

(No Model.)

2 Sheets—Sheet 1.

S. F. STAFFORD.  
THRASHING MACHINE.

No. 547,190.

Patented Oct. 1, 1895.

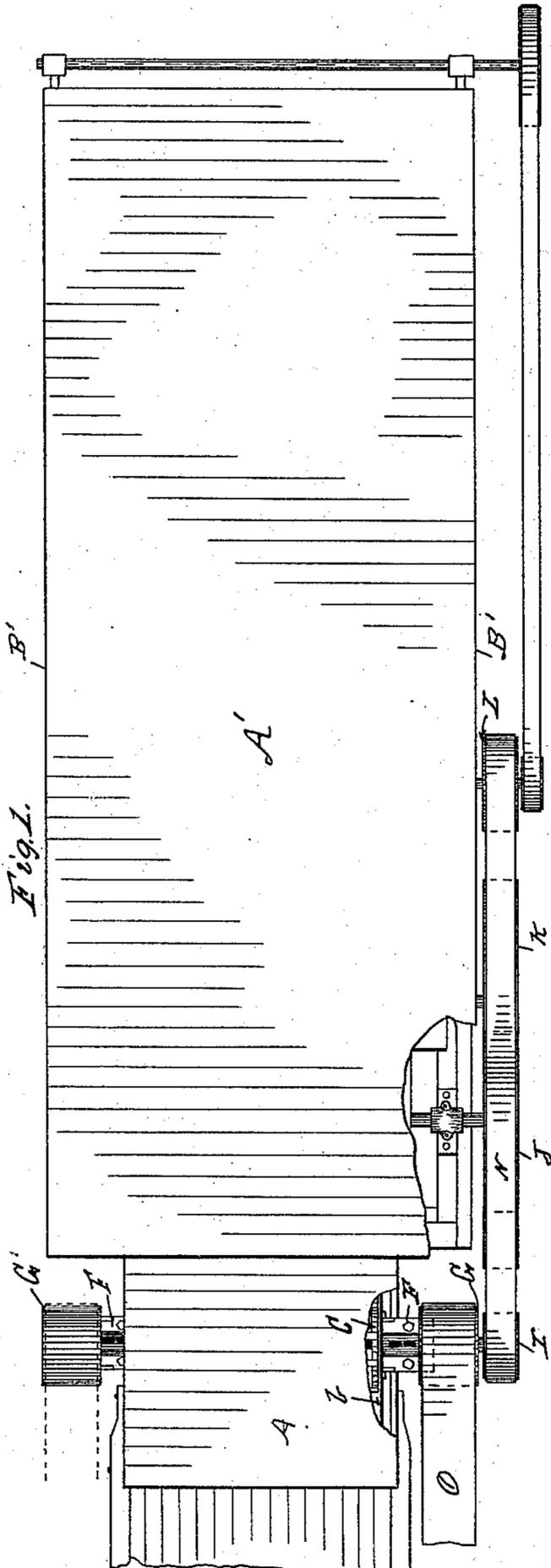


Fig. 1.

