No. 634,921. Patented Oct. 17, 1899.

J. L. TOWNER.

BOULDER DEPRESSOR.

(Application filed Apr. 11, 1899.)

(No Model.)

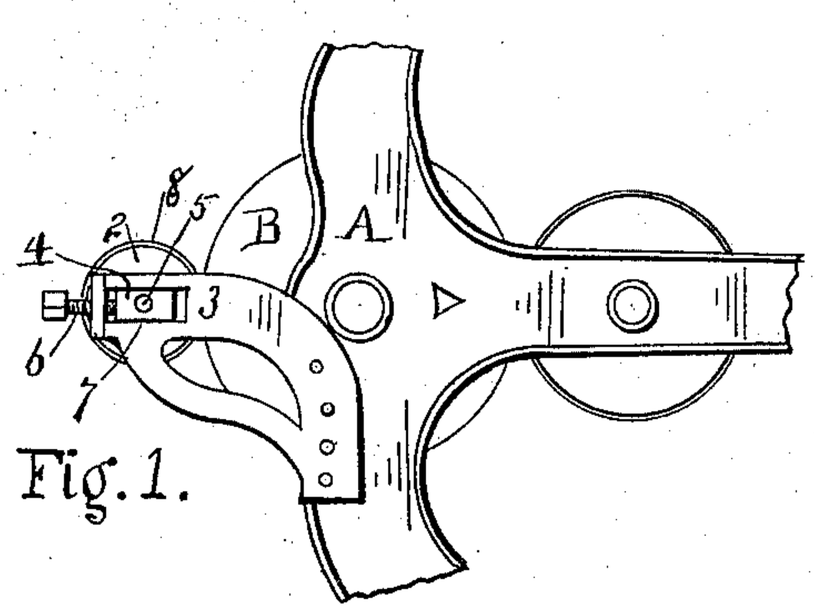


Fig. 1.

