H. E. SCHANK.

ENGINE BASE MOUNTING.

APPLICATION FILED JULY 21, 1919

1,371,325.

Patented Mar. 15, 1921.

2 SHEETS—SHEET 1.

Fig. I.

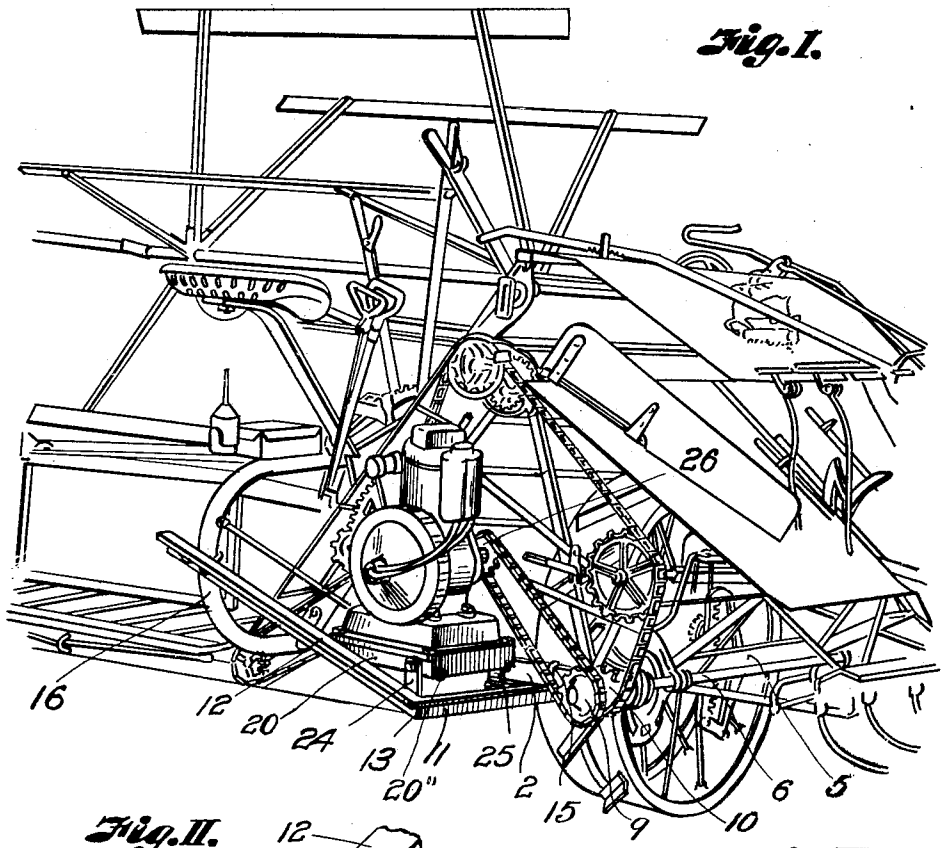


Fig. II.

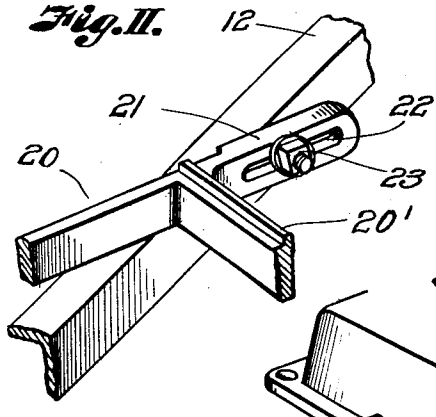


Fig. III.

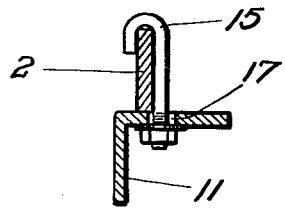
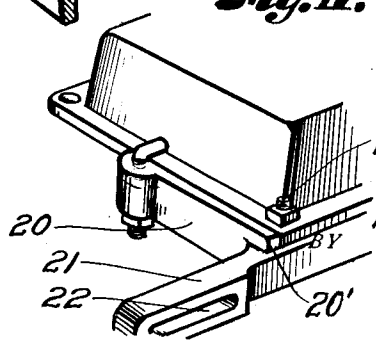


Fig. IV.



