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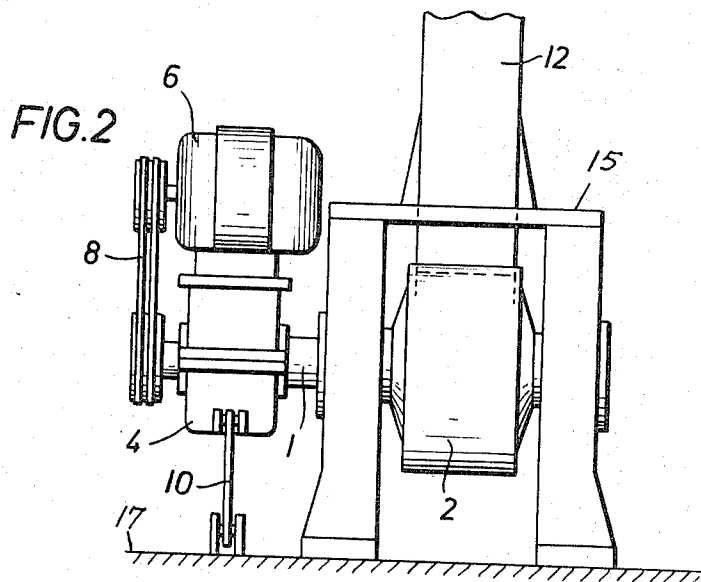
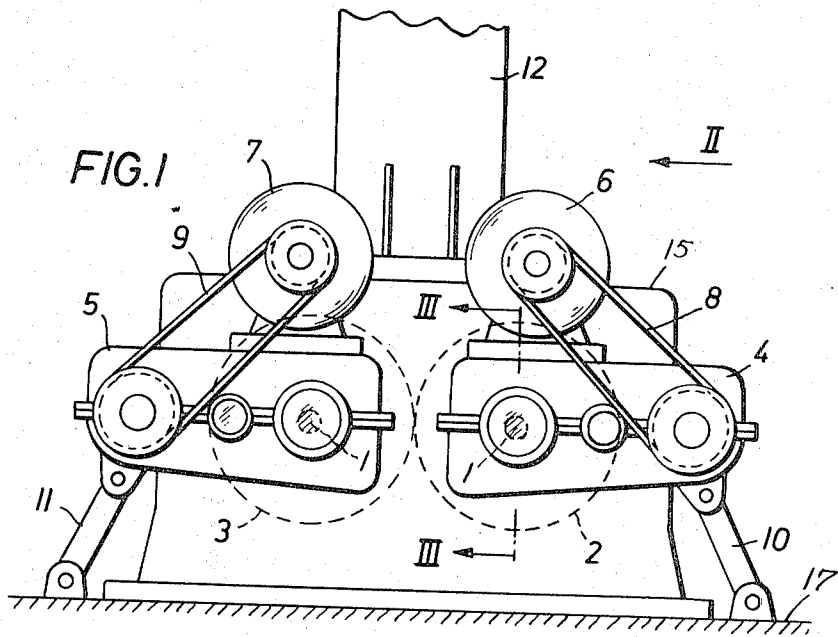
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3,553,775

ROLL PRESS

Filed Sept. 16, 1968

2 Sheets-Sheet 1



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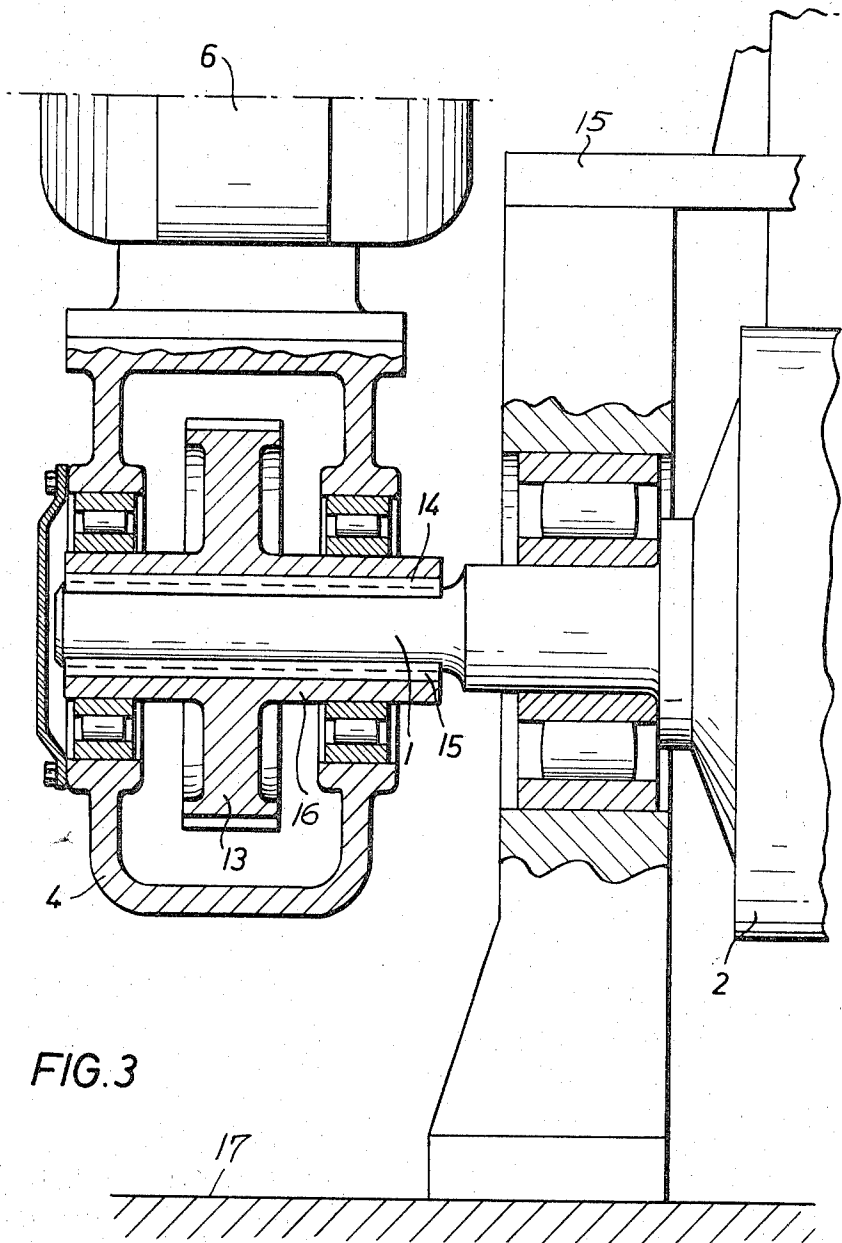


