

W. KURTH, P. KURTH, JR. & J. KURTH.
 BASE BALL PITCHING MACHINE.
 APPLICATION FILED FEB. 26, 1916.

1,185,917.

Patented June 6, 1916.
 2 SHEETS—SHEET 2.

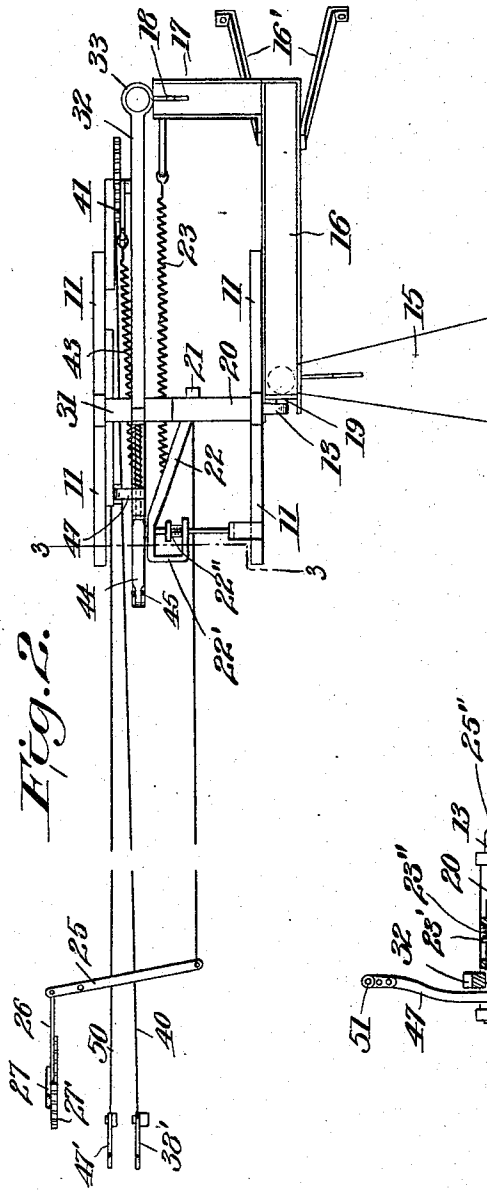


Fig. 2.

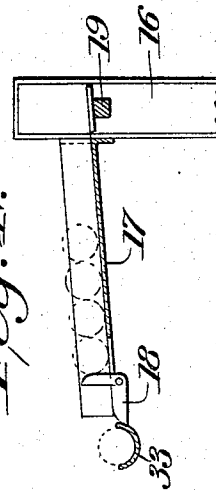


Fig. 4.

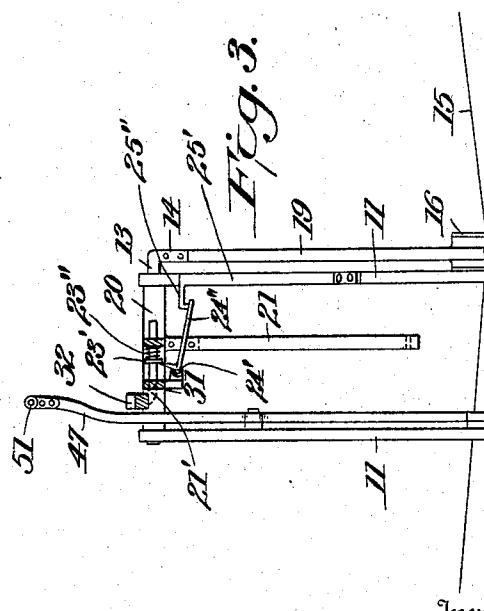
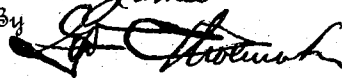


Fig. 3.

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BASE-BALL-PITCHING MACHINE.

1,185,917.

Specification of Letters Patent.

Patented June 6, 1916.

Application filed February 26, 1916. Serial No. 80,621.

To all whom it may concern:

Be it known that we, WILLIAM KURTH, PETER KURTH, JR., and JAMES KURTH, citizens of the United States, residing at Waunakee, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Base-Ball-Pitching Machines, of which the following is a specification.

10 This invention relates to an improvement in ball pitching apparatus.

The primary object of the invention is to provide an efficient pitching apparatus in which the batter may not only control the actual delivery of the ball, but also effectually control the speed at which it is projected from the apparatus, as well as the direction in which it travels.

15 A further object of the invention is to so construct the operating mechanism that the same may be controlled by a single lever located at a point remote from the apparatus.

20 A still further object of the invention is to provide a construction which may be readily set up at any desired place and which will occupy a comparatively small space.

25 With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion and minor details without departing from the scope or sacrificing any of the advantages of the invention.

