

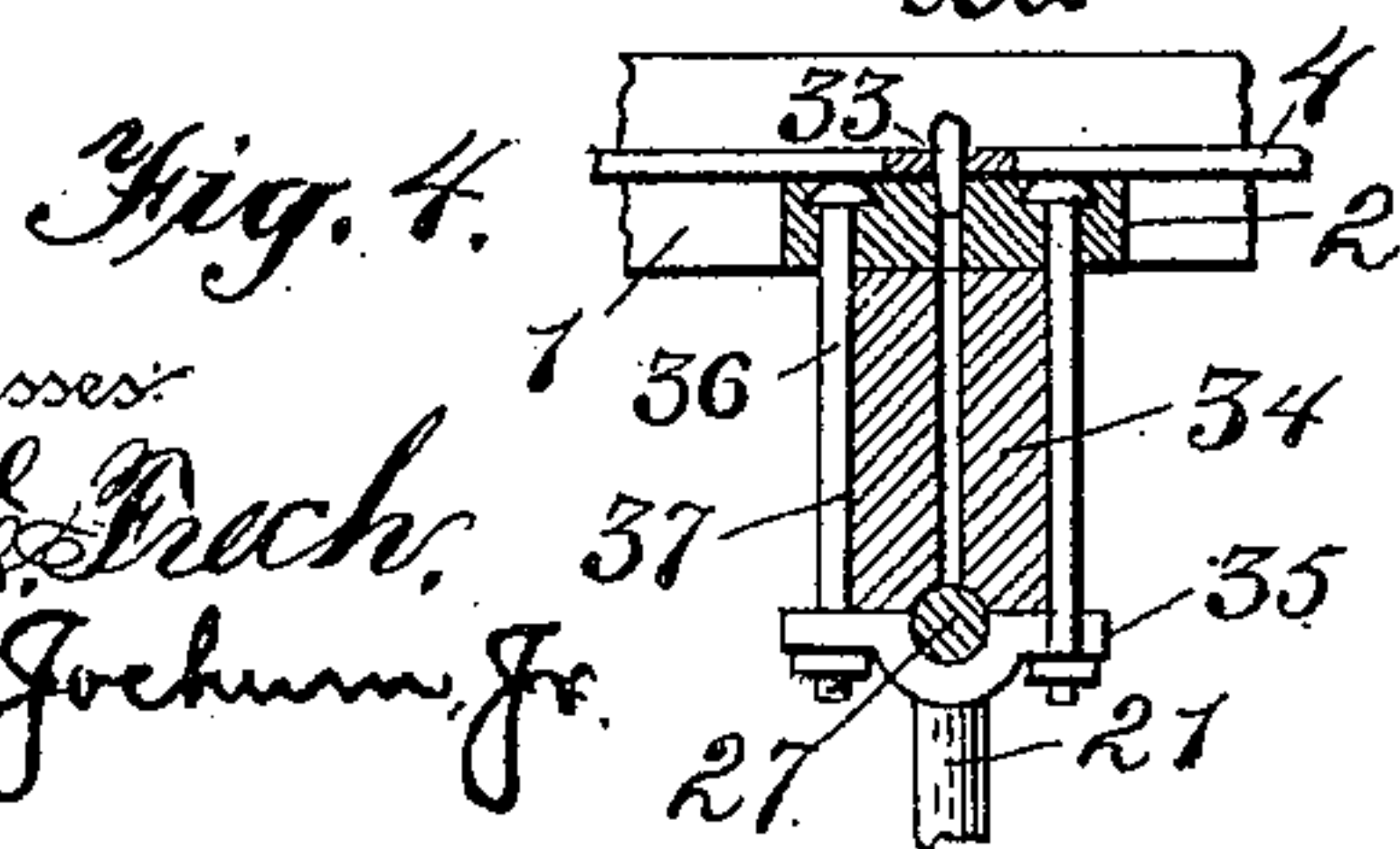
