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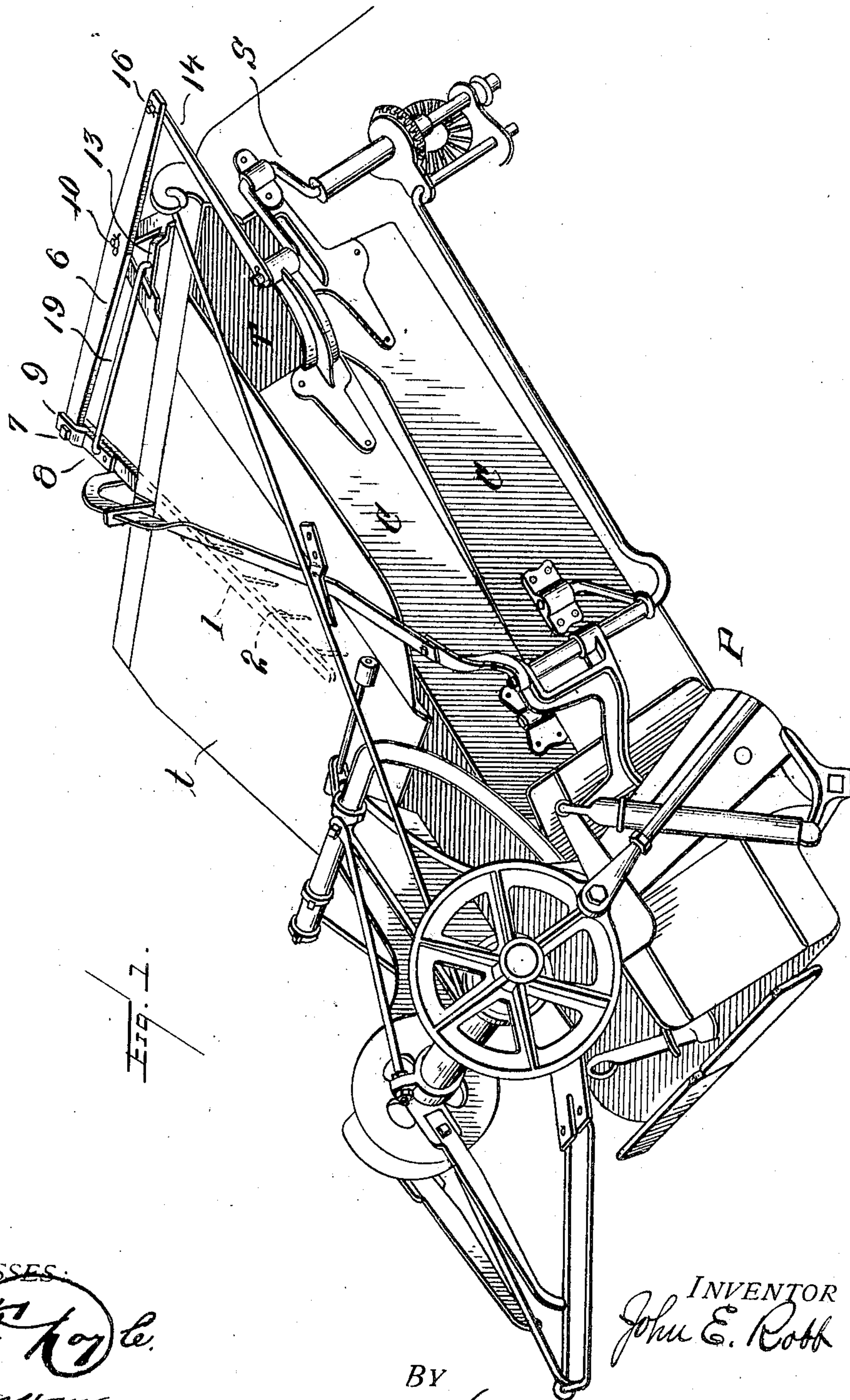
PATENTED MAY 12, 1908.

J. E. ROBB.

BINDER ATTACHMENT.