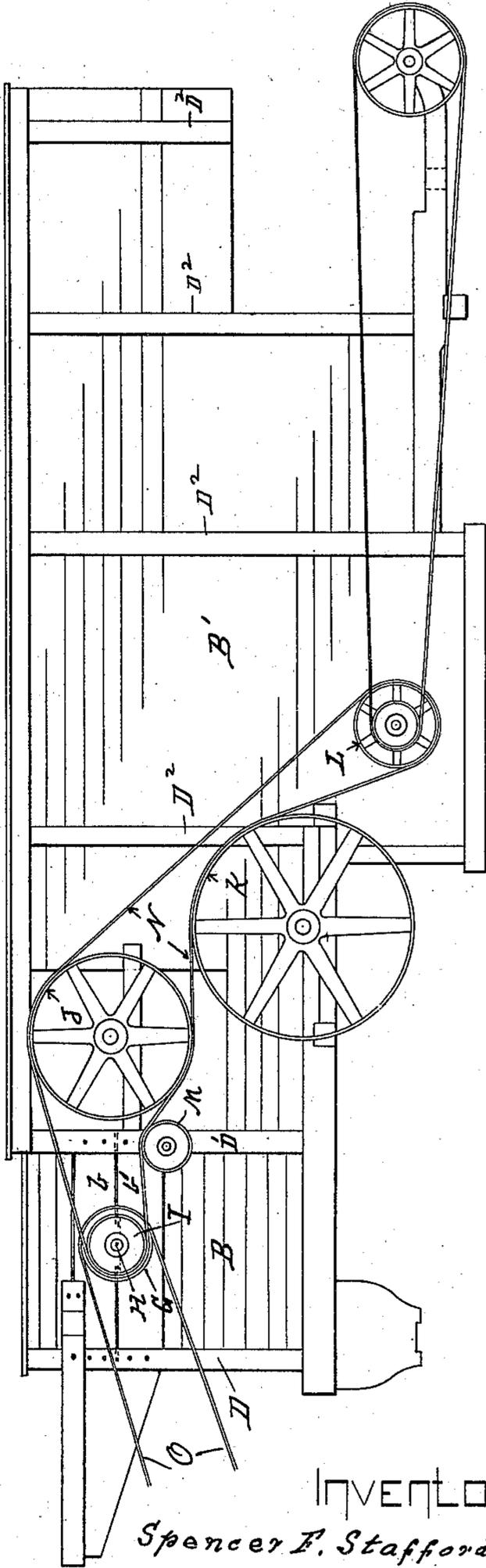


Fig. 2.

WITNESSES.  
*Fred Einfeldt*  
*F. J. Bassett*

INVENTOR.  
*Spencer F. Stafford*  
 By *A. Sturgeon*  
*Atty.*

(No Model.)

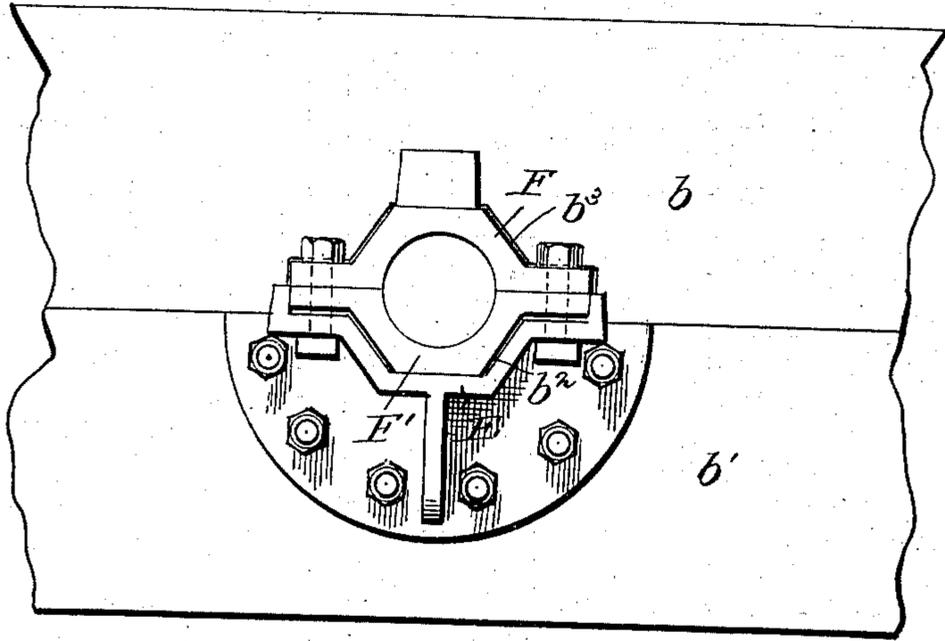