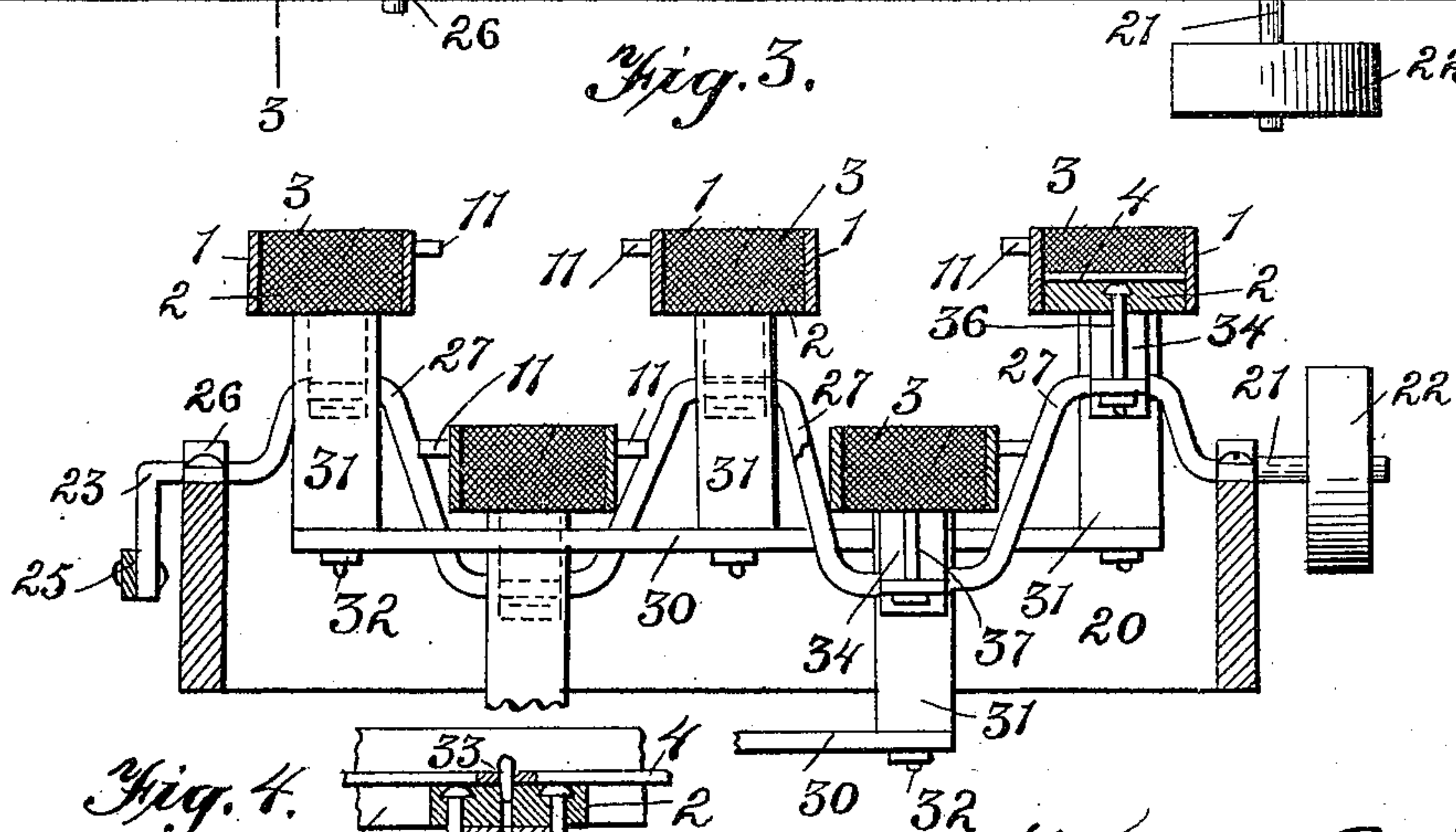
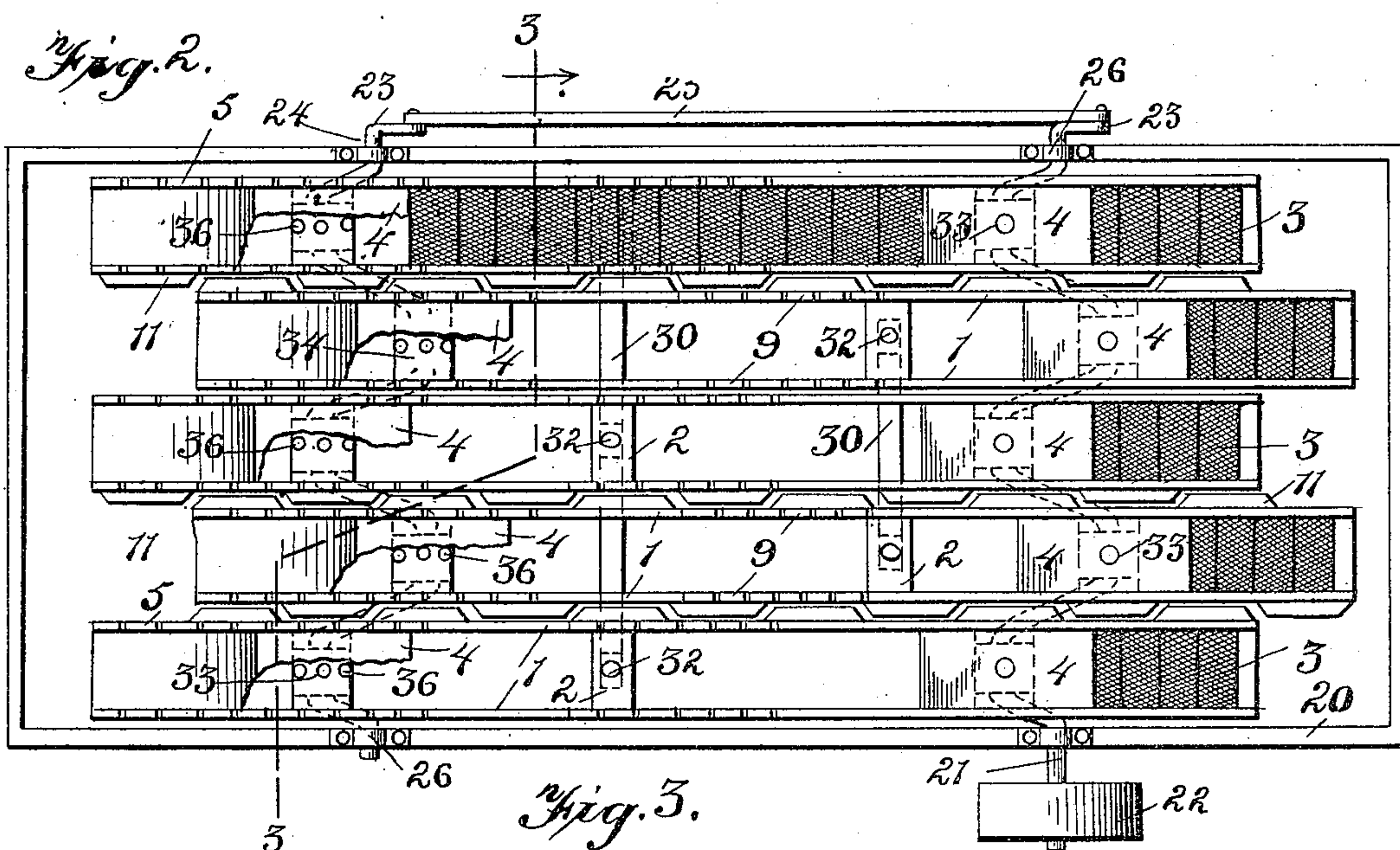
