C. O. BRANDELL.

CORE ACTUATOR.

APPLICATION FILED FEB. 2, 1911.

1,023,920.

Patented Apr. 23, 1912.

2 SHEETS—SHEET 1.

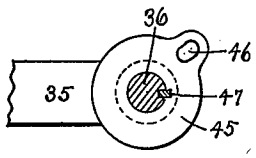


Fig. 7.

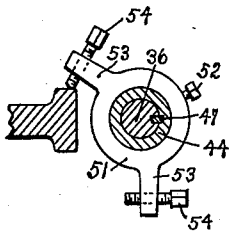


Fig. 8.

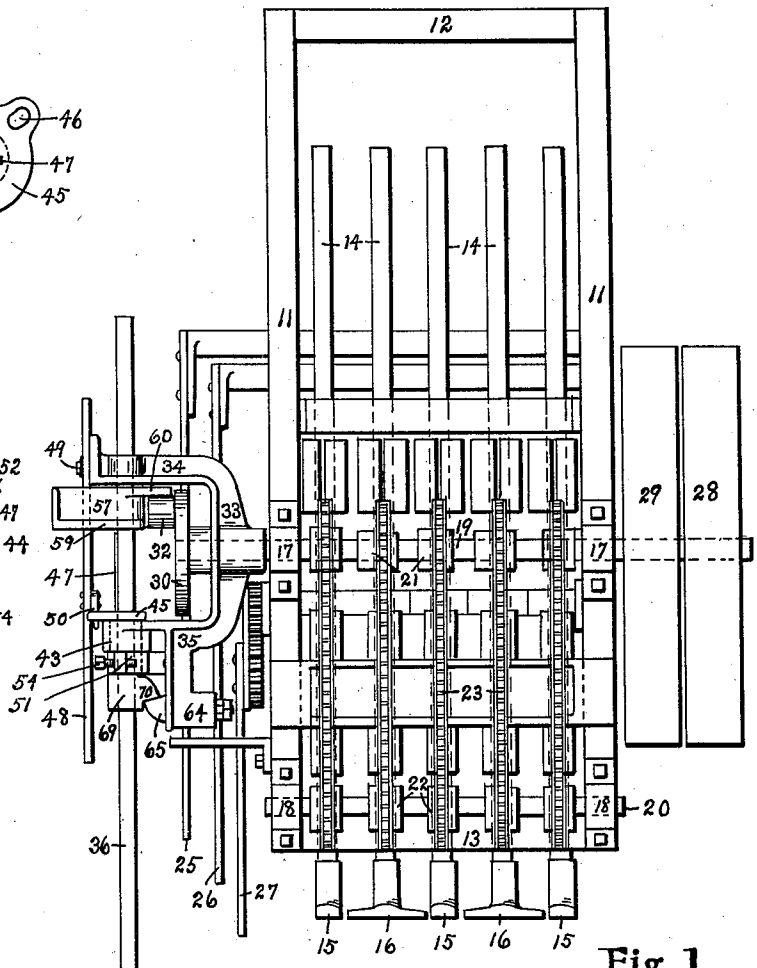


Fig. 1.

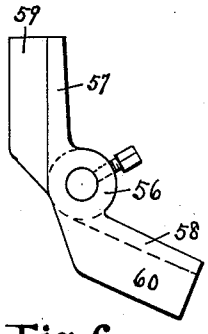
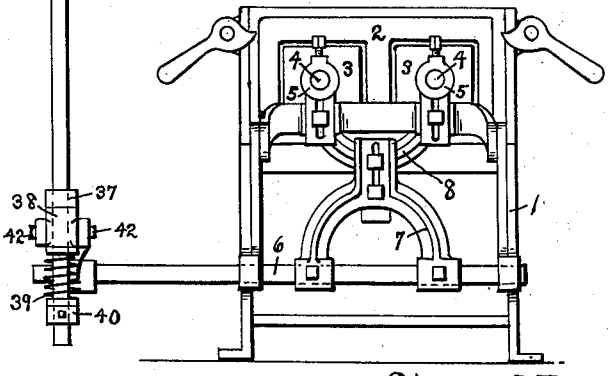


Fig. 6.



