(No Model.)

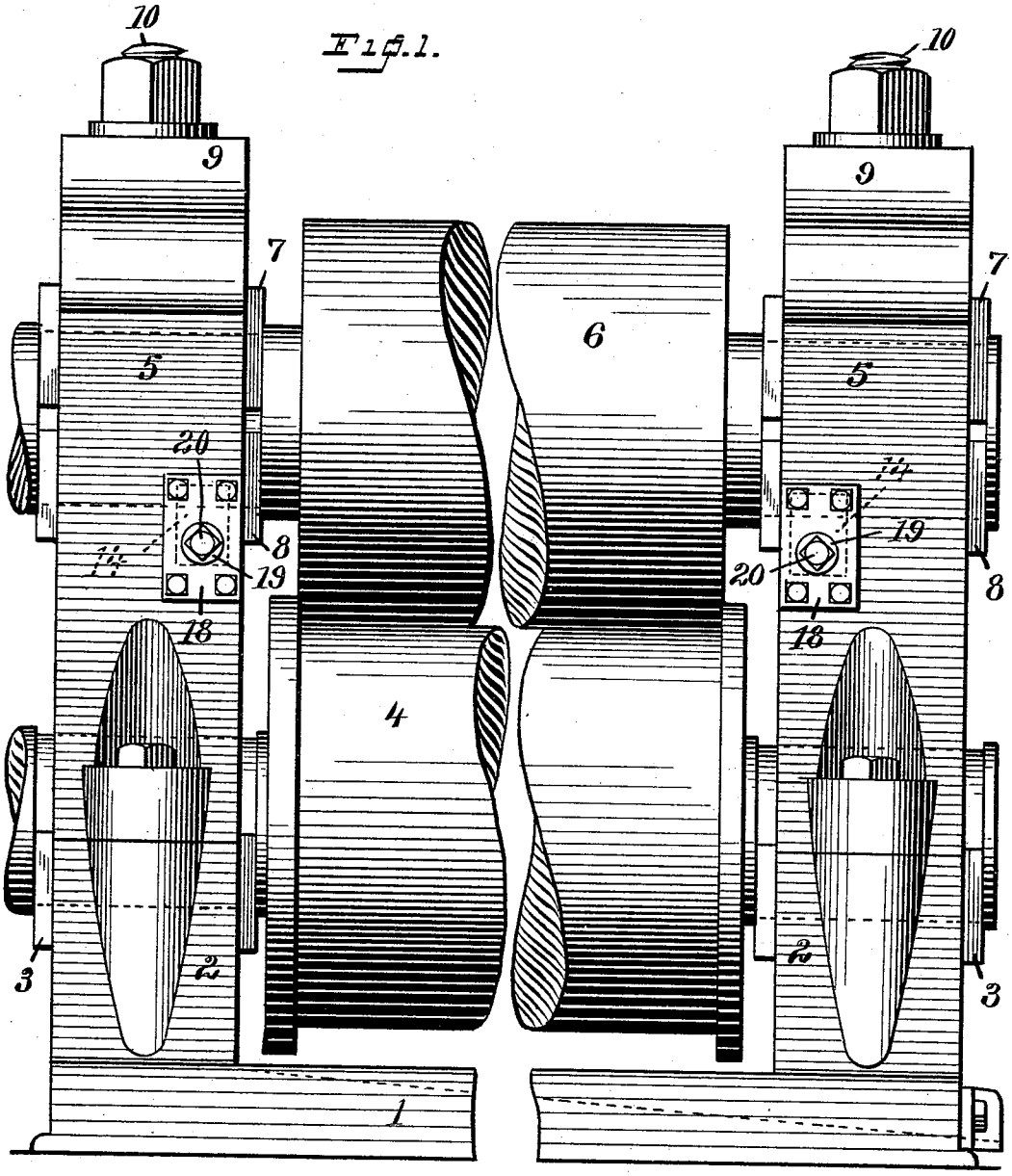
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D. R. BOWEN.

CANE MILL.

No. 457,395. Patented Aug. 11, 1891.

Fig. 1.