APPLICATION FILED SEPT. 11, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

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John E. Robb

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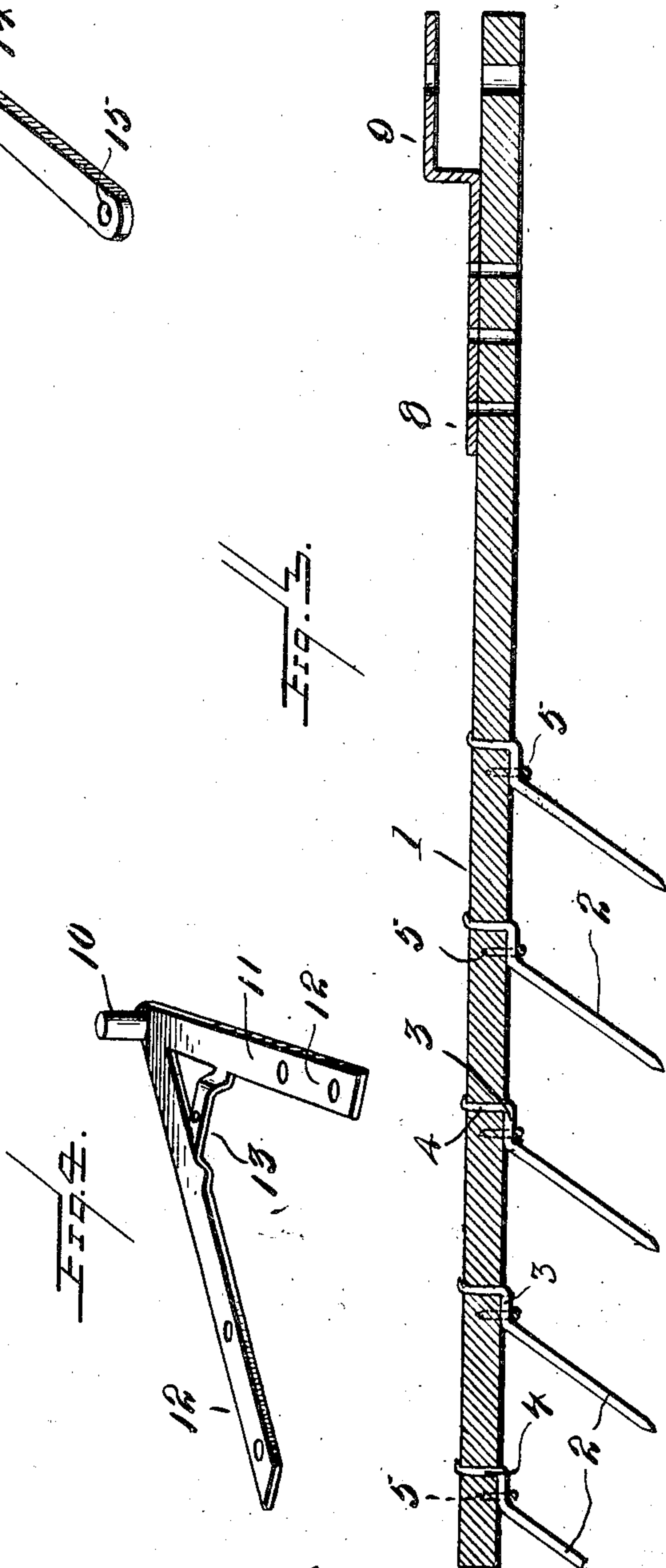
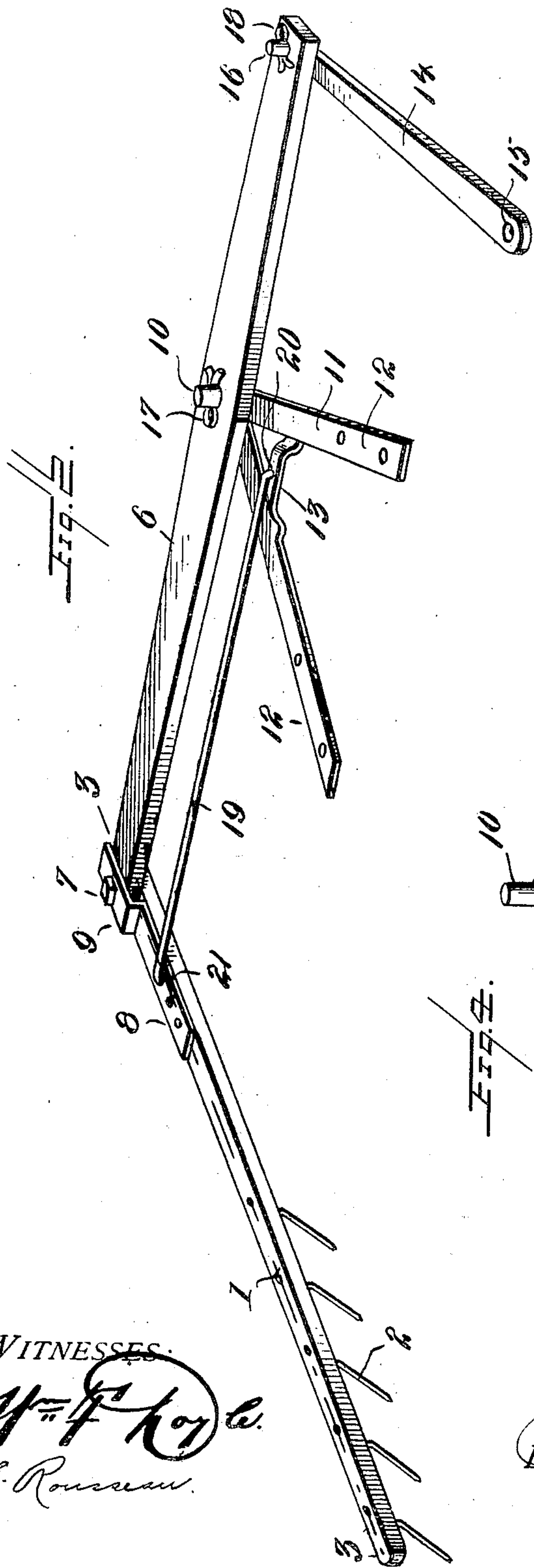
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2 SHEETS—SHEET 2.



