

A. WOOD.
WHEEL PRESS.

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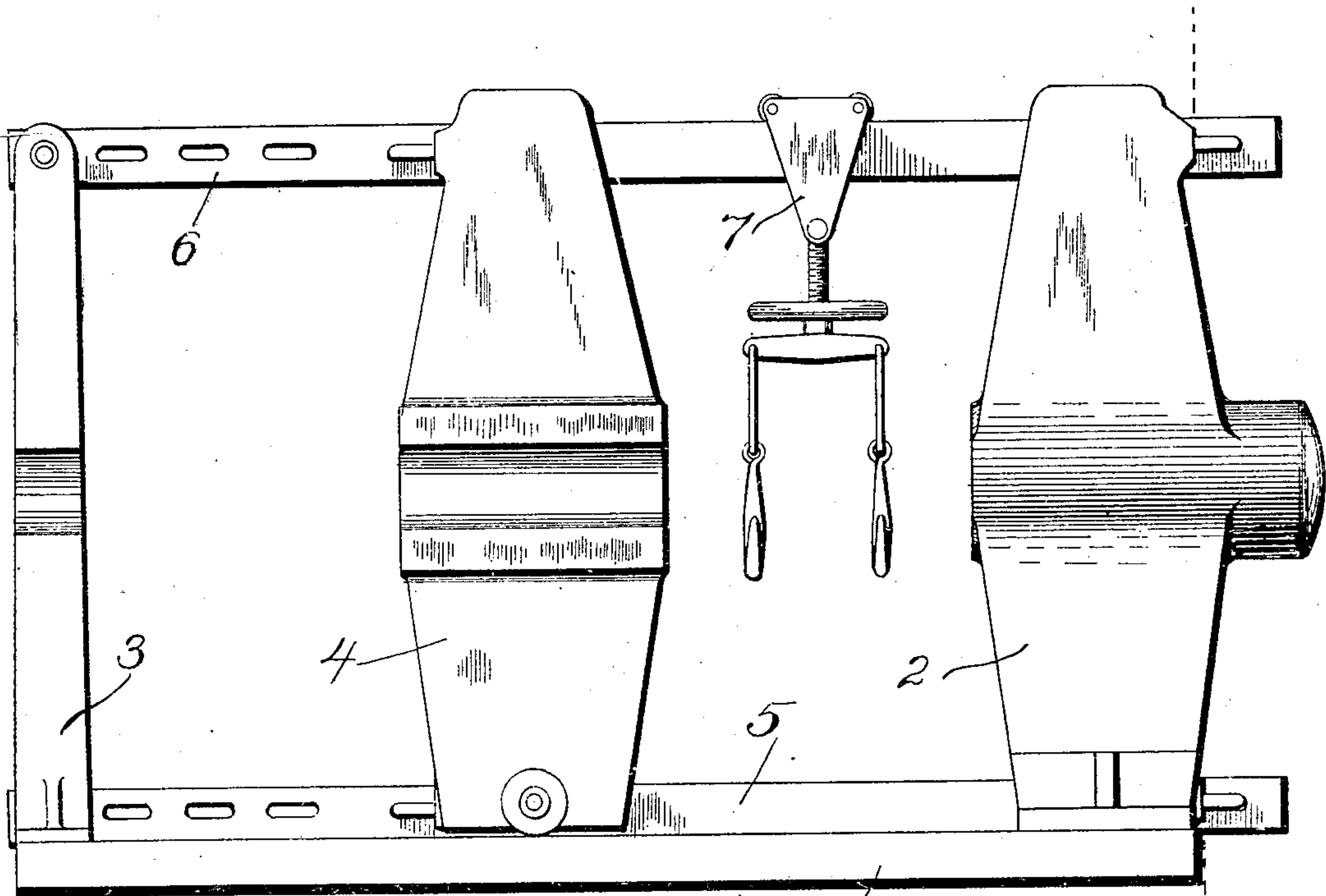


Fig. 1.

