Dec. 29, 1931. J. POWELL 1,838,569

FRAME CONSTRUCTION FOR CORN HARVESTERS

Filed Oct. 8, 1928 2 Sheets-Sheet 1

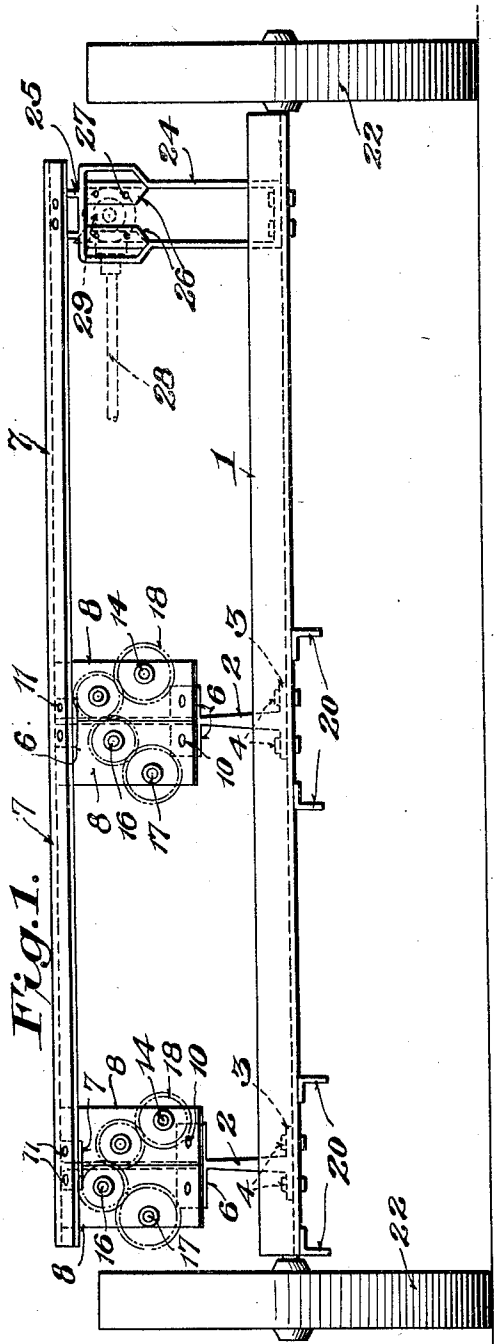


Fig. 1.

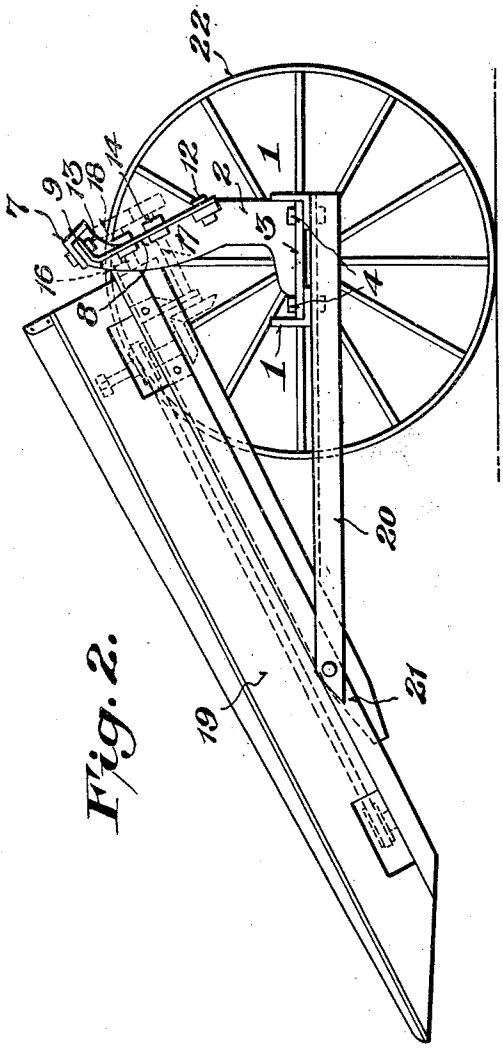


Fig. 2.