~~WITNESSES.~~

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UNITED STATES PATENT OFFICE.

JOHN E. ROBB, OF HALLOWELL, KANSAS.

BINDER ATTACHMENT.

No. 887,271.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed September 11, 1907. Serial No. 392,379.

To all whom it may concern:

Be it known that I, JOHN E. ROBB, a citizen of the United States, residing at Hallowell, in the county of Cherokee and State of Kansas, have invented certain new and useful Improvements in Binder Attachments, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in self binding harvesters and more particularly to means for positively feeding the grain down the grain table to the packers or bundling mechanism.

In the self binding harvester now in general use the grain is delivered from the cutting apparatus by an elevator upon the top of a downwardly inclined grain table at the lower end of which is arranged mechanism for packing the grain into bundles and tying the bundles. When the grain being harvested is damp and when it has fallen down and is short and thin, it will not readily feed down the grain table to the packers after it has been deposited upon the top of the table by the elevator. Such grain tends to adhere to the table and to choke the packing and bundling mechanism.

The object of the present invention is to provide a simple and inexpensive mechanism which will effectively overcome the above noted objection to harvesters and which will be in the form of an attachment so that it can be readily applied to harvesters now in use.

With the above and other objects in view the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings in which

Figure 1 is a view of a portion of a well known form of binder showing the application of my invention thereto; Fig. 2 is a perspective view of the attachment removed from the machine; Fig. 3 is a detail section taken on the plane indicated by the line 3—3 in Fig. 2; and Fig. 4 is a perspective of the pivot bracket or support.

While my invention may be adapted for use upon a binding machine of any form and construction, the present embodiment of it is in the form of an attachment especially

designed for use upon the binder known on the market as the Deering Ideal Binder. This binder as shown in Fig. 1 has a downwardly inclined grain table T at the lower end of which is a bundling mechanism P adapted to receive the grain and form it into bundles, and at one side of which is a butt adjusting mechanism C operated by a crank shaft S. The grain table T is supported from the frame of the machine at the upper end of the usual endless elevator and is provided with a cover t.

My invention is designed to force or positively feed the grain deposited upon the top of the table T down the same to the bundling mechanism P and it comprises a raking or packing member 1 arranged longitudinally of the table beneath its cover t and adapted to be reciprocated as presently explained. This member 1 is preferably in the form of a bar or staff having upon its lower side a plurality of downwardly inclined spring teeth 2 which engage the grain upon the table and force it downwardly as the rake or packer staff is reciprocated. The teeth 2 are preferably arranged in a longitudinal row and are constructed of resilient metal, each having at its inner end a straight portion 3 and a right angularly bent spur 4 which is driven into the staff 1 as shown in Fig. 3. Staples 5 engage with the portions 3 of said teeth and are driven into the staff for the purpose of holding the teeth in longitudinal alinement with the staff. The staff or bar 1 is of such length that when reciprocated its teeth 2 feed the grain on the table to the bundling mechanism P. The rake or packer staff is preferably operated by a rocking beam or lever 6 to one end of which it is pivotally connected by a bolt or the like 7. This pivotal connection is strengthened by providing upon the upper end of the staff 1 a metal strap 8 having an offset end 9 between which and the staff 1 is arranged the rocking beam 6. The beam or lever 6 is pivoted intermediate its ends upon the pivot stud 10 formed upon a supporting bracket 11. The latter is substantially V-shaped and consists of two converging arms 12 united by a cross bar 13 and having the pivot stud 10 projecting at right angles from their converging ends. The spaced ends of the arms 12 are adapted to be connected to the frame of the binder by bolts