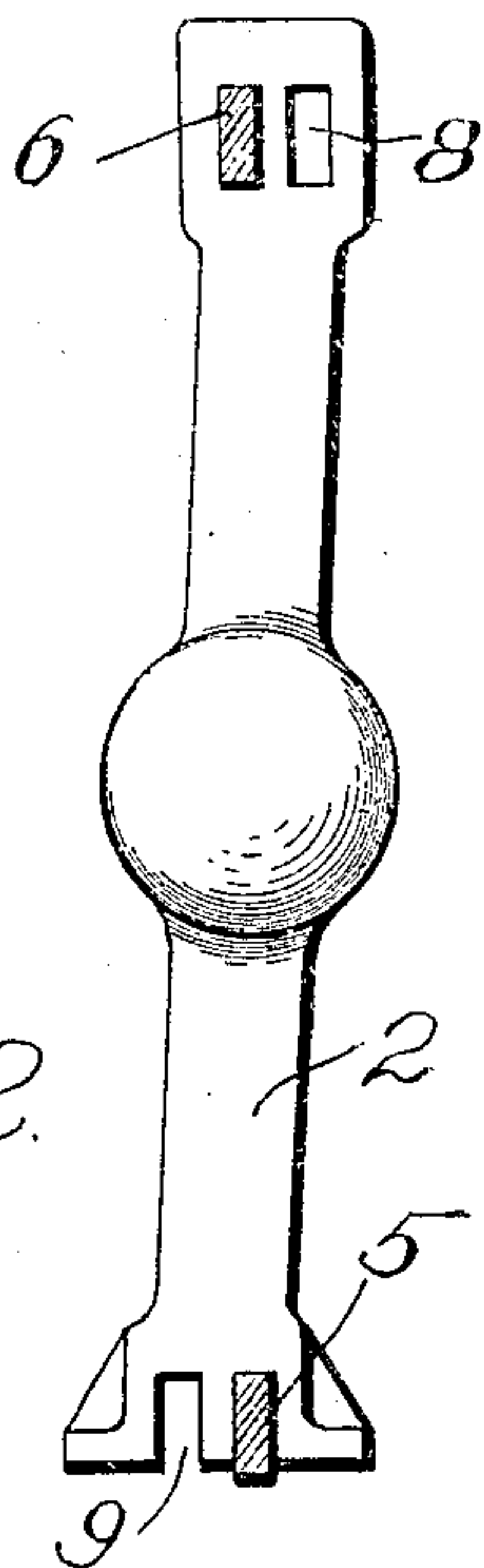


Fig. 2.

