

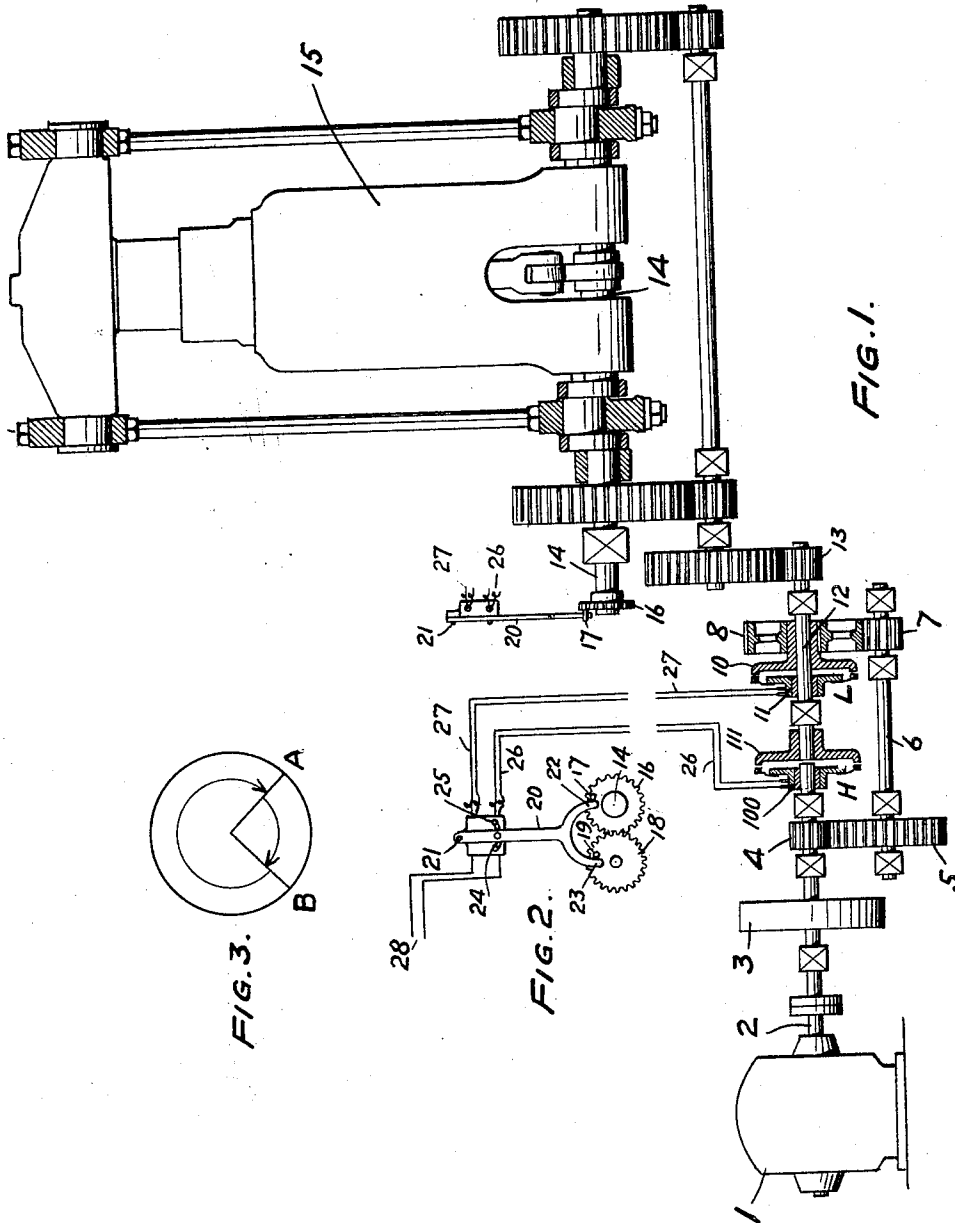
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OPERATING MEANS FOR A CRANK PRESS

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WITNESS:

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OPERATING MEANS FOR A CRANK PRESS

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The subject of my invention is an operating means for a crank press, such as a brick press.

It is the object of my invention to provide means whereby a press of the crank or rotary type, which has reciprocating parts driven by a rotating engine, is enabled to move at slow speed during the working cycle and at high speed during the opening and closing cycle when the press is not working. By this means the press may be run at slow speeds when working and thus give a pressure comparable to that of an hydraulic press and yet move with such speed during the non-working cycle as to give the high production required of modern machinery.

An embodiment of my invention consists in a crank press, a motor for said press, means for driving said press from said motor at high speed, means for driving said press from said motor at slow speed, and means for selecting one or other of said previously mentioned means in accordance with the position of the press.

For a further exposition of my invention reference may be had to the annexed drawing and specification at the end whereof my invention will be specifically pointed out and claimed.

Figure 1 represents an elevation of my device with parts in cross section and in diagram.

Figure 2 is a diagrammatic view of a portion of my device.

Figure 3 is a diagram disclosing the mode of operation of my device.

