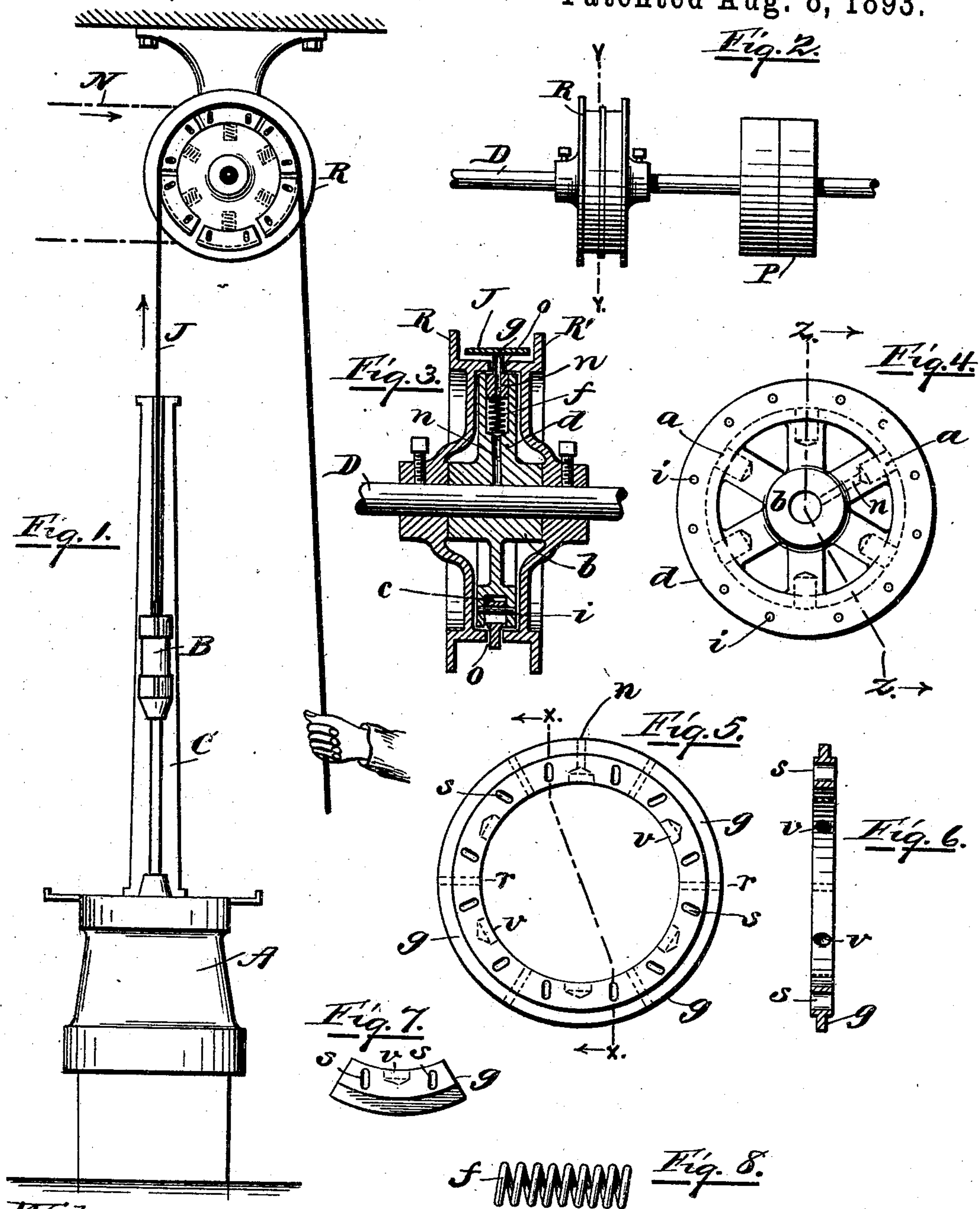


(No Model.)

F. MOSSBERG.
DROP PRESS PULLEY.

No. 502,930.

Patented Aug. 8, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK MOSSBERG, OF ATTLEBOROUGH, MASSACHUSETTS.

DROP-PRESS PULLEY.

SPECIFICATION forming part of Letters Patent No. 502,930, dated August 8, 1893.

Application filed May 31, 1893. Serial No. 476,102. (No model.)

To all whom it may concern:

Be it known that I, FRANK MOSSBERG, of Attleborough, in the county of Bristol and State of Massachusetts, have invented certain
5 new and useful Improvements in Drop-Press Pulleys; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of
10 this specification.

This invention relates to the pulleys used in drop presses, to raise the drop and die when the press is operated by other power than
15 manual strength. It is illustrated in the accompanying drawings.

Figure 1, is a side elevation of a drop press with the improved pulley represented in vertical section, taken on line *y y*, in Fig. 2.
20 Fig. 2, is a front elevation of the counter shaft and driving pulleys, and the press pulley. Fig. 3, is a vertical section of the press pulley, taken through the center of the pulley, on line *z z*, in Fig. 4, with the shaft in elevation. Fig. 4, shows a side elevation of the
25 inner hub of the inner flange plate, and flange plate on it. Fig. 5, is a side elevation of a ring of sections that are held in a groove in the periphery of the flange plate of Fig. 4.
30 Fig. 6, is a vertical cross section of the ring shown in Fig. 5, on lines *x x*. Fig. 7, shows a separate section of the ring in Fig. 5. Fig. 8, represents one of the springs, enlarged. Figs. 3 to 6, inclusive, are drawn on a scale of twice
35 the size of Figs. 1 and 2.