Witnesses

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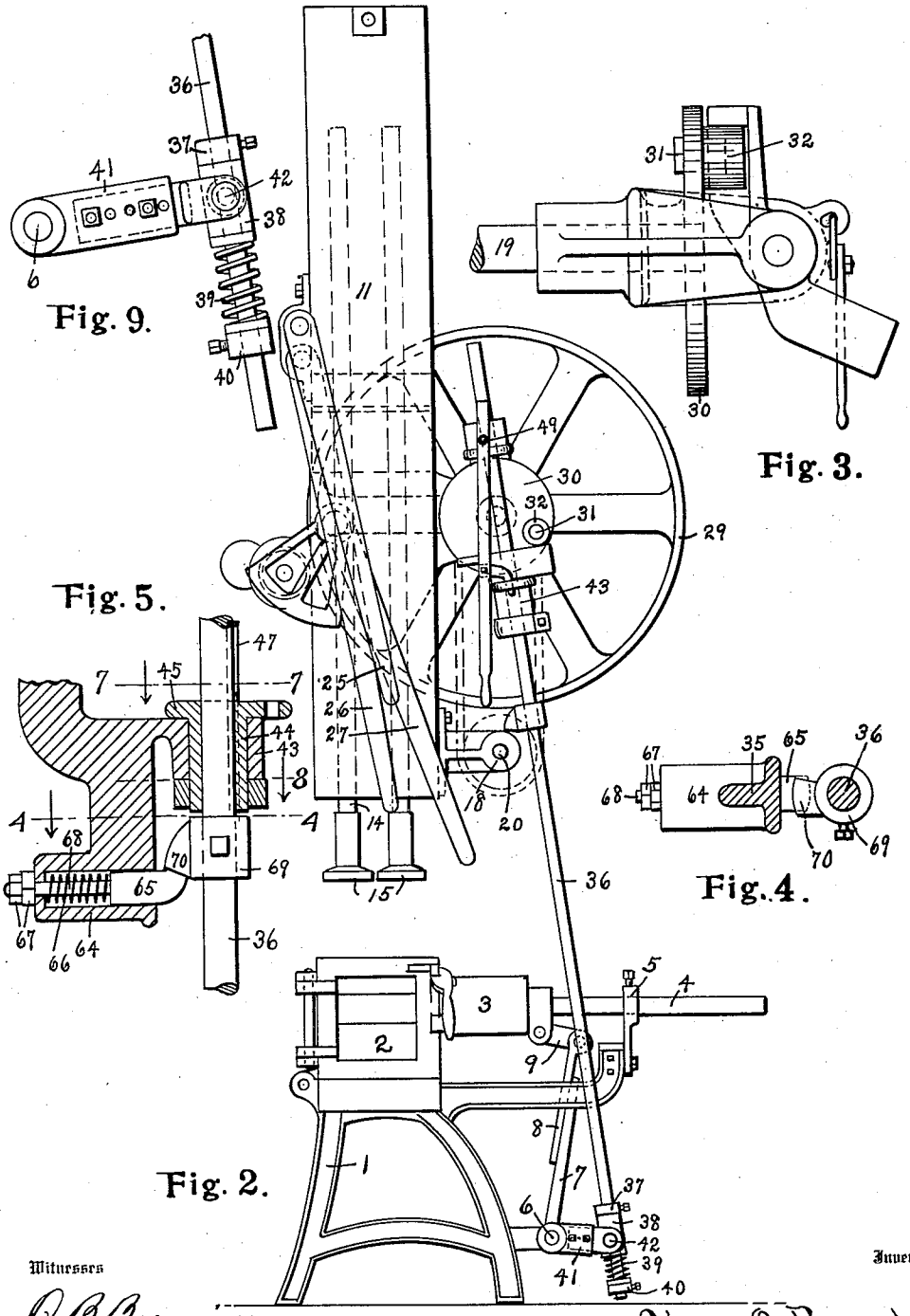

Fig. 9.