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2 SHEETS—SHEET 2.

Fig. V.

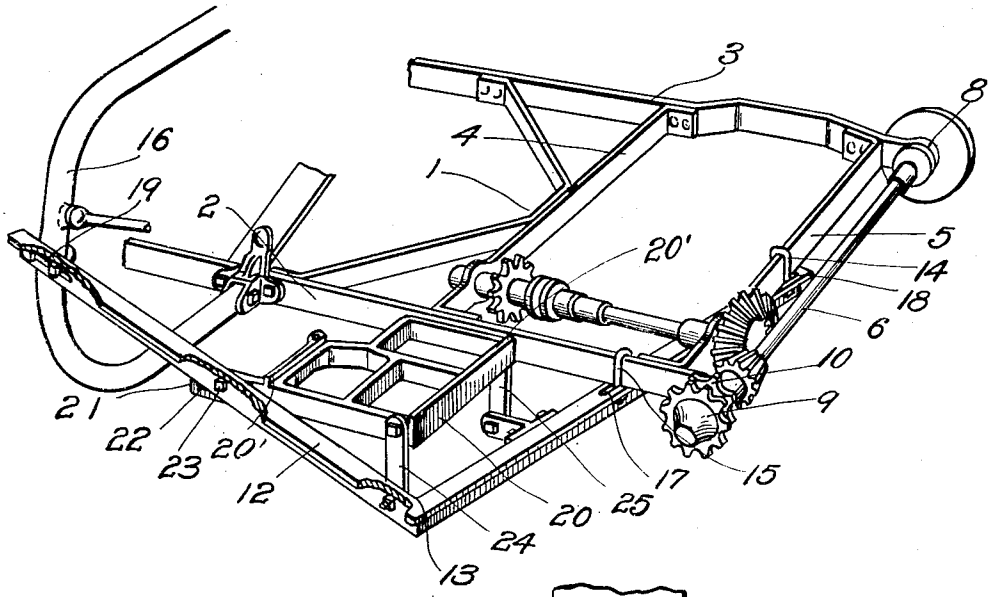
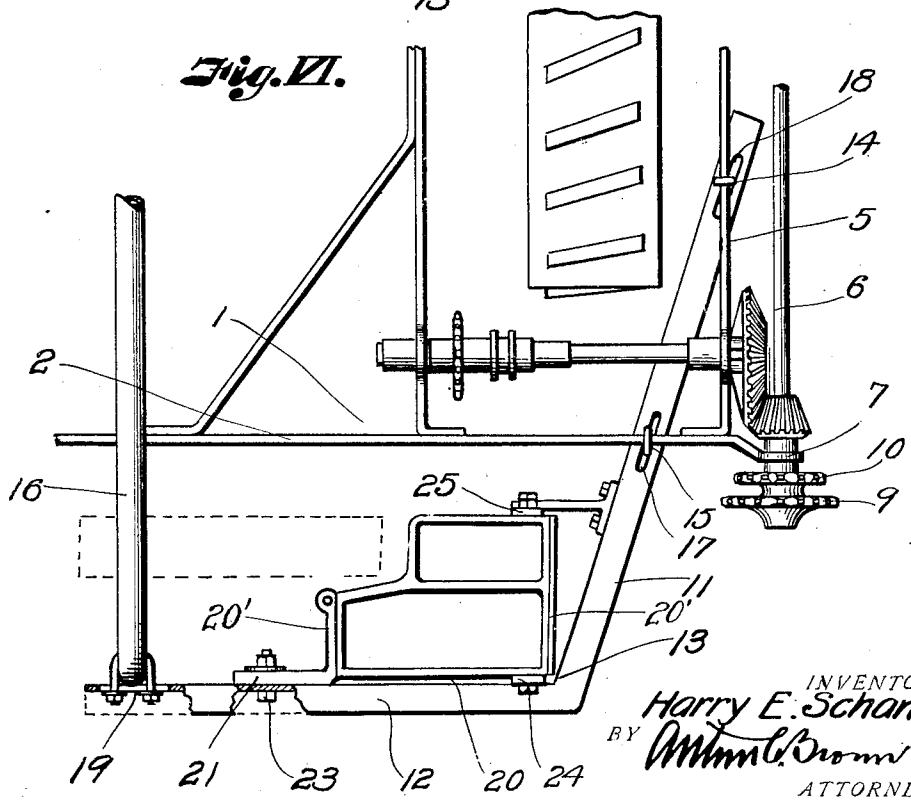


Fig. VI.