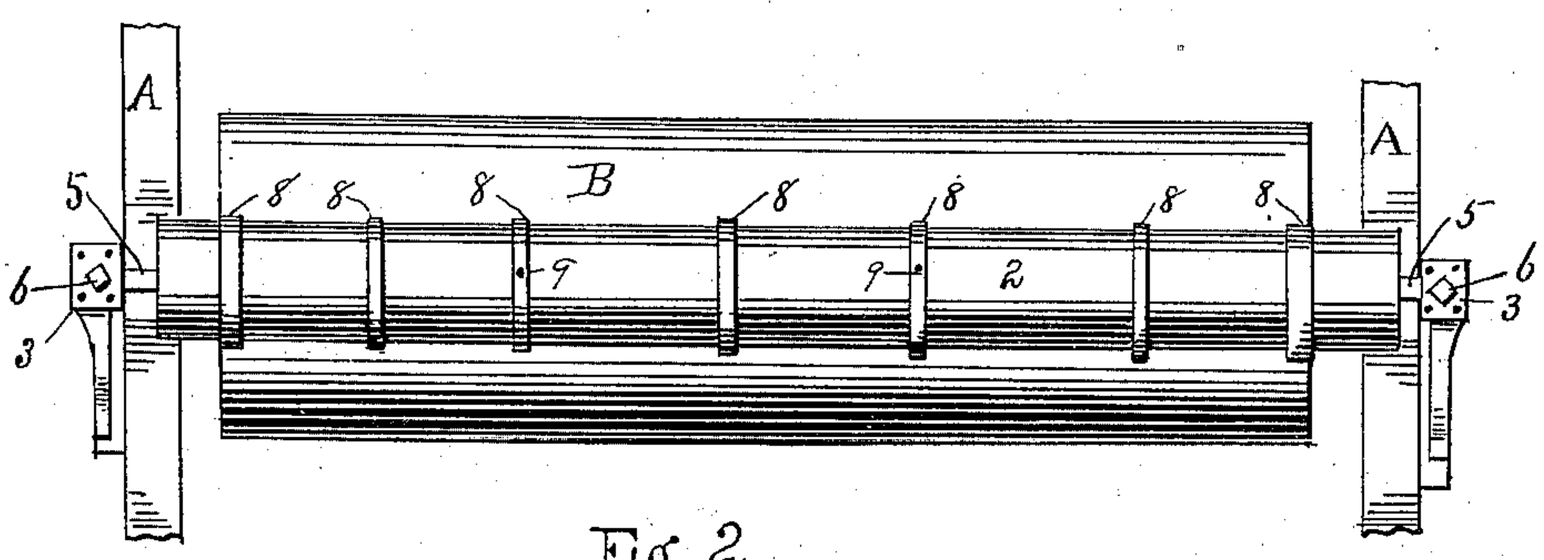


Fig. 2.

Fig. 4.

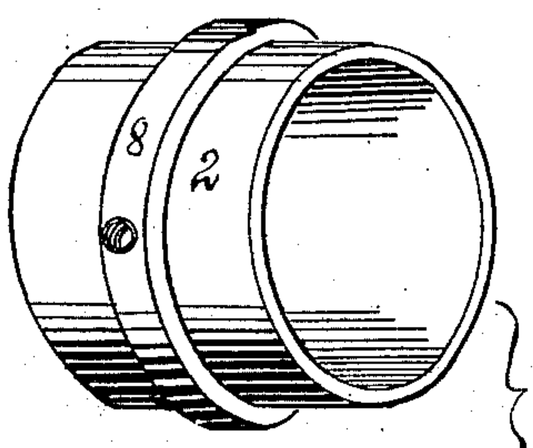
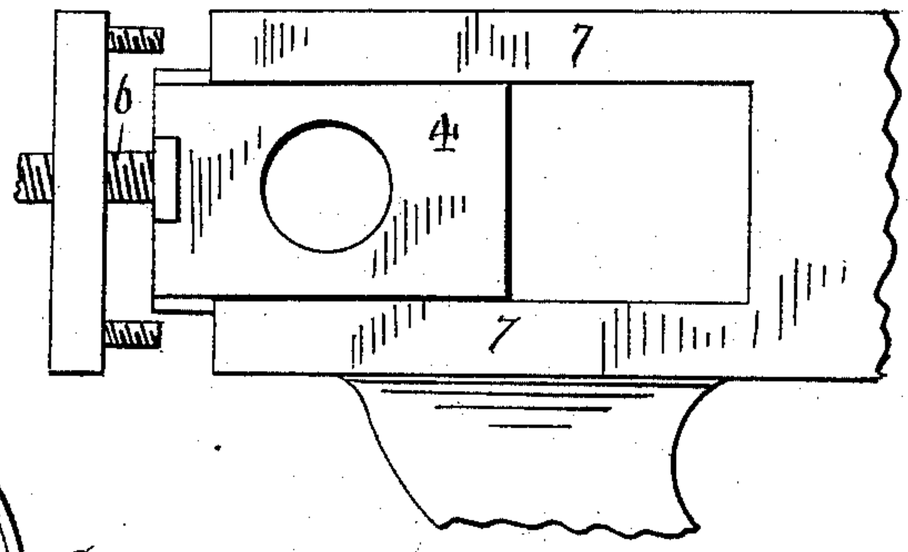
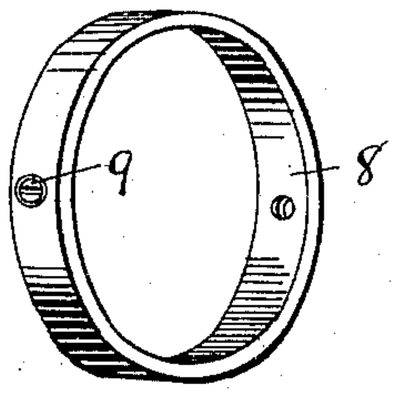


Fig. 3.





WITNESSES:

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JAMES L. TOWNER, OF PHILADELPHIA, PENNSYLVANIA.

BOULDER-DEPRESSOR.

SPECIFICATION forming part of Letters Patent No. 634,921, dated October 17, 1899.