In that embodiment of my invention chosen for illustration in the drawing my device is shown as consisting of a motor of any convenient type, such as an electric motor. Motor 1 has shaft 2 connected thereto which carries fly-wheel 3 and gear 4. Gear 4 meshes with gear 5 on a lay-shaft or counter-shaft 6 which also carries a gear 7 thereon. Gear 7 meshes with gear 8 which is mounted for rotation on the sleeve of the driving member 10 of the clutch generally indicated at L. Clutch L also includes a driven member 11. Mounted on shaft 2 is

driving member 100 of clutch H which also includes driven member 111 fast on stub shaft 12 which also carries driven member 11. Shaft 12 carries gear 13 which meshes with a train of gears to drive crank shaft 14 of the press generally indicated at 15. Crank shaft 14 carries at one end a gear 16 which has a pin 17 mounted thereon. Gear 16 meshes with another gear 18 which carries a pin 19 thereon. Switch 20 is pivotally mounted at 21 adjacent gears 16 and 18 so that the arms 22 and 23 cooperate with the pins 17 and 19 respectively to move switch 20 so that the contacts indicated at 24 and 25 are respectively operated. Wires 26 and 27 connect contacts 24 and 25 with clutches H and L respectively so that as switch 20 is moved from one position to the other either clutch H or clutch L is actuated to connect or to disengage its driving and driven members. Wires 28 are a source of current for switch 20 and for clutches H and L.

As shown in Figure 3 it is the purpose of my invention to move the press 15 at low speed from the point A to the point B on the diagram in Figure 3, this being the working cycle of the press. The press 15 is moved at high speed during the cycle represented from point B to point A of Figure 3, this being the non-working cycle of the press.

In the operation of my device motor 1 is started and drives press 15 either at high or low speed depending upon whether clutch H or clutch L is in engagement. During the pressing cycle the driving is from motor 1, shaft 2, gears 4 and 5, lay shaft 6, gears 7 and 8, clutch L, stub shaft 12, gear 13 to crank shaft 14. When the pressing cycle of the press is complete switch 20 is shifted by means of pin 17 so that clutch L is disengaged and clutch H is engaged. Motor 1 then drives press 15 through the following connections, shaft 2, clutch H, stub shaft 12, gear 13 and crank shaft 14.

I do not intend to be limited in the practice of my invention save as the scope of the prior art and of the attached claims may require.

I claim:

1. Operating means for a power press including in combination a motor, a power press driven by said motor, means for driving said press from said motor at high speed, 5 means for driving said press from said motor at slow speed, and means for selecting one or other of said last mentioned means according to the position of said press.
2. Operating means for a crank press including in combination a motor, a crank press adapted to be driven by said motor, a train of gearing for driving said press from said motor at high speed, a second train of 15 gearing for driving said press from said motor at slow speed, and means dependent upon the position of said press for selecting first or said second train of gearing.
3. Operating means for a crank press including in combination a motor, a crank press adapted to be driven by said motor, a train of gearing for driving said press from said motor at high speed, a second train of 20 gearing for driving said press from said motor at low speed, a plurality of clutches controlling said train of gearing, and means for connecting one and disengaging the other of said clutches depending upon the position of said press.
4. Operating means for a crank press including in combination a motor, a crank press adapted to be driven by said motor, a train of gearing for driving said press from said motor at high speed, a clutch controlling said train of gearing, a second train of 35 gearing for driving said press from said motor at low speed, a second clutch controlling said second train of gearing, and means including an electric switch for connecting one and disengaging the other of said 40 clutches depending upon the position of said press.
5. Operating means for a crank press including in combination a motor, a crank press adapted to be driven by said motor, 45 a train of gearing for driving said press from said motor at high speed, an electromagnetic clutch controlling said train of gearing, a second train of gearing for driving said press from said motor at slow speed, a second electromagnetic clutch controlling said second train of gearing, an electric switch actuated by said press for connecting one and disengaging the other of said clutches depending upon the position of said press, and a source of electric- 50 ity for said switch and said clutches.
6. Operating means for a crank press for manufacturing bricks including in combination a motor, a brick press of the crank type adapted to be driven by said motor, a 60 motor shaft, a flywheel on said shaft, a gear on said shaft, a clutch driving member on said shaft, a lay-shaft, a gear on said lay-shaft meshing with the gear on said motor shaft, a second gear on said lay-shaft, a stub shaft, a clutch driven member cooper- 65 ating with said clutch driving member mounted on said stub shaft, a second clutch driven member mounted on said stub shaft, a second clutch driving member loosely mounted on said stub shaft, a gear for driving said second clutch driving member and meshing with said second gear on said lay-shaft, a crank shaft for said press, a train of gearing connecting said crank shaft to said stub shaft, a limit switch, means for actuating said limit switch from said crank shaft depending upon the position of said press, electrical connections between said clutch members and said limit switch where- 70 by in either position of said limit switch one of said clutches is engaged and the other is disengaged, and a source of electricity for said limit switch and for said clutch.

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