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UNITED STATES PATENT OFFICE.

HARRY E. SCHANK, OF TOPEKA, KANSAS, ASSIGNOR TO THE PIERSON MANUFACTURING COMPANY, OF TOPEKA, KANSAS, A CORPORATION OF KANSAS.

ENGINE-BASE MOUNTING.

1,371,325. Specification of Letters Patent. **Patented Mar. 15, 1921.**

Application filed July 21, 1919. Serial No. 312,256.

To all whom it may concern:

Be it known that I, HARRY E. SCHANK, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Engine-Base Mountings; 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to engine beds and primarily to a novel type of bed adapted to be secured to a portable mechanism whereby the engine which furnishes the power for operating the mechanism may be conveniently transported along with it.

The invention is particularly applicable for use in connection with harvesting machines as it is capable of supporting an engine for driving the operating parts of a harvesting machine and thereby reduce the load on the draft animal.

As is generally understood, harvesting machines are provided with superstructures of relatively light and consequently frail parts. The superstructure is sufficiently strong to insure satisfactory performance where the operating parts are driven from the bull wheel but since the machine is not primarily designed to provide for the added weight and vibration of an explosion engine, the advantages resulting from the application of an explosion motor upon the superstructure would, in a measure, be negative unless some provision is made for applying the engine bed or support to a part of the harvester frame best adapted to withstand the strain due to the weight and vibration of the motor. It has been proposed heretofore to apply explosion motors to the frame of existing harvesters for the purpose of imparting motion to the operating mechanism thereof but in such cases the engine has generally been supported from the superstructure by means of stay rods, struts and the like, with the result that there is a tendency to loosen the parts of the superstructure due to the weight and vibration of the motor.

I have provided means whereby the objections above enumerated will, in a considerable measure, be eliminated and I have so constructed the bed that it is not only easily applied and removed without the necessity of drilling holes or otherwise changing any of the parts of the harvester, but I have also constructed the device so that it may be rigidly attached to the rear members of the harvester frame at the point where there is the least liability of vibration and in convenient proximity to the normal drive shaft of the harvester.

I have also provided means whereby the engine may be adjusted upon its bed within certain limits to compensate for various types of harvesters so that a standard type of bed will suffice for different types of machines and I have provided means for efficient clearance for the power transmitting means which connects the drive shaft of the engine to the drive shaft of the harvester.

In the drawings,

Figure I is a partially perspective view of a harvester to which my invention is applied.

Fig. II is a fragmentary view of a part of the bed supporting frame and the bed.

Fig. III is a sectional view showing the manner of attaching the bed supporting frame to the end frame of the harvester.

Fig. IV is a fragmentary view of the engine bed.

Fig. V is a perspective view of the engine bed and frame and part of the end frame of the harvester, and,

Fig. VI is a plan view of the engine bed frame.

Referring now to the drawings by numerals of reference:

1 designates the rear end of the main frame of a harvester, here shown as including a rectangular structure consisting of the longitudinal side bars 2 and 3 and the transverse end bars 4 and 5. The side bars 2 and 3 support a drive shaft 6 journaled in bearings 7 and 8 and driven by suitable means through a sprocket wheel 9, the shaft 6 in turn communicating motion to the operating parts of the harvester as, for example, through the medium of the sprocket 10. The construction thus far described, except for the sprocket 9, is common to known types of harvesters and the frame consisting of the parts 2 to 5 inclusive

is known as the rear part of the main frame of the harvester.

By reference to the drawings it will be observed that I have provided an engine bed frame which may be conveniently attached to and detached from the rear part of the main frame of the harvester and without appreciably rearranging any of the harvester parts.

