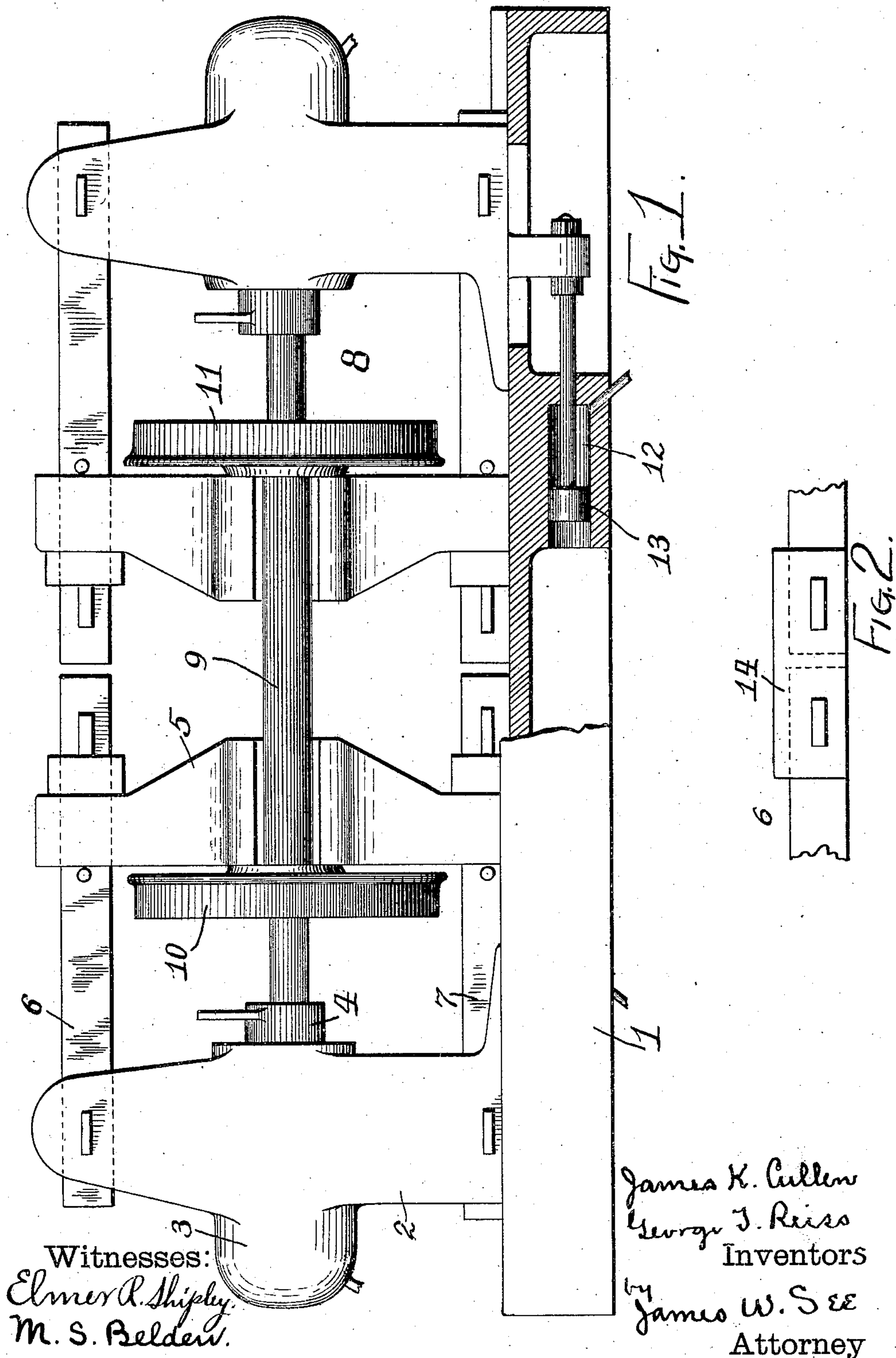


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J. K. CULLEN & G. T. REISS.
CAR WHEEL PRESS.

APPLICATION FILED JUNE 11, 1906.



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UNITED STATES PATENT OFFICE.

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TO NILES-BEMENT-POND COMPANY, OF JERSEY CITY, NEW JERSEY.

CAR-WHEEL PRESS.

No. 845,397.

Specification of Letters Patent.

Patented Feb. 26, 1907.

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To all whom it may concern:

Be it known that we, JAMES K. CULLEN and GEORGE T. REISS, citizens of the United States, and residents of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Car-Wheel Presses, of which the following is a specification.

This invention comprehends a car-wheel press designed to remove both wheels from a car-axle at one time and adapted also for ordinary use in pressing wheels on their axles and removing wheels one at a time from their axles.

The invention will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation, part vertical section, of a car-wheel press exemplifying our invention; and Fig. 2, a side elevation of one of the converting-couplings employed.

In the drawings, 1 indicates the sole-plate; 2, the head-block; 3, the hydraulic cylinder carried by the head-block; 4, the ram; 5, the laterally-notched tail-block; 6, the top tie-bar connected by keys with the head-block and tail-block, and 7 the lower tie-bar of similar construction.