30 In the drawings:—Figure 1 is a side elevation. Fig. 2 is a top plan view. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a detail view of the ball feeding mechanism. Fig. 5 is a detail view of the apparatus by means of which the speed at which the ball is thrown is regulated.

35 In the drawings 10 designates a frame which consists of two pairs of spaced standards 11, the standards of each pair being connected intermediate their ends by a cross arm 12. The standards of each pair at their upper terminals are connected and form bearings for a shaft 13. This shaft 13 extends entirely through one of said bearings 40 and is bent downwardly as at 14. A trough

15 is arranged at one side of the frame at its base, the same being inclined whereby to deliver the balls to a chute or raceway 16. The chute 16 is curved and extends upwardly communicating at its upper end with a transverse inclined single delivery chute 17. The delivery end of this chute 17 may be provided with any suitable single delivery mechanism, there being shown an L-shaped latch member 18 which may be controlled by a spring or weight. Secured to the downwardly curved extension 14 of the shaft 13 is an arm 19, the terminal of which travels within the chute 16. The balls are received within the chute 16 from the trough 15 and then lifted by means of the arm 19 to the transverse chute 17 upon the rotation of the shaft 13.

45 A sleeve 20 is keyed on the shaft 13 and mounted on said sleeve is a bell crank lever 21 said lever constituting what will be termed the resetting lever, the long arm of said lever extending downwardly. The short arm 22 of this lever is offset and its terminal is bent to provide a U-shaped trigger support 22'. Mounted to reciprocate through the arms of this support is a latch member 21' which consists of a bolt, one terminal of which is beveled, the bolt intermediate the arms of the U-shaped terminal of the lever carrying a collar 23' there being a spring 23'' interposed between said collar and the terminal of the arm, the tendency of said spring being to project the beveled terminal of the bolt through the U-shaped support in the path of a pitching arm which will be hereinafter described. A bracket 24' extends downwardly from the U-shaped support said bracket pivotally supporting an L-shaped trigger 24'' the short arm of which engages the collar 23' to move the trigger out of the path of the pitching arm against the tension of the spring 23''. A bracket 25' is secured to the frame 10, said bracket being terminally provided with a projection 25'' which lies in the path of the long arm of the L-shaped trigger 24''.

50 A heavy coiled spring 23 has one of its terminals connected to the lever adjacent the end of its short arm, the other terminal of the spring being connected at 23^a to the chute 16. A cable 24 is connected to the lower terminal of the long arm of the lever, said cable extending to a point remote

from the apparatus and being there connected to a pivoted arm 25. One terminal of this arm 25 is connected to a link 26, the link having a pivotal connection with the ratchet lever 27 which operates over the segment 27'.

A sleeve 31 is loosely mounted on the shaft 13 and secured to this sleeve is the pitching arm 32. One terminal of this arm is provided with a ball receiving cup 33 which, when the arm is in a horizontal position, is disposed, as illustrated in Fig. 4, at the delivery end of the chute 17. Arranged adjacent the base of the frame is a block 34, the upper face of which is concaved and provided with a series of notches. A plurality of arms 35 and 36 extend from the adjacent standard 11 of the frame 10 and have their terminals connected to form a bearing 37. A lever 38 is supported by the bearing thus formed and on the lower terminal of said lever is a spring pressed pawl 39 which is released by means of a cable 40 operated at a point remote from the apparatus. To the upper end of the lever 38 is secured a T-iron 41. A pair of heavy coiled springs 42 and 43 each having one of their terminals connected to this T-iron extend to a point adjacent the terminal 44 of the pitching arm, being connected to said arm by a T-iron 45.

Connected to the frame 10 is a supporting arm 46 which forms a pivotal support for a vertically extending arm 47. The lower terminal of this arm 47 is of the same construction as the lower terminal of the lever 38 and rides in a concaved notched block 49, its ratchet being controlled by a cable 50. The cables 40 and 50, the first controlling the lever 38 and the other the arm 40, are controlled at a point remote from the apparatus by levers 38' and 47'. The upper terminal of the arm 47 is apertured and, extending through the aperture in a direction parallel with the pitching arm 32, is a rod 51 provided at one end with a buffer head 52, there being a spring 53 interposed between the buffer head and the arm whereby the buffer is maintained in extended position.

In operation the trough 15 is supplied with a suitable number of balls, there being a single delivery apparatus of any suitable type arranged at the delivery end of said trough. As the trough is filled, one ball will enter the chute 16. When the apparatus is used for the first time it is necessary to place a ball within the cup 33 of the pitching arm 32, but it will be understood that after the first ball has been delivered the automatic feeding takes place.

