was secured in place on the tension-bars by but two keys, which would allow the yoke to twist sidewise slightly and allow the axle to be forced into the hub at an angle to the bore of the latter, shearing one side of the axle and making the wheel fit badly thereon and throwing the same out of true.

By using three or more tension-bars the yoke and cylinder are supported by three or more keys, always holding the face of the wheel and face of the yoke parallel, forcing the axle into the hub true, even though the work is placed off of center line of the press.

My invention consists, further, in various details of construction and in combinations and arrangements of parts which, with the letters of reference marked thereon, form a part of this specification, and in the draw-

ings similar letters of reference indicate like parts in the several views, in which—

Figure 1 is a side elevation of my improved hydraulic press. Fig. 2 is a top plan view. Fig. 3 is an end view of the yoke. Fig. 4 is an end view of cylinder end of press.

Reference now being had to the details of the drawings by letter, A designates a hydraulic cylinder, and A' a pipe leading there- to from the pump A², the stem of the plunger of the pump being pivotally connected at *a* with the pitman-rod *a'*, which is connected to and driven by the eccentric B, mounted to rotate with the driving-shaft C. A suitable pulley D is fixed to rotate with the shaft C and by which power may be transmitted for the purpose of operating the hydraulic pump. F designates the foot or standard of the press-frame, to which are secured the tension-bars E, there being preferably three of said tension-bars, although more than three may be employed, if desired; but I have found by experimenting that three tension-bars produce more satisfactory results than when four or two are used. The opposite ends of the tension-bars from those to which the foot is secured are fastened by means of keys H to projecting portions, which are integral with or secured to the hydraulic cylinder, as shown, and said tension-bars are provided with elongated slots *e*, arranged at intervals and adapted to receive the keys H for holding the yoke K, which has three apertures to receive said tension-bars, and also the winged portions A³ of the hydraulic cylinder. Said tension-bars at the lower end of the foot are spaced apart, as shown clearly in the end and top views of the drawings, the space between said lower bars being greater than the width of the yoke K at its central recessed portion K'. About the marginal edge of said recess K' is a shoulder K², against which the hub of a wheel is adapted to bear while receiving an axle to be forced into the bore of the hub. Pivotaly mounted upon lugs L, forming a portion of the yoke, are flanged sheave-wheels N, which are adapted to ride upon and be guided by the lower of said tension-bars E.

M designates a plunger which is mounted within the hydraulic cylinder and against the outer free end of which the axle to be driven into the bore of the hub of a wheel is placed
5 before the power is applied to said plunger.

In operation the yoke is adjusted in any position desired upon the tension-bars, adapting the same for any particular kind of work, and keys H are inserted through the two elongated slots adjacent to the rear edge at the
10 bottom of the yoke, while a third key is inserted through an aperture in the upper tension-bar, which is midway between the two lower bars, and the three bars serve as means
15 for securely holding the yoke against outer movement and afford means for holding the yoke against the excessive pressure which is applied in the act of forcing an axle into the bore of the hub of a wheel or for any other
20 purpose for which the apparatus is used, one end of the axle being guided centrally into the bore of the hub of a wheel and its other end placed against the plunger, and by applying the hydraulic power to the plunger the axle
25 may be forced into the bore of the hub while the wheel is held securely and true upon said axle.

By the arrangement of the tension-bars as shown in the drawings forming a part of my
30 application it will be observed that all of the strain in the operation of forcing an axle into the bore of the hub of a wheel is brought inside of the tension-bars by reason of the distance between the lower bars being greater
35 than the face of the yoke, thus preventing the yoke from twisting, as would be the result where two bars are employed.

While I have shown and described a particular form of apparatus embodying the features of my invention, it will be understood
40

that I may make alterations, if desired, in the various details of construction of the apparatus without in any way departing from the spirit of the invention.

Having thus fully described my invention, 45 what I claim as new, and desire to secure by Letters Patent, is—

1. In a hydraulic press, a foot-piece or standard, tension-bars secured at the opposite sides of the lower portions thereof, a tension-bar secured to the upper portion of said foot, a frame carrying a hydraulic cylinder disposed at the other ends of said bars, a yoke having at its opposite base portions means to embrace the lower tension-bars, and guiding means to embrace the upper tension-bar, and means to adjustably secure the yoke to said bars relative to the cylinder, as set forth.

2. In a hydraulic press, a foot-piece or standard, slotted tension-bars secured thereto at the opposite sides of the lower portion thereof, a slotted tension-bar secured to the upper portion of said foot, a frame carrying a hydraulic cylinder adjustably secured to the tension-bars by keys entering the slots therein, a yoke having at its opposite base portions means to embrace the lower tension-bars, and antifriction-rollers to travel upon said bars, guide-lugs embracing the upper tension-bar, keys adapted to enter the slots in said bars to adjustably secure the yoke in position, and a shoulder extending from the face of the yoke next the cylinder and conforming to the outline of the recess within the yoke, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses. 75

ADOLPH NOLTE.

Witnesses:

MYRON F. BLY,
ALEX. E. MENZIE.