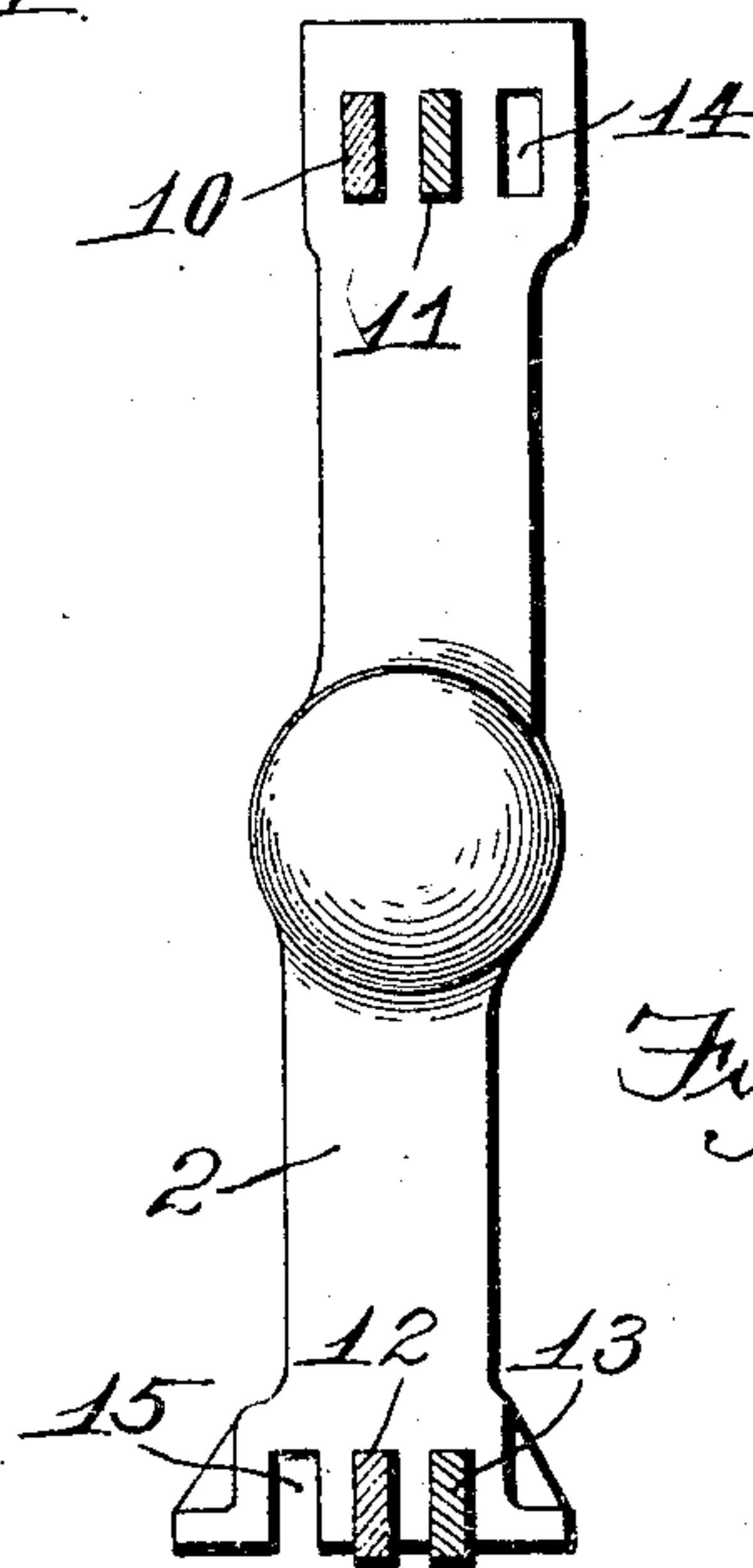


Fig. 3.

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WHEEL-PRESS.

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To all whom it may concern:

Be it known that I, AUGUSTUS WOOD, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Wheel-Presses, of which the following is a specification.

This invention pertains to improvements in presses, generally of hydraulic type, employed in forcing railway-car and locomotive wheels upon their axles and in removing them therefrom, and the improvements will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1 is a front elevation of the main portions of a wheel-press embodying my improvements: Fig. 2 an end elevation thereof, the tie-bars appearing in vertical transverse section: and Fig. 3 a view similar to Fig. 2 but illustrating my improvements applied to a press employing twin tie-bars.

In wheel presses as ordinarily constructed, the upper and lower tie-bars and the axis of the cylinder are arranged in a common vertical plane, and the wheel and axle structure is adjusted and supported in the press by means of a trolley traveling on the upper tie-bar. In such construction the lines of strength are satisfactorily disposed with reference to the line of strain. But in some shops employing wheel-presses it becomes desirable to employ the overhead traveling cranes of the shop in serving the wheel-press, and in such case the upper tie-bar, under the construction above assumed, would be found in the way of the hoisting chain. To meet this difficulty it has been customary to locate the upper tie-bar rearwardly of the vertical plane of the cylinder, and to locate the lower tie-bar forward of that plane, so that there is plenty of room for the hoisting-chain to fall in front of the upper tie-bar. In such case the two tie-bars and the axis of the cylinder are still in a common plane but that plane, instead of being vertical as in the previous assumption, leans to the rear.

A wheel-press having been constructed on the leaning plane plan, in order to be adapted to an overhead crane, if a trolley be employed on the upper tie-bar it is necessarily an offset structure, and one to be avoided if possible. In short, a wheel-press having been constructed on the true vertical plane plan with a trolley on its upper tie-bar, that

press is not satisfactorily adapted for overhead crane use and, a press having been constructed on the leaning plane plan, for overhead crane use, it is not adapted for the use of an ordinary trolley on its upper tie-bar, in other words a given wheel-press is not adapted for use, selectively, with an ordinary trolley or an overhead crane, the two situations therefore calling for two distinct constructions of press.

It is the aim of my invention to provide a press which, when constructed, is adapted for employment either with the ordinary trolley or with an overhead crane, according to the system of the shop in which the press is to be employed.

In the drawing:—1, indicates the sole-plate of the press: 2, the head-block, carrying the cylinder: 3, the tail standard: 4, the shifting tail block: 5, the lower tie-bar: 6, the upper tie-bar: 7, the trolley on the upper tie-bar, all of the parts thus far referred to being of usual construction and subject to any of the usual modifications: 8, a mortise extending through the head and tail blocks to the rear of the mortises in which the upper tie-bar 6 is normally held: and 9, a mortise or recess in the base of the head and tail blocks in front of the mortises or recesses in which the lower tie-bar is normally held.

