Jan. 1, 1929. 1,696,974

B. ROLLMAN

PRESS

Original Filed Nov. 16, 1925 3 Sheets-Sheet 1

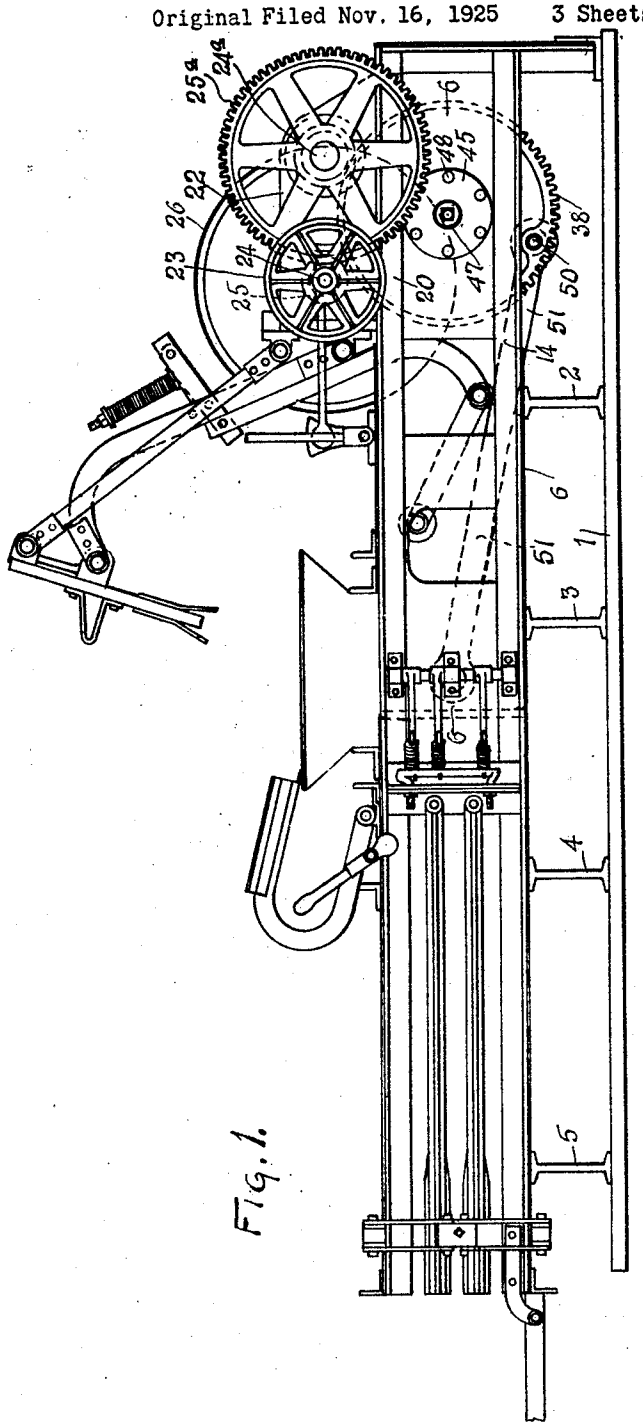


Fig. 1.

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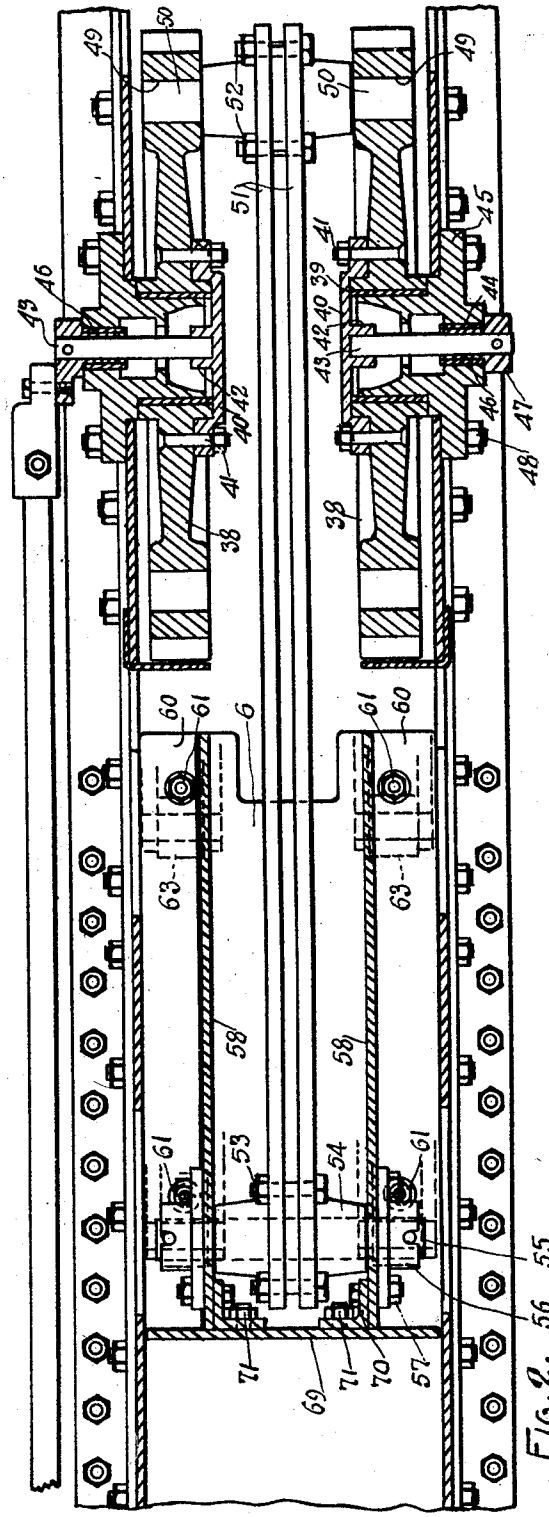