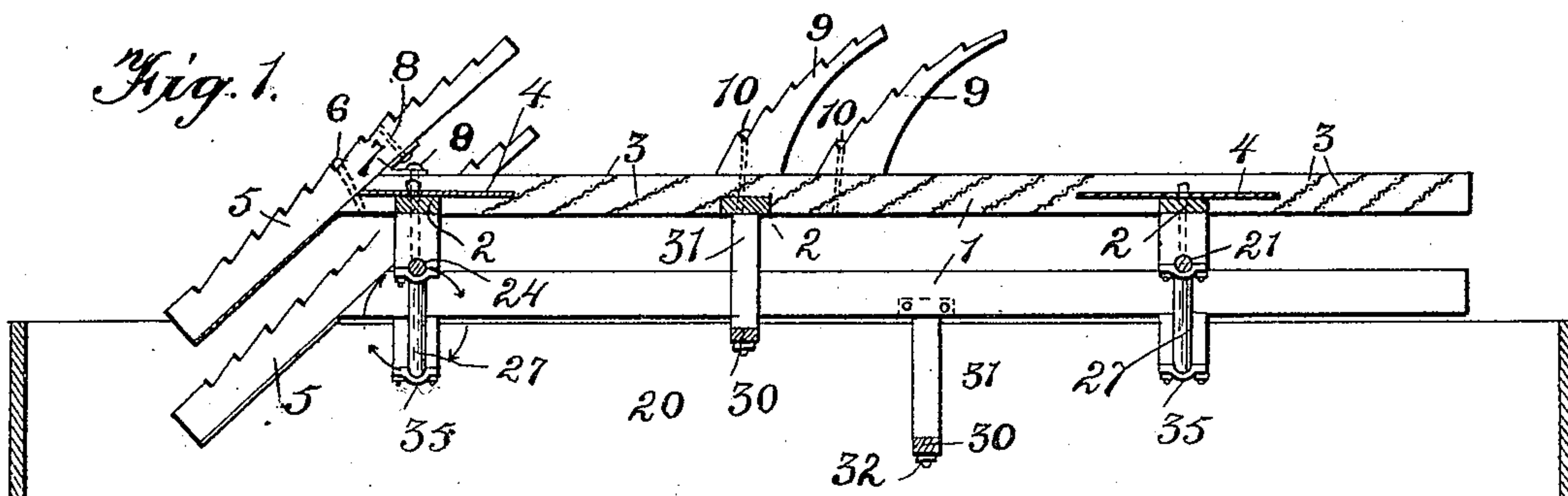
No. 641,566.