As before stated, the improvements are in the pulley over which the band or strap passes, that raises the drop and upper die, and its
40 object is to keep the band free from contact with this pulley when not engaged in raising the drop, as the pulley is supposed to be run continuously in one direction, by a belt from the driving shaft of the works, when the press is in use. The friction between the band and
45 pulley, when the former is lying loosely on the pulley, results in a loss of power and a wearing of the band, and when the band is released to let the drop fall, after having raised it, and the band is passing in an opposite
50 direction to that of the surface of the pulley, the friction, if the band is allowed to rest on the pulley, retards to a considerable

degree, the downward motion of the drop, and lessens the effect intended to be produced by the momentum the weight acquires in falling. 55

In Fig. 1, A, is the anvil or block that holds the lower die; C, one of the standards that are attached to it, to guide the drop B, that carries the upper die. J, is the lifting band or strap which passes over the pulley R, and
60 has one end made fast to the drop B, and is pieced out at the other end by a rope or cord that can easily be grasped by the hand. The press pulley R, is made fast on a counter shaft D, placed in bearings over the press, 65 and is driven by a belt N, not shown on the pulley P. (See Fig. 2.) The pulley R, is shown in section in Fig. 3. It consists of two halves R, R', cast from the same pattern, and finished up alike; but placed on the shaft in
70 opposite directions, so as to bring their inner faces toward each other, and leave a narrow, open space between the edges of their rims, at *o*. In this position, the two halves are made fast to the counter shaft D, by means
75 of set screws or keys. By leaving off the hubs on the inner sides of the two halves R, R', a space is left to receive a hub *b*, surrounded by a circular flange *d*, the hub *b*, being left entirely free to turn on the shaft D. A deep
80 annular groove or chamber *c*, Fig. 3, is made in the periphery of the flange *d*, to receive the sections *g*, of a ring, Figs. 5, 6, 7, which are fitted to slide freely in the groove *c*; but are held from coming out, by pins *i*, *i*, which
85 pass through the sides of the groove *c* and slots *s*, *s*, in the sections *g*, the slots being lengthened for the purpose of allowing the sections to slide in a direction to and from the center of the pulley. A recess *a*, is made,
90 by boring the body of the flange *d*, under the middle of each section *g*, to receive open, spiral springs *f*, *f*, for the purpose of pressing the sections outward from the shaft, and shallow recesses *v*, *v*, are made in the inside of
95 each section *g*, to receive the outer end of each spring. The sections *g*, *g*, are most easily and correctly made, by casting them whole in a ring, turning its surface off all over, and then cutting it into sections, preferably six
100 in number, as shown in dotted lines *r*, *r*, in Fig. 5. These sections *g*, *g*, are so placed in the groove *c*, as to project a little distance out beyond the surface of the pulley R, pressed

by their springs *f*, placed under them. The pressure of the springs *f*, outward, is made just sufficient to hold the sections *g*, out to their extreme limit, when the weight of the band *J*, is on them, and thus hold the band clear of the pulley face, as in Fig. 3, that when it is desired to have the revolving pulley *R*, raise the drop *B*, a moderate pull of the hand on the rope end of the band *J*, will cause it to press the sections in, and let the band bear on the face of the pulley *R*, which will draw on the band and raise the drop to the required height, when by relieving the rope of the pressure of the hand, the strain on the sections *g*, will be removed, and they will at once raise the band from the face of the pulley and allow the drop to fall, with no other friction on the band than that made in turning the loose flanged hub *b*, on the shaft, (Fig. 3.) An oil hole *n*, is made through one of the sections *g*, and of the spring recesses *a*, in the flange *d*, through to the hole in the center of the hub *b*, to oil the bearing of the hub on the shaft. The length of the slots *s*, *s*, in the sections *g*, is so limited at their inner ends, as to bring up against the pins *i*, *i*, in them, when the sections are far enough out, and prevent the shoulders of the sections from touching the inner side of the pulley *R*, (see Fig. 3, at *c*) to prevent the sections or the

flange *d*, from coming in contact with the pulley at any time.

Having thus described my improvements, I claim as my invention—

1. A pulley for use in drop presses, for the purpose of raising the drop, said pulley consisting of two independent, substantially similar parts fast on a shaft, a flanged hub inclosed between said parts and adapted to run loosely on the shaft, and a ring formed of independent sections pressed outwardly from the center of the pulley, substantially as described.

2. The combination of a pulley having a circular channel in its periphery, a loose hub inclosed in said pulley, and having an annular groove made in its periphery, and a series of ring sections held in said annular groove, free from contact with said pulley at all times, with means for pressing those sections outward from the center of the pulley, substantially as described.

3. The combination of a pulley fast on a shaft, with a loose hub, a ring formed in sections, and means to press them outwardly, substantially as described.

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