Fig. 2.

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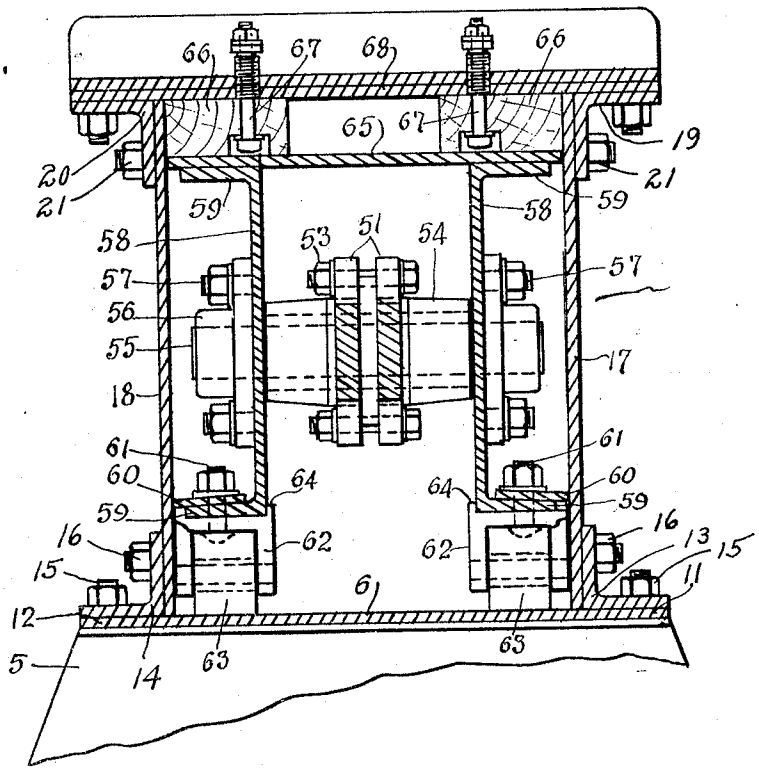
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Original Filed Nov. 16, 1925 3 Sheets-Sheet 3

Fig. 3.



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Patented Jan. 1, 1929. 1,696,974

UNITED STATES PATENT OFFICE.

BRUCE ROLLMAN, OF BELLEVUE, OHIO, ASSIGNOR TO THE OHIO CULTIVATOR COMPANY, OF BELLEVUE, OHIO, A CORPORATION OF OHIO.

PRESS.

Original application filed November 16, 1925, Serial No. 69,392. Divided and this application filed May 3, 1926. Serial No. 108,336.

My invention relates to presses and in particular to a press for the baling of paper or other finely divided and fragmentary material, and is a division of my application, Serial No. 69,392, filed November 16, 1925.

It is the object of my invention to provide a press of this character which will rapidly bale the material in question, which may be readily assembled and which will have suitable safety devices to insure continuous operation without breakage in the event foreign material is introduced in the press inadvertently.

It is a feature of my invention to provide adjustable wearing plates for the cross head, of replaceable and detachable material.

It is an additional object of my invention to provide a built-up steel construction of the plunger or plunger head and in particular to provide a novel form of plunger head which can be easily and cheaply manufactured, but which will have requirements of strength and ease of replacement not heretofore obtainable.

In the accompanying drawings:

Figure 1 is a side elevation of the complete press with the feeding board in its elevated position.

Figure 2 is a section on the line 6—6 of Figure 1, showing the arrangement of the lower bearings of the lower stud shafts and gears, together with a section showing the construction of the plunger head.

Figure 3 is a section showing the arrangement of the wearing plates and of the plunger head.