Patented Jan. 16, 1900.

W. E. WHITE.  
STRAW CARRIER.

(Application filed May 20, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

WILLIAM EDWARD WHITE, OF CAMBRIDGE, MINNESOTA.

## STRAW-CARRIER.

SPECIFICATION forming part of Letters Patent No. 641,566, dated January 16, 1900.

Application filed May 20, 1899. Serial No. 717,633. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM EDWARD WHITE, a citizen of the United States, and a resident of Cambridge, Isanti county, State of Minnesota, have invented certain new and useful Improvements in Straw-Carriers; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to straw-carriers, and more especially to those known as "walking-rakes;" and the object of the same is to produce an improved carrier of this character popularly known as a "grain-deck."

Among the objections existing with respect to straw-carriers hitherto constructed may be enumerated the frequency with which the grain and chaff drop through the deck onto the driving mechanism beneath and choke or clog the same, the lack of thoroughness with which the straw or grain is agitated, the size and weight of the machines, as well as their cost, and the space occupied by the large and cumbersome parts, and consequently the excessive power to run. These and other well-known existing objections it is the object of the present invention to overcome.

To this end the device hereinafter described consists of the general arrangement of parts and the specific construction of details, all as illustrated in the drawings, wherein—

Figure 1 is a longitudinal section of this machine, showing one of the slats raised and the other lowered. Fig. 2 is a plan view thereof with considerable parts broken away. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4 illustrates certain details.

Each slat of this improved deck consists of two side pieces 1 1, connected at intervals by cross-pieces 2, as described below, and which are bolted or riveted at their extremities to said side pieces, so that the latter stand parallel and on edge. The side pieces are furthermore connected by strips or slats 3, of perforated metal or wire-gauze, having openings of the necessary size to permit the passage therethrough of grain or chaff, and, as seen at 4, at points above the driving-shafts, described below, these strips may be solid, so the dirt cannot fall through onto the boxings. At the feed end of each side piece is an arm

5, standing oblique to and extending across the line of the side piece and preferably notched on its upper edge. This arm is bolted to the side piece 1 by an oblique bolt 6, and in the acute angle beneath the arm is placed an angle-bar 7, whose arms are bolted, as at 8, to both pieces, so as to give rigidity to the parts.

9 designates risers, preferably curved slightly throughout their length and also having teeth in their upper edges. Each riser is bolted, as at 10, to the upper edge of one side piece, and there are two or more sets of these risers throughout the length of the slats, the number of sets depending on the length of the machine.

11 designates blocks with oblique or beveled ends, which blocks are secured to the outer faces of said pieces, so as to stand at both sides of each slat, and the blocks are spaced and proportioned in such manner that in the operation described below the blocks on one slat will make complete revolution around those on the slat next adjacent, and when two adjacent slats stand in the same plane the blocks thereon form a practically continuous partition to prevent chaff from falling between them. In some instances I may omit these blocks and place the slats closer together; but I find that when used they prevent the grain and chaff from falling between the slats onto the conveyer below.