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Dec. 29, 1931. J. POWELL 1,838,569

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Filed Oct. 8, 1928 2 Sheets-Sheet 2

Fig. 3.

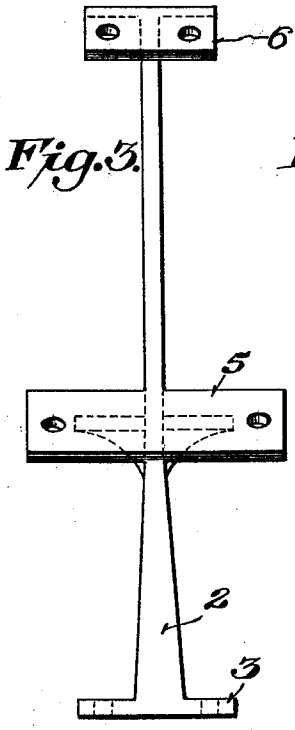


Fig. 4.

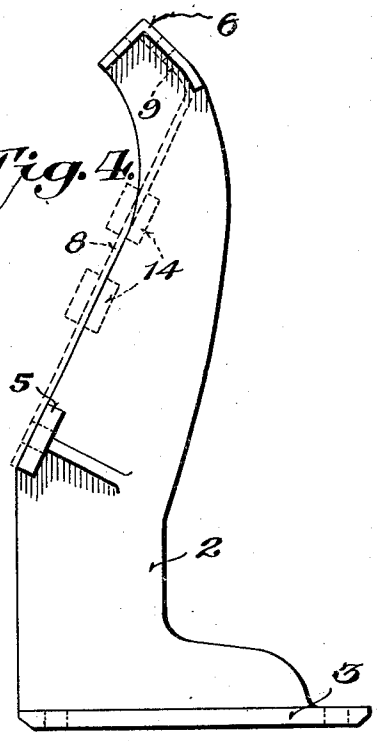


Fig. 8.

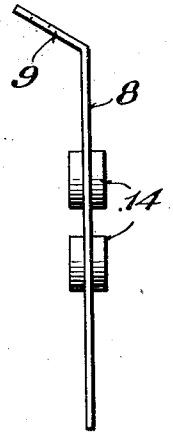


Fig. 5.

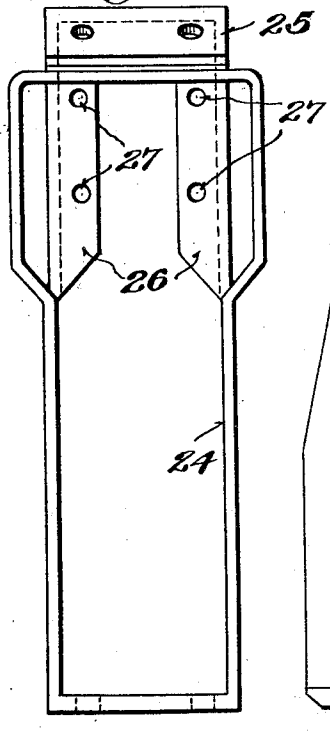


Fig. 6.

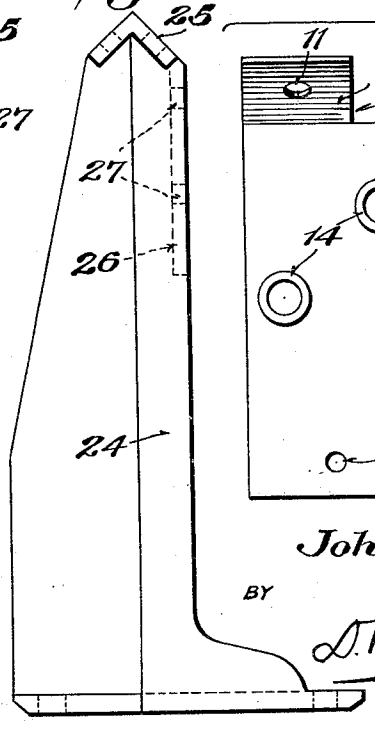
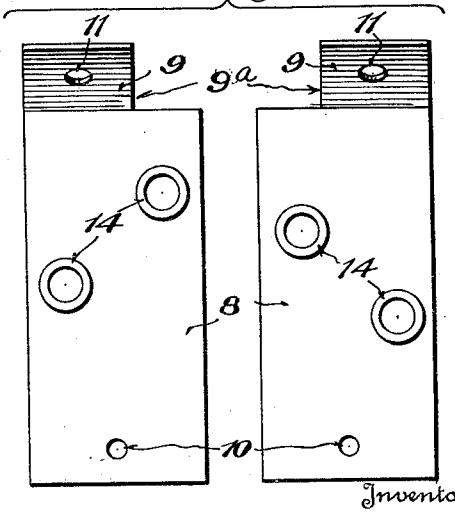