Application filed April 11, 1899. Serial No. 712,677. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. TOWNER, a citizen of the United States, and a resident of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Boulder-Depressors, of which the following is a clear and sufficient specification, reference being had to the drawings annexed.

In rotary presses, as is well known, the cylinders are arranged in pairs, moving with the same surface velocity. One of these cylinders carries the stereotype-plates and is called the "plate-cylinder," and the other, which is covered with, usually, two blankets, one of rubber and the other of felt, is called the "impression-cylinder." Over this latter runs the paper to be printed. As the surface of the impression-cylinder is yielding, the repeated pressure of the plate compresses the portion against which the type impinges, and the places where these do not impinge remain at their original height or even are squeezed to form a permanent annular ridge around the impression-cylinder, rising to a considerably-greater height than the rest of the cylinder. These ridges are called "boulders" and cut the paper along the edge of the printing and cause other objectionable actions. This is frequently observed in poorly-printed newspapers. Hitherto these boulders have been removed by sandpapering or cutting; but in either case when the warp of the felt was reached the blankets had to be thrown away and the work was always troublesome, laborious, and slow and lessened the life of the blankets.

My invention has for its object rolling down these boulders, so that they will be reduced to a level or below the level of the rest of the roll.

Figure 1 is a side elevation of a portion of a press equipped with my boulder-depressor. Fig. 2 is an end elevation. Fig. 3 shows the construction of the rings and cylinder and means of securing the same together, and Fig. 4 is a detail of the housing.

Parallel with the impression-cylinder B and lying on free side of it, or side which is not traversed by the paper during the operation of printing, is roller 2. This roller is supported at either end from framework A of the press by brackets 3, each carrying the housing 7, in which is movable box 4, in which is journaled shaft 5 of roller 2. This box is movable toward and away from impression-cylinder B by means of screws 6, so that the roller 2 can be brought against or moved away from cylinder B.

Around this roller 2 I place the hoops 8 8 8 8. These are set opposite the boulder on the impression-cylinder B or the places where they would arise, according as the device is intended to be used to roll down boulders already formed or to prevent them from forming. They are secured to the roller 2 by set-screws 9 9, so that they can be slipped along the roll and secured at the desired position thereon. By this construction a roll can be shifted from one press to another and a broader or narrower boulder can be rolled down according to the width of the hoop, and the positions of the hoops can be arranged to suit the varying distance apart of the boulders; but where this adjustability is not required the hoops can be secured in place permanently in any desired manner.

The operation of my device is as follows: If existing boulders are to be rolled down, the roll is adjusted to the back of the impression-cylinder and the hoops and sliding boxes adjusted until the hoops lie opposite the boulders and the roll is pressed against them, the presses then started, and the impression-cylinder will revolve the roll by frictional contact. While I think it best that the boulders should be rolled down together, still one or two hoops can be shifted along the roll and the boulders rolled down successively. If the boulders are simply to be prevented from forming, the roll is placed back of the impression-cylinder and adjusted to bear sufficiently against it to cause the place where the types of the plate-cylinder do not impinge to be depressed equally with the other parts of the cylinder.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rotary press, the combination with the impression-cylinder, of a roll, journaled at the back of and in contact with the impression-cylinder and adjustable toward and away from the same and provided with pro-

jecting rings lying opposite the portion of the impression-cylinder, not impinged upon by the printing portion of the plate-cylinder, substantially as described.

2. In a rotary press, the combination of impression-cylinder the frame-brackets mounted upon the said frame, at the back of said impression-cylinders, housings in said brackets boxes movable in said housings, means for moving said boxes, and a roll journaled in said boxes, and provided with projecting rings thereon, substantially as described.

3. In a rotary press the combination with impression-cylinders and frame of a roll journaled at the back of said impression-cylinders and having thereon rings movable lengthwise along said roll and means for securing said rings upon said roll at any desired position thereon substantially as described.

In witness whereof I have hereunto set my hand this 7th day of April, 1899.

In presence of—

JAS. L. TOWNER.

Witnesses:

GEO. W. REED,

MARK WILKS COLLET.