20 designates the casing in which the machine is mounted, and 21 is a power-shaft having on one extremity a pulley 22 and preferably cranked, as at 23, at its other extremity. 24 is another shaft cranked, as at 23, and 25 is a pitman-rod connecting these cranks. In the present machine two such shafts are shown; but it will be clear that a greater or less number may be used. Each shaft is preferably of cast-iron, which I find to answer very well for the purpose, and is turned where it has its bearings 26 in the casing, and the body of the shaft is formed zigzag, so as to provide a series of oppositely-disposed cranks. Obviously the pitman-rod 25 and the cranks 23 cause its driving-cranks 27 to rotate in unison.

This machine is built with two series or banks of slats connected by cross-bars 30, extending transverse of the machine beneath the slats at proper points and at a suitable



distance below them to permit of the motion below described. To this end blocks 31 are mounted at proper intervals on each cross-bar and are bolted, as at 32, beneath cross-pieces 2, as above mentioned. Said cross-pieces which stand above the cranks are provided with oiling-holes 33 at their centers, communicating with similar holes in blocks 34, which stand beneath them and form the upper parts of bearings (complemented as at 35) surrounding the cranks 27.

36 are bolts passing downward through the cross-pieces 2 along grooves 37 in the sides of the blocks 34 and through the complementary bearings 35. By this means the cross-pieces 2, and hence the slats, are held supported above the shaft 21 a sufficient distance, and the holes 33 can be filled with grease or oil from above and plugged. Furthermore, the parts of any bearing can be separated, as for substitution or repair.

The power being applied to the pulley 22 it is given one hundred and sixty-five revolutions a minute, and with a two-and-a-half-inch eccentric the cranks 27 drive every part of each slat in the direction of the arrow in the dotted circle of Fig. 1 at that speed. As one bank of slats descends the other bank rises, and the notched edges of the arms and risers take up the straw and toss it forward, dropping grain and chaff through the deck and finally delivering the straw over the rear end thereof. If the blocks 11 are used, they perform the important function of assisting in keeping the chaff and short straw from getting down on the conveyer beneath. The V shape of the cranks 27 or the zigzag in the shafts I consider the essential points, because it permits the slats to work very closely to the shaft, and all builders of machinery will realize that if the spacing-blocks 31 and 32 are too long it will permit undesirable vibration and tend to weaken the machine.

I refrain from giving in detail the operation of the machine, as the actions of straw-carriers are well known to those skilled in the art.

What is claimed as new is—

1. In a straw-carrier, the combination with the driving mechanism, and a series of slats each consisting of side pieces standing on

edge and connected by cross-pieces to which said mechanism is attached; of rearwardly-inclined oblique arms standing across the front ends of the side pieces, oblique bolts through the arms and side pieces, angle-irons in the acute angles through these members, and bolts through the arms of the angle-irons into the respective members; risers in rear of the arms, curving throughout their lengths, inclining toward the delivery end, and notched on their upper edges, and means for securing said risers detachably to the slats, as and for the purpose set forth.

2. In a straw-carrier, the combination with two alternating banks of slats each consisting of side pieces carrying the agitating devices, cross-pieces connecting the side pieces, a plurality of spacing-blocks beneath the cross-pieces, a cross-bar extending beneath one set of spacing-blocks, and a bolt through each cross-piece and its block and said bar; of a double-cranked shaft extending beneath another set of said spacing-blocks which latter form upper members of bearings on the cranks, complementary members beneath said cranks, and two bolts through the cross-pieces and each block and member of this set, all of said spacing-blocks being of greater length than the throw of the cranks, as and for the purpose set forth.

3. In a straw-carrier, the combination with a series of slats each consisting of side pieces carrying the agitating devices, perforated strips and cross-pieces connecting the side pieces, solid strips also connecting the side pieces above the cross-pieces, spacing-blocks beneath the cross-pieces, the solid strips, cross-pieces and blocks being provided with alined holes; of a rotary crank-shaft beneath all the blocks, the latter forming the upper members of bearings on the cranks thereof, and complementary members beneath said cranks, as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature this the 15th day of May, A. D. 1899.

WILLIAM EDWARD WHITE.

Witnesses:

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FRED. W. NESBITT.