Fig. 5.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

CLAUS O. BRANDELL, OF SOUTH BEND, INDIANA, ASSIGNOR TO IDEAL CONCRETE MACHINERY COMPANY, OF SOUTH BEND, INDIANA, A CORPORATION OF INDIANA.

CORE-ACTUATOR.

1,023,920. Specification of Letters Patent. Patented Apr. 23, 1912.

Application filed February 2, 1911. Serial No. 606,116.

To all whom it may concern:

Be it known that I, CLAUS O. BRANDELL, a citizen of the United States, and a resident of South Bend, in the county of St. Joseph and State of Indiana, have invented a new and useful Core-Actuator, of which the following is a specification.

This invention relates to power driven mechanism for moving the horizontal cores of "down-face" block machines into and out of the molds, and its object is to provide a core-actuating mechanism which shall be under complete control of the operator, which may be driven from any convenient revolving shaft, and which may be constructed at low cost.

In the accompanying drawings Figure 1 is a rear elevation and Fig. 2 a side elevation of a tamping machine of the type shown in the Brandell Patent No. 943,966, dated Dec. 21st, 1909, and of a concrete building block machine of the type shown in the Borst and Groscop Reissue Patent No. 12,578, dated Dec. 18th, 1906, together with the improved core actuating mechanism. Fig. 3 is a plan of the upper end of the core actuating mechanism. Fig. 4 is a cross section on the line 4—4 of Fig. 5. Fig. 5 is a vertical cross section of a portion of the upper end of the core actuating mechanism. Fig. 6 is a plan of a detail of this construction. Figs. 7 and 8 are cross sections on the lines 7—7 and 8 of Fig. 5. Fig. 9 is a detail of the mechanism at the lower end of the connecting rod. Similar reference characters refer to like parts throughout the several views.

As will be seen by referring to the Borst and Groscop patent, the block machine comprises legs 1, mold 2, horizontally movable cores 3 having core rods 4 which are slidable in guides 5, and a shaft 6 to which is connected a fork 7, on which fork is mounted a second fork 8 which connects to the cores by means of the links 9. By turning this shaft 6 back and forth the cores 3 can be moved into and out of the mold.

The tamping machine shown in said patent to Brandell comprises a frame having side pieces 11, a top 12 and a bottom 13. In this frame are slidable a series of rods 14 to which are connected a number of tampers 15 and 16. Mounted in the bearings 17 and 18, are two shafts 19 and 20 which carry sprocket wheels 21 and 22 around which sprocket chains 23 pass, which sprocket chains are provided with devices for lifting these tampers as fully described in the patent. The operation of these tampers is controlled by the levers 25, 26 and 27, and the shaft 19 is driven by a belt which runs on the tight and loose pulleys 28 and 29.

On the end of the shaft 19 is a crank disk 30, having a crank pin 31 on which is preferably mounted a revoluble sleeve 32. On this shaft 19 is also mounted a yoke 33 having an upper arm 34 and a lower arm 35. In these arms is slidable a connecting rod 36. On the lower end of this connecting rod is a collar 37, a sleeve 38, a spring 39 and a collar 40. A crank 41 is secured to the shaft 6 and is forked at its outer ends where it is connected to the sleeve 38 by means of pins 42. When the connecting rod is forced down by means of the crank, the core 3 will be withdrawn from the mold, and when the connecting rod is pulled upward, the core 3 will be moved into the mold. As there is a possibility present that the coarse constituents of the concrete may obstruct the passage of the cores in the mold, the spring 39 is employed to prevent breakage.

Revoluble in the sleeve 43 formed on the arm 35 of the yoke is a bushing 44 having a flange 45 at its upper end provided with a slot 46. This bushing has a slot to receive the feather 47 on the connecting rod 36, which is slidable in this bushing. A lever 48 is pivoted on the pin 49 on the upper arm of the yoke and is provided with a hooked finger 50 which engages in the slot 46 in this bushing, so that by swinging the lever, the bushing and with it the connecting rod may be turned about 75 degrees. To limit this movement a collar 51 may be secured to the lower end of this bushing by means of the set-screws 52; which collar has arms 53 carrying adjustable screws 54.