All the parts thus far referred to are substantially as usual in hydrostatic car-wheel presses, and, disregarding other parts, the portion of the press which has been described, which constitutes the left-hand member of a double press, would be operated in the usual manner in taking a car-wheel from its axle. It may be stated, however, that while the tail-block 5 may be shifted along the tie-bars and sole-plate, as usual, the head-block 2 is not secured rigidly to the sole-plate, as usual, but is capable of sliding longitudinally thereon, so that the left-hand wheel-press, which has thus far been described, is capable as a whole of moving along the sole-plate.

Continuing with the drawings, 8 indicates a second similar wheel-press similarly mounted movably upon the sole-plate and constituting the right-hand member of the pair; 9, the car-axle; 10, the left-hand car-wheel thereon; 11, the right-hand car-wheel thereon; 12, a cylinder mounted on the sole-plate, one cylinder for each of the presses; 13, a piston in this cylinder, its piston-rod being connected with the head-block of its press; and 14, a portable coupling which when desired

may be keyed upon the contiguous ends of the upper tie-bars so as to unify the upper bars, a similar coupling being provided for the lower tie-bars.

The production and control of the water-pressure in operating the press need not vary from what is usual in hydrostatic car-wheel presses.

Looking at Fig. 1 it is manifest that if the tie-bars of the two presses were coupled together or if the head-blocks of the two presses were secured rigidly to the sole-plate when pressure was applied to either one or both of the rams the only effect would be to compress the axle and to put the tie-bars under tension; but the tie-bars of one press being independent of those of the other press the effect of the left-hand press is to push the axle out of the left-hand wheel, the axle moving to the right and pushing the entire right-hand press with it. At the same time the right-hand ram is pushing the axle out of the right-hand wheel. As a matter of practice the car-axle may be viewed as taking on no endwise motion whatever, the effect of the two rams being not to shift the axle endwise, but to shift the right-hand tail-block to the right and the left-hand tail-block to the left, thus pulling both car-wheels off the axle. During this action, in which the two presses have separated from each other, both presses will have moved longitudinally upon the sole-plate. It is manifest that the same general result would follow if one of the head-blocks was permanently secured to the sole-plate. For instance, assume the left-hand head-block to be rigidly secured to the sole-plate. In such case when pressure was applied to the two rams the left-hand ram would push the axle out of the left-hand wheel and at the same time push the right-hand head-block along the sole-plate. Simultaneously the right-hand head-block is being pushed still farther to the right by the action of its ram, the result being that the right-hand wheel is pulled from the axle. The cylinder and piston arrangement 12 13 offers convenient facilities for restoring the shifted head-block to its inward position, it being understood that with both head-blocks arranged to slide on the sole-plate each will be provided with its restoring cylinder and piston.

If a single wheel is to be removed from the car-axle—say, for instance, the right-hand

wheel in Fig 1—then the left-hand press of the pair is to be left idle—that is to say, no pressure will be applied behind its ram—the result being that the right-hand press simply
 5 pushes the axle to the left and out of the car-wheel as usual, one or both of the presses shifting upon the sole-plate if the relative position of the parts renders it necessary. When the press is to be used in putting wheels onto
 10 an axle, then the tie-bars are coupled so that one of the rams may act as an abutment for the end of the axle, while the other ram acts on the usual sleeve slipped over the journal and pushing against the hub of the wheel.
 15 In this manner of working either one of the two rams may be the active pushing agent, while the other acts as a fixed abutment—that is to say, the ram at the wheel may push the wheel onto a stationary axle, or the ram
 20 at the other end of the axle may push the axle into a stationary wheel, or, if desired, the pressure may be caused to move both rams, thus giving endwise movement to the axle and at the same time pushing the wheel
 25 in the opposite direction.

The principle of our invention will manifestly lend itself to many modifications in details of arrangement and construction and mode of operation. We have simply explained the invention and the best mode in
 30 which we contemplate applying it.

We claim—

1. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from
 35 each other, a ram working in each cylinder and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, and tie-bars independently
 40 connecting each cylinder with one of the tail-blocks, combined substantially as set forth.

2. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from

each other, a ram working in each cylinder 45 and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, tie-bars independently connecting each cylinder with one of the tail-blocks, and means for temporarily tying the 50 two cylinders together to prevent their movement from each other, combined substantially as set forth.

3. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from 55 each other, a ram working in each cylinder and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, tie-bars independently 60 connecting each cylinder with one of the tail-blocks, and a cylinder and piston device connected with one of said cylinders and the support and arranged to lessen the distance between the first-mentioned cylinders, combined 65 substantially as set forth.

4. A car-wheel press comprising two independent complete car-wheel presses arranged upon a support with their rams in a common axial line and facing each other, the two 70 presses being capable of free and independent relative movement to and from each other, combined substantially as set forth.

5. A car-wheel press comprising two independent complete car-wheel presses arranged 75 upon a support with their rams in a common axial line and facing each other, the two presses being capable of free and independent relative movement to and from each other, and means for temporarily coupling 80 the two presses together, combined substantially as set forth.

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