In Fig. 2 the tie-bars are in normal position, that is to say, the plane common to the two tie-bars and to the axis of the cylinder is truly vertical and the ordinary trolley might travel on the upper tie-bar as usual. It is in this connection that the press would be employed in a shop not employing an overhead crane in lieu of the trolley in serving the press. Now, assuming that the press is to be employed under conditions in which an overhead crane is to serve the press then upper tie-bar 6 is to be shifted into the rear mortise 8, and lower tie-bar 5 is to be shifted into the forward mortise or recess 9. The common plane of the two tie-bars of the axis of the cylinder now leans rearwardly and there is room for the fall of the hoisting-chain in front of the upper tie-bar. It is thus seen that the press may be constructed in advance of any knowledge of the particular situation in which it is to be employed and that it may later be readily adapted and changed to suit the controlling condition.

It has thus far been assumed that each tie-bar was a single bar of satisfactory strength. But with specially high-powered presses it is found desirable to compound each tie-bar, the upper tie-bar being formed of two bars disposed near each other side by side and the lower tie-bar being similarly constructed. This is illustrated in Fig. 3 in which the compound tie-bars are illustrated as being in normal position, the upper pair of bars being vertically over and the lower pair of bars being vertically under the axis of the cylinder.

In Fig. 3 of the drawing:—10, indicates the front upper tie-bar: 11, the rear upper tie-bar: 12, the front lower tie-bar: 13, the rear lower tie-bar: 14, a mortise in the head and tail-blocks to the rear of the mortise in which the rear upper tie-bar is held: and 15, a mortise or recess in the head and tail-blocks in front of the mortise or recess in which the front lower tie-bar is held.

A trolley of ordinary construction, that is to say without offset, may run on the two upper tie-bars in the ordinary manner. If an overhead crane is to be employed in serving the press then front tie-bar 10 is to be shifted to the rear upper mortise 14, and the rear tie-bar 13 is to be shifted to the front lower mortise or recess 15. Under these conditions the plane common to the pairs of tie-bars and the cylinder leans to the rear, and there is room in front of the upper pair of tie-bars for the fall of the hoisting-chain.

It will be readily understood that the improved press, whether employing tie-bars of single type or twin type is adapted to have its tie-bars arranged at will to suit the controlling condition as to the employment of self-contained trolley or overhead crane.

It will be obvious that the present construction, while permitting the tie-bars to be maintained in a plane cutting the axis of the press cylinder regardless of whether the press be employed upon the vertical or leaning plane system, provides for the employment of the offsetless trolley or the traveling crane, at pleasure, regardless of whether or not the plane of the tie-bars coincides with the axis of the press cylinder. For instance, in Fig. 2 the tie-bars and the press cylinder have a common vertical plane, and the arrangement is adapted for the use of an offsetless trolley. If tie-bar 6 be moved back into mortise 8 then the arrangement is adapted for the use of the traveling crane, but the two tie-bars are no longer in a plane

coinciding with the axis of the cylinder. The same consideration would apply to Fig. 3. In short, by adjusting the upper and lower tie-bars the press may be suited for trolley or for crane while the bars and press cylinder are maintained in a common plane, the adjustment of the top bar alone serving to provide for the trolley or crane as desired.

I claim:—

1. A wheel-press comprising, a head-block and a tail-block provided with upper and lower mortises or recesses adapted to receive tie-bars symmetrically disposed with reference to the vertical plane in which lies the cylinder of the press and provided in their upper portions with mortises to the rear of such vertical plane, a lower tie-bar connecting the bases of the head-block and tail-block, and an upper tie-bar connecting the upper portions of the head-block and tail-block and adapted for employment, alternatively, in the front and rear mortises thereof, combined substantially as set forth.

2. A wheel-press comprising, a head-block and a tail-block provided with upper and lower mortises or recesses adapted to receive tie-bars symmetrically disposed with reference to the vertical plane in which lies the cylinder of the press and provided in their upper portions with mortises to the rear of such vertical plane, and in their lower portions with mortises to the front of such vertical plane, a lower tie-bar connecting the bases of the head-block and tail-block and adapted for employment, alternatively, in the front and rear mortises or recesses thereof, and an upper tie-bar connecting the upper portions of the head-block and tail-block and adapted for employment, alternatively, in the front and rear mortises thereof, combined substantially as set forth.

3. A wheel press comprising, a head-block and a tail-block provided each in its top with a mortise or recess adapted to receive a tie-bar in the vertical plane of the cylinder of the press and provided each also with a mortise or recess to the rear of the first-mentioned mortises, a lower tie-bar connecting the bases of the head-block and tail-block, and an upper tie-bar connecting the upper portions of the head-block and tail-block and adapted for employment, alternatively, in the front or rear mortises thereof, substantially as set forth.

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