FIG. 3

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ROLL PRESS

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2 Claims 10

## ABSTRACT OF THE DISCLOSURE

A roll press having two oppositely rotatable rolls on the drive pins of which are mounted pivotally supported gearings. The gearings comprise a casing which contains a gear wheel fixedly connected to its respective drive pin about the axis of which the casing of the gearing is pivoted. A motor mounted on the outside of the casing rotates by a belt drive the gear wheel and therewith the respective roll. A brace bar connects each gearing casing with the foundation for counteracting the restoring moment exerted by said gearings during the operation of the roll press.

The invention relates to a roll press for compacting or manufacturing briquettes, pressed granules or other pressed articles from finely granulated solids. The roll press comprises two oppositely rotatable press rollers, each driven by a motor via V-belts and gearings.

In prior art drives for roll presses it is customary to set the gearing and the drive motor on a solid foundation which is separate from the foundation of the roll press and to couple the press rolls to the gearing by means of a coupling. This structure is not only very complex but requires also considerable space.

It is the object of the present invention to overcome the aforementioned disadvantages. This is accomplished in that the gearings are constructed in the form of push-on gearings which are arranged in an overhung position on the drive pins of the press rolls, and in that the motors are fixedly connected to the casings of the push-on gearings.

This arrangement has the advantage that motor and gearing form a compact unit and, due to the fact that the gearing is of the push-on type, no special foundation for the drive aggregate is necessary. The restoring moment of the push-on gearing is received by a counteracting support which connects the gearing with the foundation of the roll press.

The invention will be described in further detail with reference to the accompanying drawings, in which

FIG. 1 is a diagrammatic side elevation view of a roll press, viewed from the gearing side;

FIG. 2 illustrates diagrammatically the roll press of FIG. 1 viewed in the direction of the arrow II in FIG. 1, and

FIG. 3 illustrates in an enlarged view, partially in sec-

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tion along the line III—III, details of a drive mechanism for the roll press.

Referring to FIGS. 1 and 2, a machine frame 15 has rotatably supported therein two oppositely rotatable rolls 2 and 3, each having a drive pinion 1 which have attached thereto the gearing 4 and 5, respectively, each gearing being pivotally supported by the associated drive pinion. Mounted on the casings of the gearings 4 and 5 are the electric motors 6 and 7, respectively, which by means of V-belt drives 8 and 9 rotate the rollers 2 and 3 in opposite directions. For the purpose of counteracting the restoring moment, the gearings are connected with the foundation 17 by means of the supports 9 and 10 in the form of bracing bars, both ends of which are pivotally attached to the casing of the gearings and the foundation, respectively. The finely granulated material to be pressed is fed to the roll press by a suitable feeding device 12.

As illustrated in FIG. 3, each gear wheel 13 of the gearings 4 and 5 is provided with an extended tubular hub 16 provided in its bore with two axially extending grooves for receiving fitting keys 14, 15 which extend also into axially extending grooves provided in the outer surface of the drive pin 1 projecting through the hub 16. In place of the fitting keys 14, 15, other positive connecting means, such as ring tension elements, may be used for drivingly connecting the drive pin 1 with the hub 16 of the gear wheel 13. The drive pin 1 in the manner described is also used for pivotally supporting the casing of the associated gearing 4.

What I claim is:

1. A roll press for the manufacture of briquettes, pressed granules and other pressed articles from finely granulated solids, said roll press comprising a frame, two oppositely rotatable rolls supported in said frame, a drive pin on each roll and extending from said frame, a gearing carried by each one of said drive pins, each gearing having a casing pivotally supported about the axis of rotation of its respective drive pin and containing a gear wheel drivingly connected with said drive pin, a motor mounted on the outside of said casing and drivingly connected with said gear wheel within said casing in such a manner that said rolls are rotated in opposite direction, and support means pivotally engaging said casings for counteracting the restoring moment executed by said gearing during the operation of said roll press.

2. A roll press according to claim 1, in which said support means comprise bracing bars, the ends of which are pivotally attached to the casings of said gearings and a foundation, respectively, upon which said roll press is mounted.

## References Cited

### FOREIGN PATENTS

1,068,279 6/1954 France ----- 25—77

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