The specific embodiment of the invention selected for illustrative purposes is shown as consisting of a frame comprising two members designated 11 and 12, preferably formed together and connected by an obtuse angle portion 13, the arm 12 being inclined upwardly toward its free end above the plane of the arm 11. The frame is illustrated as consisting of an angle and the arm 11 is fastened to the end bar 5 and the side bar 2 by clips 14 and 15, arranged so that the bar is beneath the end frame of the harvester and extends across the rear corner at an angle to both bars 2 and 5. The bar 11 extends rearwardly beyond the end frame of the harvester a suitable distance and the upwardly extending arm 12 is adjustably secured to a fixed part of the harvester as, for example, the seat support 16, so that the respective ends of the frame are capable of being rigidly connected to the end frame of the harvester, it being understood that the arm 11 is provided with elongated slots 17 and 18 whereby a longitudinal adjustment of the bar 11 may be had with respect to support 16, and the bar 12 is provided with an elongated slot 19 whereby it may be adjusted laterally with respect to its supports 16.

The frame consisting of the bars 11 and 12 supports the engine bed, which is here shown as consisting of a substantially rectangular skeleton frame 20 having an extended arm 21 with an elongated slot 22 therein to be attached to the member 12 by a fastening device 23, the opposite end of the frame being secured to the members 11 and 12 by links or legs 24 and 25, it being desired to maintain the bed 20 in a substantially horizontal plane irrespective of the angle of inclination of the arm 12.

The frame 20 has longitudinal ribs 20′ extending along each side between which the base of the engine is adapted to seat, the engine being secured to the frame 20 by means of hook bolts 20″ which pass through the base of the engine and clamp on the skeleton frame 20 in such a manner that the engine may be moved longitudinally with respect to the frame to line up the sprocket wheels. When the sprocket wheels are in line, the hook bolts 20″ are tightened and the engine is held rigidly to the base.

The adjustments enable the engine to be properly positioned with respect to the sprocket 9 and the length of the chain employed, so that the distance of the sprocket 26 with respect to the sprocket 9 may be maintained under varying conditions, and by reference to Fig. V it will be observed that the engine bed may be maintained in a horizontal position irrespective of the point of engagement of the arm 12 to the fixed part of the harvester which it engages.

Some binders have a road wheel, as shown in dotted lines in Fig. VI of the drawings. The present frame has one corner cut away which makes it possible to mount an engine on harvesters of this type without interfering with the mounting or dismounting of this wheel.

It will be apparent from the foregoing that the device may be quickly and conveniently attached to the end frame of a harvester in a convenient manner so that the engine bed may be comparatively rigid and this may be accomplished without appreciably affecting or rearranging the construction of the harvester.

What I claim and desire to secure by Letters-Patent is:

1. A portable engine bed comprising an engine-receiving portion, arms arranged at an angle one to the other and supporting said engine-receiving portion, one of said arms inclining with respect to the other and means carried by the arms for attachment to the end of the main frame of a harvester.

2. A portable engine bed comprising an engine-receiving portion, arms arranged at an angle one to the other and one of said arms being inclined with respect to the other, and means for horizontally supporting the engine-receiving portion relative to said arms.

3. A portable engine bed comprising an engine-receiving portion, arms arranged at an angle one to the other and one of said arms being inclined with respect to the other, and means for adjustably supporting the engine-receiving portion on said arms.

4. A portable engine bed comprising an engine-receiving portion, arms arranged at an angle one to the other, one of said arms being upwardly inclined with respect to the other, means for adjustably connecting the engine-receiving portion to the inclined arm, and links connecting the other end of the engine-receiving portion to the other arm.

5. A portable engine bed comprising an engine-receiving portion, a frame removably engaging the engine-receiving portion and having arm extensions, one of which has means for engaging the end of the main frame of a harvester across one corner thereof, and the other arm having means for engagement with the seat support of the harvester.

6. A portable engine bed comprising a frame, means for securing the frame to the

end of the main frame of a harvester, the frame being adjustable longitudinally and transversely of the harvester frame, and an engine base-receiving portion adjustably carried by said frame.

7. A portable engine bed comprising a support-engaging frame, and an engine-receiving portion carried thereby, said engine-receiving portion having one corner cut away to provide clearance for the road wheel of a harvester.

8. In a portable engine bed, a frame comprising connected arms arranged at an angle and one inclined relative to the other, legs on the lower portion of the frame, an engine-receiving portion supported at one end on said legs, and adjustable means supporting the other end of said portion from the inclined arm.

In testimony whereof I affix my signature.

HARRY E. SCHANK.