or other suitable fastenings. The beam or lever 6 may be operated from any moving part of the binder but upon the Ideal Deering Binder I preferably operate it from the crank shaft S to which it is connected by a pitman 14. This pitman rod has at one of its ends an aperture 15 to receive the end of the crank shaft and at its other end is formed a right angularly projecting pivot stud 16 to enter an aperture in one end of the beam or lever 6. It will be seen that in order to connect the device to the binder it is only necessary to attach the bracket 11 to its frame and to remove the usual cotter pin in the end of the crank shaft S then apply the pitman rod 14 to said end and then replace the cotter pin! To enable the device to be readily removed from the binder I preferably provide a cotter pin 17 in the pivot stud 10, so that when said cotter pin is removed the beam or lever 6 may be removed from the bracket 11. A cotter pin 18 is also preferably provided upon the pivot 16 so that the pitman rod and lever may be disconnected if desired.

Any suitable means may be provided for guiding the rake or packer staff 1 and allowing it to have a limited lateral swinging movement but I preferably employ a rod or link 19 which is arranged substantially parallel with the beam or lever 6 and has one of its ends pivotally connected at 20 to the cross bar 13 of the bracket 11 and its other end pivotally connected at 21 to the staff 1 at a suitable distance from the pivot bolt 7. This construction it will be observed will cause the staff 1 to be maintained at all times with its length longitudinally of the table T so as to force the grain squarely down the same.

In operation, the motion of the crank shaft S is imparted by the pitman 14 to the rocking beam or lever 6 which latter oscillates and reciprocates the rake or packer staff 1 longitudinally above the grain table so that the teeth 2 of said staff engage the grain and force it downwardly to the oscillating arms of the bundling mechanism P of the machine. Owing to the resiliency of the teeth 2 and to the downward inclination of their ends they will slide over the grain as the staff 1 is raised and then engage the grain and force it downwardly as the staff is lowered or moved downwardly over the table.

While I have shown and described my invention as in the form of an attachment for ready application to a binding machine of the form shown or any other suitable form and construction, it will be understood that it may be built into the machine and form a permanent part of the same. It will also be understood that various changes in the form, proportion and minor details may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention and that I therefore do not limit myself to

the precise construction shown and described.

Having thus described my invention what I claim is:

1. In a binder, the combination with an inclined grain table, of a rake bar or packer staff arranged longitudinally above the table, a longitudinal series of spurs carried by said bar or staff and projecting from the bottom of the latter, said spurs being inclined downwardly and stubbleward and adapted to engage the grain upon said table and feed it positively down the same, and means for reciprocating said bar or packer staff longitudinally.

2. In a binder, the combination with an inclined grain table, of a rake bar or packer staff arranged longitudinally above the table, a longitudinal series of spurs carried by said bar or staff and projecting from the bottom of the latter, said spurs being inclined downwardly and stubbleward and adapted to engage the grain upon said table and feed it positively down the same, and a lever connected to the upper end of said bar or staff for reciprocating it longitudinally above the table.

3. In a binder, the combination with an inclined grain table, of a rake or packer staff arranged longitudinally above the same, a series of spurs depending from said staff and inclined downwardly, a lever fulcrumed intermediate its ends and pivotally connected to the upper end of said staff, a link arranged parallel with the lever, and pivotally connected to the staff and an operating means connected to the other end of the lever for oscillating the same.

4. In a binder, the combination with a downwardly inclined grain table, and a shaft, of a rake member arranged above the table for feeding grain down the same, a lever for reciprocating said member, a crank upon said shaft and a pitman connecting said crank and said lever, substantially as set forth.

5. In a binder, the combination with a grain table and a crank shaft, of a rake member arranged above the table for reciprocation, a lever for operating said member, a link arranged parallel to the lever and connected to said member and a pitman connecting the lever and said crank shaft, substantially as set forth.

6. In a binder, the combination with a grain table and a crank shaft, of a bracket, a lever pivoted thereon, a pitman connecting one end of said lever and said crank shaft, a rake or packer staff pivoted to the other end of said lever and arranged above said table and a link arranged parallel to the lever and pivoted to said bracket and said staff, substantially as set forth.

7. In a binder, the combination with a downwardly inclined grain table and a crank

shaft, of a bracket secured to the binder and
having a pivot, a lever detachably mounted
upon said pivot, a pitman connected to one
end of said lever and detachably engaged
5 with a crank of said crank shaft, a rake or
packer staff pivoted to the other end of said
lever and arranged above said table, inclined
teeth arranged upon the lower face of said
staff, and a link arranged parallel to the lever

and having one end pivoted to the staff and 10
its other end detachably pivoted to said
bracket, substantially as set forth.

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

JOHN E. ROBB.

Witnesses:

NATHAN H. MAXWELL,

EDWARD E. SAPP.