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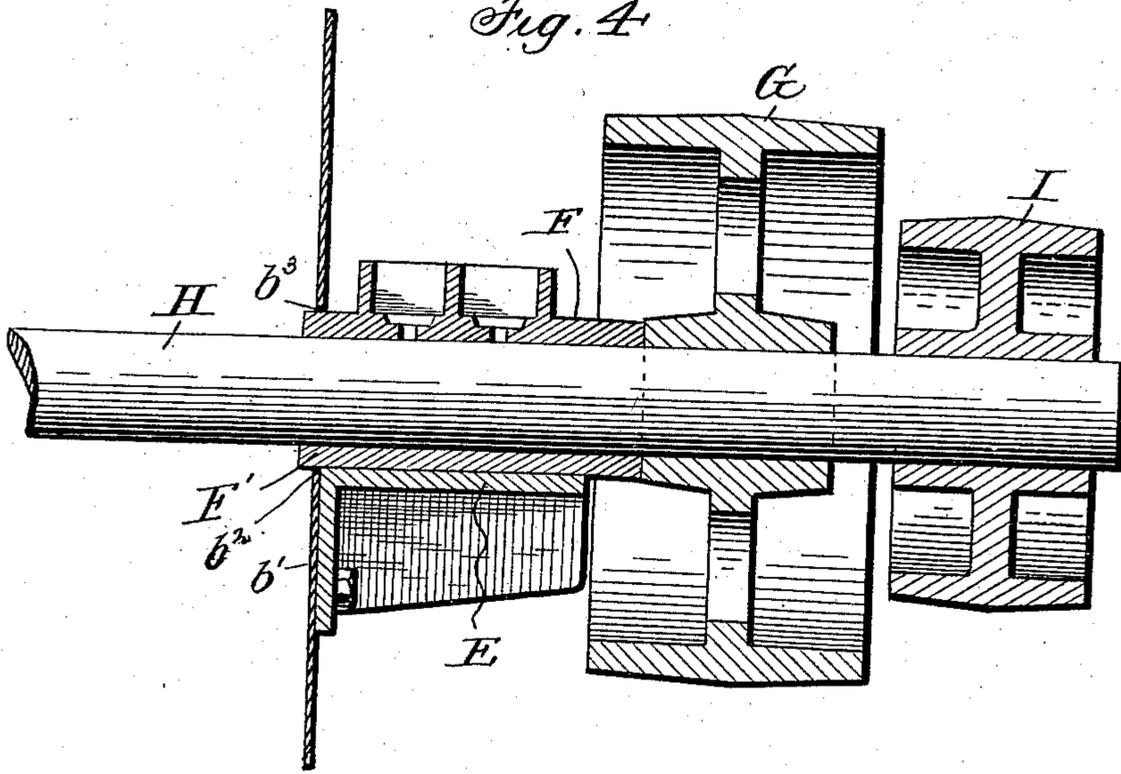
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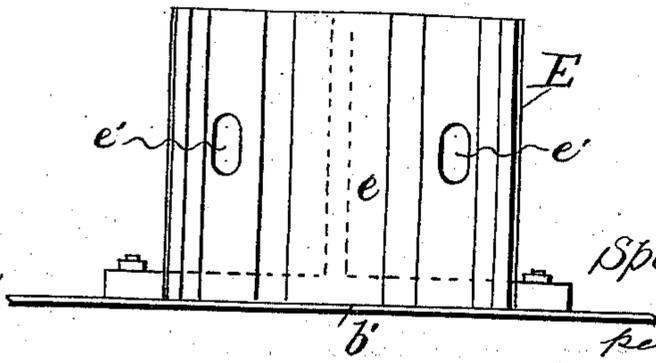
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses:  
*F. L. Ouraud*  
*Jos. Gregory*