Fig. 7.



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UNITED STATES PATENT OFFICE

JOHN POWELL, OF KOKOMO, INDIANA

FRAME CONSTRUCTION FOR CORN HARVESTERS

Application filed October 8, 1928. Serial No. 311,195.

This invention relates to improvements in corn harvesters, and more particularly to a novel frame construction for a machine of the type disclosed in my co-pending application Serial No. 18,718, filed March 27, 1925.

An object of the invention is to provide an improved frame, whereby the picking and gathering elements may be readily attached or detached, thus facilitating the original assembly or the replacement of a new gathering unit without requiring the dismantling of the whole machine, in the event that the said unit becomes broken or is otherwise in need of repair or replacement.

Another object of the invention is to provide a frame construction including a number of standardized units or parts, which permits of the entire frame being shipped in a "knocked-down" condition if desired, and easily assembled to provide a rigid frame, which will be strong and durable in use.

A further object of the invention is to provide for the assembling of the gathering and picking units complete at the factory and then shipping them separately from the frame to the user, who can readily attach them to the frame by bolting each in three places.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical form of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a rear view of my assembled main frame construction with gathering and husking units removed.

Fig. 2 is an end view of the demountable frame, showing the gathering and picking unit in place thereon.

Fig. 3 is a front view of one of the upright frame brace members.

Fig. 4 is a side elevation of the upright frame brace member.

Fig. 5 is a front view of a modified form of upright frame brace member.

Fig. 6 is a side elevation of the modified form of upright frame brace member.

Fig. 7 shows a pair of cooperating bearing plates for the operating shafts, and

Fig. 8 is a side view of one of the bearing plates.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

My improved frame construction comprises a pair of transversely extending spaced main angle irons or rails 1, arranged with their included angles facing inwardly towards each other.

A pair of upright bracing and supporting members 2 having bases formed of laterally extending ears 3 are positioned on and secured to and between the spaced rails 1, by the bolts 4. These members 2 extend upwardly and then are angled forwardly, and are provided adjacent their mid-sections with the laterally and oppositely disposed supporting ears 5, while their upper ends are formed with the right angled heads 6 which extend to both sides of the body of the members 2. One brace member 2 is positioned at one end of the rails 1, while a second similarly constructed member is secured at the middle of the said rails 1. A top rail 7 formed of angle iron is secured to the heads 6 of the members 2, and extends approximately the length of the main frame-rails 1.

Two pair of bearing plates 8 are formed substantially rectangular in shape and angled rearwardly adjacent their upper ends at 9, and are notched or cut away at adjacent edges as indicated at 9*a*, Fig. 7 of the drawings. Each plate 8 is provided with a bolt opening 10 at its lower end and a bolt opening 11 in its rearwardly angled portion 9 for attaching the same by means of bolts 12 and 13 to the laterally extending supporting ears 5 and to the under surface of the angle heads 6, respectively. The bushings 14 carried by the plates 8 serve as bearings for the shafts 16 and 17, which are geared together through the sprockets 18, and drive the gathering chains and snapping rolls of the picking and gathering unit 19.

Spaced pairs of forwardly extending angle braces 20 are secured to the main rails 1, and are attached to the frame bars 21 of the gathering unit 19, see Fig. 2 of the drawings.