Assuming that a ball has been delivered and the pitching arm is in a substantially vertical position the lever 27 is released allowing the bell crank lever to be rotated

upon its pivot by the spring which is attached thereto. As the lever passes the pitching arm the latch member or trigger 21' will feather over the same but immediately it has passed the pitching arm it will lock beneath it. The lever 27 is then drawn back carrying said arm with it against the tension of the spring 23. The continued movement of the lever 27 will bring the pitching arm to a position where the same receives a ball from a trough 17. The final movement of the lever 27 draws the setting arm to a position where the terminal 25'' of the bracket 25' engages the long arm of the trigger 24''. This contact of a terminal of the bracket with said trigger moves the same upon its pivot whereby its short arm engages the collar 23' and forces the bolt 21' out of contact with the pitching arm 32, overcoming the normal tendency of the spring 23'' to project the bolt beneath the arm. As soon as the bolt or latch member 21' is moved out of contact with the pitching arm 32 the springs which are secured to the terminal of a pitching arm and which have been extended during the operation of the resetting arm cause the pitching arm to rotate upon the shaft on which it is mounted. The construction of the cup 33 carried by the pitching arm is such that the ball will not leave the same as soon as the arm is released. The ball being retained within the cup until the lever contacts with the buffer 52 carried by the arm 47, there being a buffer 52' arranged on the arm 32. As soon as these buffers contact, the ball is projected horizontally in the direction of the batter. When the pitching arm has finished its active or throwing stroke it will assume a substantially vertical position, the same being reset in the manner above described.

It will be understood that when the bell crank lever was initially released the same caused a rotation of the shaft which in turn operated the serving or feeding arm 19 to carry the ball arranged in advance thereof to the transverse trough 17.

The speed at which the ball travels is governed by regulating the tension of the springs 42 and 43. This is accomplished by means of cable 40 which is operated at a point remote from the apparatus and convenient to the batter by means of a lever 38'. By moving this lever in one direction the tension of the springs may be gradually increased as the ratchet arranged on the base of the lever 38 is drawn toward the left hand side of the block 34.

In order that the direction in which the ball is thrown may be varied, the arm 47 may be moved by the cable 50 in the same manner as the arm 38 is moved by the cable 40, whereby to place the buffer 52 at different points with respect to the buffer 52'

of the pitching arm. Thus it will be seen that the exact time at which the ball leaves the cup may be varied by manipulating the lever 47.

5 It will be understood that, while such levers as 38' and 47' have been illustrated as operating means for the cables, any suitable manipulating means may be provided and, in lieu of cables, rods may be used whereby
10 the lever and arm 47 may be operated positively in either direction. The arm 47 is, however, preferably maintained in a substantially vertical position by the coiled spring 47''.

15 Particular attention is directed to the simplicity of the operating mechanism as well as to the fact that the entire apparatus may be constructed and set up at a comparatively small cost, the same being of such structure
20 that it may be readily assembled and disassembled and conveyed from one place to another.

What is claimed is:—

25 1. A ball pitching apparatus including a frame, a shaft rotatably supported by the frame, a pitching arm loosely mounted on said shaft, means for causing said pitching arm to rotate about the shaft, and means rotatable with the shaft for supplying a ball
30 to the pitching arm.

2. A ball pitching apparatus including a frame, a shaft rotatably supported by the frame, a pitching arm loosely mounted on said shaft, means for causing said pitching
35 arm to rotate about the shaft, means rotatable with the shaft for supplying a ball to the pitching arm, and means arranged in the path of the pitching arm for causing a ball carried thereby to be delivered.

40 3. A ball pitching apparatus including a frame, a shaft rotatably supported by the frame, a pitching arm loosely mounted on said shaft, means for causing said pitching arm to rotate about the shaft, means rotata-

ble with the shaft for supplying a ball to 45 the pitching arm, and an adjustable resilient member arranged in the path of the pitching arm for causing a ball carried thereby to be delivered.

4. A ball pitching apparatus including a 50 supporting frame, a shaft rotatably supported by said frame, a pitching arm loosely mounted on said shaft, means for rotating said arm to deliver the ball, means rotatable 55 with the shaft for supplying balls to said pitching arm, and means carried by the shaft for setting the pitching arm.

5. A ball pitching apparatus including a frame having spaced supports, a shaft jour- 60 naled for rotation in said supports, a vertically extending ball chute carried by the frame, an arm mounted on said shaft and operating in said chute, a pitching arm loosely mounted on said shaft and receiving the balls from said chute, and means for 65 simultaneously actuating said arms.

6. A ball pitching apparatus including a frame having spaced supports, a shaft jour- naled for rotation in said supports, a ball chute supported adjacent the frame, an arm 70 rotatable with the shaft and operating in said ball chute, a pitching arm mounted on the shaft and receiving balls from said chute, means carried by the shaft and dis- posed to engage said pitching arm whereby 75 to hold the same in set position, and a member arranged in the path of the pitching arm and adapted to engage the same to cause the delivery of the ball.

In testimony whereof we affix our signa- 80 tures in the presence of two witnesses.

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PETER KURTH, JR.
JAMES KURTH.

Witnesses:

M. J. O. MALLEY,
A. P. KENNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."