Referring to the drawings in detail, 1 is a base or platform on which is mounted the press. A plurality of transverse I-beams, 2, 3, 4 and 5, are arranged transversely on this platform for the purpose of supporting the bottom plate 6. Side rails 11 and 12 of the plate 6 are provided on this support, longitudinally, upon which members 11 and 12 are the angle irons or rails 13 and 14 which are supported and bolted by the bolts 15. To these lower rails 13 and 14 are bolted by the bolts 16 the side plates 17 and 18. These side plates extend upwardly within and above upper rails 19 and 20 which are bolted thereto by the bolts 21. These side plates are capped at their upper end by a plate 22. 23 designates a driving pulley which is driven by a belt from any suitable source of power. This pulley is mounted upon the driving shaft 24 which carries the driving pinion 25 which drives a driven gear 25^a on the driven shaft 24^a.

On this driving shaft 24^a are a pair of spaced pinions which engage with their respective gears 38. These gears are mounted on suitable shafts carried by the side plates, as will be more fully seen in Figure 2. The gears 38 are known as the pitman gears. They are mounted upon a bearing sleeve 39 over the end of which is a plate 40 bolted to the gear by the bolts 41. A receiving cup 42 on the inside of this plate receives a square shaft 43, the other end of which turns in a bearing 44 on the interior of the plate 45 which carries the stud shaft 46 for supporting the gear and its bearing 39. This square shaft 43 carries a retaining cotter or sleeve 47. The plate 45 is bolted to the side plates by the bolts 48.

On the rim of each gear is an aperture 49 carrying the end of a cross pin 50, on which is journaled a pair of plates 51 constituting the pitman. These plates are bolted together by the bolts 52. A similar arrangement is found at the other end of the pitman the plates being bolted together by the bolts 53 on a sleeve 54 mounted on a cross pin 55 which is journaled in the bearings 56 and bolted by the bolts 57 on the vertical plates 58, which constitute a portion of the plunger. This construction will be seen in Figure 3.

These plates 58 are provided with outwardly extending flanges 59 at the top and bottom. The bottom flanges are provided with side guide plates 60 which are bolted to the flange 59 by the bolts 61 which also retains the inverted U-shaped jaw 62 for supporting the roller 63 which rolls upon the bottom plate 6. The U-shaped member 62 is provided with shoulders 64 which fit on either side of the flange 59. The top flange 59 has supported thereon a top plate for the plunger 65, which engages with the wearing plates 66. These wearing plates are preferably of wood and are suspended by the bolts 67 from the cap plate 68.

The end of the plunger head is formed by a steel plate 69 connected to the vertical side plates 58 by internally disposed angle irons 70 bolted to the plate 69 in the plate 58 by the bolts 71. This provides a light weight but extremely strong assembly and

disassembly structure. It is a matter of great advantage to have a built-up structure of this character with a steel built plunger head.

In the event of wear, due to the thrust of the plunger upwardly against the top of the machine, the wearing blocks of wood can be taken away and new ones replaced. The bottom of the plunger is carried on rails so that the friction at that point is thus taken care of.

It will be also understood that I desire to comprehend within my invention such modifications as may be necessary to adapt it to varying conditions and uses.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a baler, a guide portion for the reciprocating compression plunger, a reciprocating compression plunger, a plurality of wearing plates detachably interposed between the top of said plunger and the inside of the top of the baler.

2. In a baler, a guide portion for the reciprocating compression plunger, a reciprocating compression plunger, a plurality of wearing plates interposed between the top of said plunger and the inside of the top of the baler.

3. In a baler, a guide portion for the reciprocating compression plunger, a reciprocating compression plunger, a plurality of wearing plates detachably interposed between the top of said plunger and the inside of the top of the baler, and a plurality of rails interposed between the bottom of said plunger and the inside of the bottom of said baler for supporting the plunger.

4. In a baler, a compression plunger for compressing the material in the baler consisting of a compression head plate, supporting members attached thereto and to vertically disposed right angle thrust plates, and means for connecting the pitman to said thrust plates.

5. In a baler, a compression plunger for compressing the material in the baler consisting of a compression head plate, supporting members attached thereto and to vertically disposed right angle thrust plates, and means for connecting the pitman to said thrust plates, said head plate being composed of a separable sheet of metal.

6. In a baler, a compression plunger for compressing the material in the baler consisting of a compression head plate, supporting members attached thereto and to vertically disposed right angle thrust plates, and means for connecting the pitman to said thrust plates, said head plate being composed of a separable sheet of metal, and means for detachably connecting said head plate and thrust plates by internally disposed vertical angular members associated with the junction points of said thrust plates and said head plates.

7. In a compression plunger in a baler, a bed plate, vertical thrust plates, a cap plate, and a head plate, means of attaching said head plate and said thrust plates and a pitman mounted on said thrust plates therebetween.

8. In a compression plunger in a baler, a bed plate, vertical thrust plates, a cap plate, and a head plate, means of attaching said head plate and said thrust plates, and a pitman mounted on said thrust plates therebetween, means for supporting said base plate on rollers within the baler and means adapted to wear at a greater rate than the top plate of the plunger carried on the inside of the baler adjacent thereto to take the upward thrust and wear of the compression plunger.

In testimony whereof I affix my signature.

BRUCE ROLLMAN.