Supporting wheels 22 are mounted at the opposite ends of the main rails 1 in any desired manner, either on stub axles or on a continuous axle extending the length of the said main rails.

It will be understood that the gathering unit 19 will be completely assembled at the factory and that when it is desired to place the same in position on the frame, it is only necessary to fasten bolts through the bolt openings 10 and 11 in the plates 8, and bolt through the forward end of the angle braces 20, and into the frame bars 21 of the gathering unit.

The top rail 7 is, as previously indicated, supported transversely of the frame and is secured to the heads 6 of the members 2, while the bolts extending through the openings 11 in the plates 8 also extend through the top rail.

A modified form of bracing member 24 will be attached at the end of the main rails 1 opposite the members 2 and to the top rail 7 by four bolts which extend through the head 25 of the brace member. Inwardly extending ears 26 are formed adjacent the top of the member 24 and are provided with bolt openings 27, through which pass the bolts for supporting the transmission shaft 28 and bevel gears 29.

From the foregoing, it will be apparent that I have devised an extremely durable and serviceable form of frame construction, in which the essential parts thereof may be quickly assembled or dismantled. It will be further seen that the gathering unit may be replaced by another unit when desired by merely attaching in three places, thereby eliminating waste time and expense of buying a complete harvester.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

I claim:

1. A frame for corn harvesters comprising main rails and a top rail spaced therefrom, a plurality of brace members interposed between said main rails and top rail, supporting wheels carried by said main rails, laterally extending ears on said brace members, bearing plates secured between said ears and said top rail, and gear mechanism operatively supported by said bearing plates.

2. A frame for corn harvesters comprising main rails and a top rail spaced therefrom, a plurality of brace members interposed between said main rails and top rail, supporting wheels carried by said main rails, laterally extending ears on said brace members, bearing plates secured between said ears and said top rail, gear mechanism operatively supported by said bearing plates, and means on said brace members and rails for supporting a gathering unit on said frame.

3. A frame for corn harvesters comprising main rails and a top rail spaced therefrom, a plurality of brace members interposed between said main rails and top rail, supporting wheels carried by said main rails, laterally extending ears on said brace members, notched bearing plates secured between said ears and said top rail, gear mechanism operatively supported by said bearing plates, and forwardly extending brace arms supported by said main rails for supporting a picking and gathering unit.

4. A frame for corn harvesters comprising main rails and a top rail spaced therefrom, a plurality of brace members interposed between said main rails and top rail, supporting wheels carried by said main rails, laterally extending ears on said brace members, bearing plates secured between said ears and said top rail, gear mechanism operatively supported by said bearing plates, and a brace member at one end of said main rails interposed between the same and said top rail for supporting mechanism for operating other portions of the harvester.

5. A corn harvester or the like including a main frame comprising top and bottom rails, a plurality of vertically arranged brace elements detachably bolted to said rails, preconstructed picking and gathering units, and means for detachably connecting said preconstructed units to certain of said vertically arranged brace members.

6. A corn harvester or the like including a frame comprising a channel shaped bottom frame, a top rail member of right angular cross section, and a plurality of vertically arranged brace members having base flanges for fitting in the channeled shaped bottom rail and having right angular disposed top portions for fitting in the angle of the top rail, fastenings for detachably connecting the top and bottom rails and the brace members, and means associated with said brace members for detachably connecting the operative parts of the harvester.

7. A corn harvester or the like including a frame comprising top and bottom rolled metal channel members providing brace receiving seats, mechanism carrying braces having their upper and lower portions arranged in said seats of the said rolled metal shapes of the frame.

8. A corn harvester or the like including a frame comprising top and bottom frame members consisting of rolled metal channel

members and providing brace receiving seats, a plurality of vertically arranged brace members fitting in said seats, means for detachably connecting said braces in the seats, ears formed on certain of said braces, bearing plates, and fastenings for detachably connecting said bearing plates with said ears.

In testimony whereof I hereunto affix my signature.

JOHN POWELL.