Inventor:  
*Spencer F. Stafford*  
per *Chas. Bradford*  
Associate Attorney.

# UNITED STATES PATENT OFFICE.

SPENCER F. STAFFORD, OF ERIE, PENNSYLVANIA.

## THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,190, dated October 1, 1895.

Application filed April 9, 1895. Serial No. 545,038. (No model.)

*To all whom it may concern:*

Be it known that I, SPENCER F. STAFFORD, a citizen of the United States, residing at the city of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Thrashing-Machines; and I do hereby 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, forming part of this specification.

My invention consists in the improvements in thrashing-machines hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of my improved thrashing-machine, parts thereof being broken away. Fig. 2 is a side elevation of the same. Fig. 3 is a detail side elevation, on an enlarged scale, of the central portion of the metal plates *b* and *b'* of one end of the cylinder-casing with the bracket and journal box which it supports secured thereto. Fig. 4 is a transverse vertical section through the same on the line of the center of said box, the shaft and pulleys *G* and *I* being shown in position for use. Fig. 5 is a detail top or plan view of one of the journal-box supporting-brackets separate, showing the elongated holes therein to allow for the adjustment longitudinally of the box secured thereon.

Heretofore in the construction of cylinder-shaft bearings for thrashing-machines great difficulty has arisen on account of the thickness of the casing and bearing-supporting frame at the end of the cylinder in getting the driving-pulley close enough to the end of the cylinder, so as to prevent too much leverage and strain from the tension of the belt driving the cylinder. To overcome this difficulty is the leading object of my invention; and it has for its further objects the improvements in the details of construction and arrangement of the shaft and bearing-supports which permit the driving-pulley and the pulley for transmitting motion to the other mechanism of the machine to be successfully used on the same end of said cylinder-shaft outside its bearing, which has not been practical

in other constructions because of the necessity of mounting them so far from the bearing on the projecting end of the shaft that the twist and strain and consequent wear upon said shaft and bearings would be excessive and very destructive thereto, rendering the arrangement impracticable. In my improved construction I have overcome these difficulties by using thin steel plates, firmly bolted to the frame of the machine for casing in the ends of the cylinder, and upon the lower halves of these plates I firmly bolt brackets, upon which I mount the cylinder-shaft bearings. Said bearings project outwardly from the supporting-plates the greater part of their length, as shown, which permits the driving-pulleys to be mounted on the shaft with its rim projecting inwardly over the outer end of said bearing, the end of the hub of the pulley and said end of the bearing being close to each other. By this arrangement the strain from the driving-belt is brought partially over and within the bearing and the wear therefrom reduced to such an extent that it becomes practical to drive the other mechanism of the machine from the same end of the shaft by means of another pulley mounted thereon outside said driving-pulley. I also arrange the belts so that the driving-belt and the belt for transmitting motion to the other mechanism shall pull against each other and thus still further balance the strain upon the bearings. I prefer to place a driving-pulley on each end of the shaft in the manner just described, and thereby provide for driving the machine from either end, as semi-occasionally the nature of the ground where the engine is to be placed renders it possible to place it upon one side to better advantage than on the other; but, with such exceptions, the power will be applied to the shaft at the same end from which it is to be transmitted to the other mechanism, all of the belts and pulleys in use being thus ordinarily on the same end of the machine. It will be observed, however, that the arrangement whereby a driving-belt may be applied to the driving-pulley at either end of the cylinder-shaft will sometimes be of great advantage, which advantage is a feature of my improved construction.

In the accompanying drawings, illustrating my invention, *A* is the top of the cylinder-

casing, and B the side thereof, and A' the top of the casing of the rear portion of the machine, and B' the side thereof, and it will be observed that the portion of the casing inclosing the cylinder is narrower than the rear portion of the machine, this feature being an ordinary and usual feature of the construction of thrashing-machines. The portion of the part B inclosing the ends of the cylinder C I make of sections *b* and *b'* of steel plates firmly bolted to the upright posts D and D' of the machine-frame, the remainder of the part B above and below the plates *b* and *b'* being cased up in the usual manner. To the outside of the plate *b'* I bolt a bracket E, which projects outward therefrom and is provided with a depression *e* in the upper surface thereof to receive the lower half of a cylinder-shaft box F'. A depression *b*<sup>2</sup> corresponding to the depression *e* in the bracket E is also cut through the upper edge of the plate *b'*, and an opening *b*<sup>3</sup> is cut through the lower edge of the plate *b* (see Figs. 3 and 4) to permit the box-sections F and F' to be moved inwardly toward the end of the cylinder, as desired, the bolt-holes *e'* in said bracket being slotted for that purpose. This construction enables me to locate driving-pulleys G and G' on the cylinder-shaft H, so that the outer ends of said pulleys are substantially on a line with the outsides of the parts D' D<sup>2</sup>, to which the side casing B' of the rear portion of the machine is secured. I then place a pulley I on the end of the cylinder-shaft H outside of one of the driving-pulleys G thereon, which pulley I is then out far enough to be in line with the beater-pulley J, the shaker-pulley K, and the fan-pulley L, so that by the use of a small idler-pulley M, I am enabled to drive all

of these parts of the machinery by means of a single belt N, the tension of which is directly opposite that of the driving-belt O on the cylinder-pulley G.

Having thus fully described my invention, so as to enable others to construct and operate the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a thrashing machine, the combination of the cylinder casing each end whereof is composed of thin sheet metal plates one above the other, a bracket for the shaft boxes bolted to the outer face of each lower plate at its top edge, said brackets being formed with a depression in their top faces, and a corresponding notch being formed in the adjacent edge of the plate to which each is bolted, and a notch corresponding in form to the outer contour of the upper half of the box being formed in the lower edge of each plate which constitute the upper part of the ends of said casing, said shaft boxes mounted one in each of said brackets to be adjusted longitudinally therein, their inner ends being adapted to project within the apertures in the ends of the casing formed by the said notches in said plates, the shaft mounted in said boxes, a driving pulley mounted on each end of said shaft to overhang the outer ends of said boxes, and a pulley for transmitting motion to the other mechanism mounted alongside one of said driving pulleys, all substantially as set forth.

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

SPENCER F. STAFFORD.

Witnesses:

FRED EINFELDT,  
C. B. HAYES.