Secured to the connecting rod is a cross-head 56 which has two arms 57 and 58. The arm 57 has a flange 59 at its lower edge while the arm 58 has a flange 60 at its upper edge. Either flange is adapted to be swung into the path of the crank pin. When the connecting rod is swung as shown in Fig. 1, the flange 60 will be in the path of the crank pin which will lift the connecting rod as shown. When the lever 48 is swung toward the operator, that is toward the right in Fig. 2, the flange 60 will be swung out of the path of the crank pin 31 and the

flange 59 will be swung into its path so that it will engage this flange and press down the connecting rod.

A sleeve 64 is formed on the lower end of the arm 35 of the yoke as shown in Fig. 5, and in it is slidably a dog 65 normally held outward by a spring 66. The outward movement is limited by nuts 67 on the bolt 68 which connects to this dog. A collar 69 is secured to the connecting rod 36 and has a shoulder 70. When the connecting rod is moved upward through the engagement of the crank pin with the flange 60 of the cross-head, the shoulder 70 will engage the dog 65 and push it back into its sleeve as the shoulder passes, and when the shoulder 70 has passed the dog, the spring 66 will move the dog to the position shown in Fig. 5 to support the connecting rod. The inclination of the upper face of the dog and of the lower face of the shoulder causes the connecting rod to be lifted sufficiently to carry the flange 60 above the path of the crank-pin, and thus prevents pounding. When the connecting rod is turned by means of the lever 48, the shoulder 70 will be swung from over the dog 65 which will then no longer prevent the connecting rod from moving down.

It will be seen that the operation of the cores of the block machine will be under the control of the person operating the control levers of the tamping machine.

While the constructions and details shown have been found satisfactory in operation, they may be changed when desired to suit the different types of block machines, the character of the driving shaft, and the preferences of the designer without departing from the spirit of the invention.

Having now explained my construction, what I claim to be my invention and desire to secure by Letters Patent is:—

1. In a core-actuating mechanism for concrete block machines, the combination with a revolving shaft, of a crank and pin on the same, a yoke revolubly mounted on said shaft, a connecting rod slidable in said yoke, a crank connected to the operating shaft of the block machine and to said connecting rod and adapted to be reciprocated by said rod, whereby said cores are caused to move in unison with said rod, a lever to turn said connecting rod in said yoke, and a cross-head secured to said connecting rod and having flanged arms extending at such an angle from each other that either may be swung into the path of said crank pin to permit said connecting rod to be moved up or down by said crank-pin.

2. In a core-actuating mechanism for concrete block machines, the combination with an actuating shaft, a crank and crank pin on the same, a connecting rod, means to guide the same, means for connecting the connecting rod to the core-operating mechanism of the block machine, whereby said cores are caused to move in unison with said rod, a controlling lever, and a cross-head mounted on the connecting rod to engage the crank pin whereby the connecting rod may be moved longitudinally in either direction at will to actuate said cores.

3. In a core-actuating mechanism for concrete block machines, the combination with a revolving shaft, a connecting rod, means to guide the same, means connecting said rod to the cores of the block machine whereby the cores are caused to move longitudinally in unison with similar movements of the rod, a plurality of engaging devices between said rod and shaft, and means for moving either of said engaging devices into operative position whereby said connecting rod may be moved longitudinally in either direction at will.

4. In a core-actuating mechanism for concrete block machines, the combination with a revolving shaft, of a crank and crank pin on the same, a longitudinally movable connecting rod, a guide for the same revolubly mounted on said shaft, means connecting said rod to the cores of the block machine whereby the cores are caused to move longitudinally in unison with said rod, a cross-head secured to said rod, a plurality of flanged arms on said cross-head adapted to be engaged by said crank pin, a lever to swing said cross-head and arms to cause said crank pin to engage one or the other of said arms to move said rod longitudinally in either direction at will, means to limit the movement of the lever, and means to hold the rod at the end of one of its movements.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CLAUS O. BRANDELL.

Witnesses:
JEANNETTE E. WASS,
ALMA RHEAD.