WITNESSES

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Ina McDickerson

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David R. Bowen

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

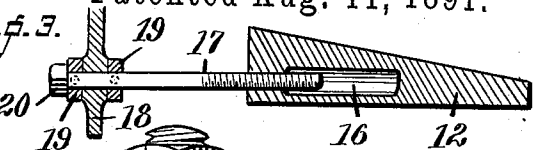
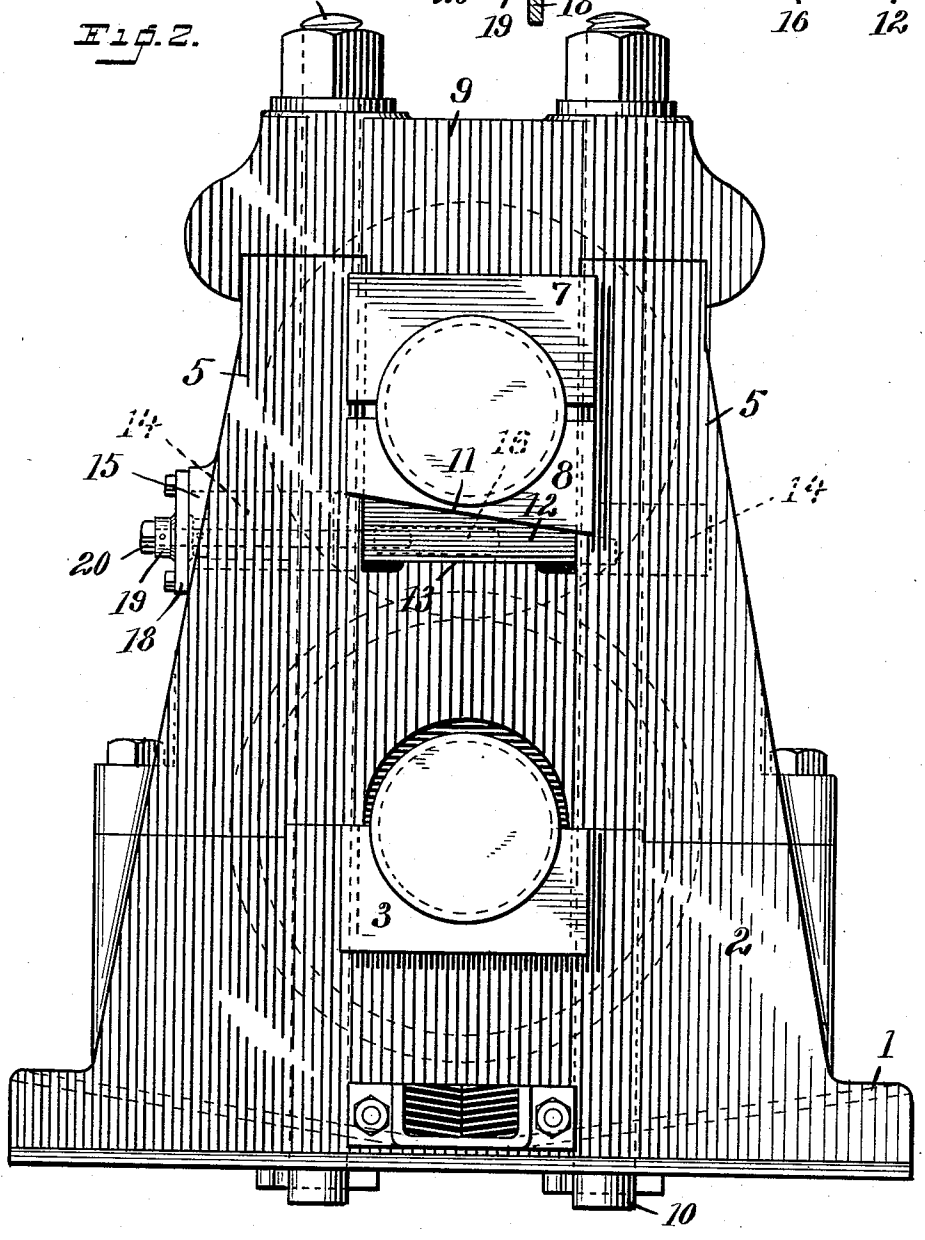


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID R. BOWEN, OF ANSONIA, CONNECTICUT, ASSIGNOR TO THE FARREL FOUNDRY AND MACHINE COMPANY, OF SAME PLACE.

CANE-MILL.

SPECIFICATION forming part of Letters Patent No. 457,395, dated August 11, 1891.

Application filed March 25, 1891. Serial No. 386,295. (No model.)

To all whom it may concern:

Be it known that I, DAVID R. BOWEN, a citizen of the United States, residing at Ansonia, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Cane-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is applicable to two-roller mills, and has for its object to provide simple, strong, and durable means for raising the upper roller in use. It will be understood by those familiar with this class of machinery that owing to the enormous weight of the rollers there is great wear upon the lower journal-boxes of the upper roller and a constant tendency of the upper roller to settle down upon the lower roller, so that the weight of the upper roller, instead of resting wholly upon its journal-boxes, rests partially and sometimes entirely upon the lower roller. This is seriously objectionable on account of the great friction and wear upon the rollers and the increased danger of clogging. In order to overcome these objections I have devised the novel construction which I will now describe, referring by numerals to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a two-roller cane-mill embodying my improved construction, the central portion of the rollers being broken away; Fig. 2, an end elevation of a cane-mill embodying my improved construction, and Fig. 3 is a detail sectional view illustrating the construction and operation of the wedges.

According to my invention the upper roller operates by its weight to crush material fed beneath it, and is held out of contact with the lower roll or rolls by adjustable wedges or inclined planes. None of the crushing strain, therefore, falls upon the roll-adjusting devices; but is sustained by the rigid and strong bearings of the lower roll. The adjusting devices merely support the weight of the upper roll. They are also above the plane of meeting of the rolls and not liable to be clogged or fouled by the expressed juices.

1 denotes the bed of the machine, which is provided at its ends with a standard 2, having recesses to receive the boxes 3 of the lower roller 4.

5 denotes the cheek-pieces which are provided at their upper ends with recesses to receive the upper and lower journal-boxes of the upper roller 6, said journal-boxes being denoted respectively by 7 and 8.

9 denotes cap-plates which rest upon the cheek-pieces and hold the journal-boxes 7 and 8 in position. The cap-plates are secured in place by heavy bolts 10, which extend down through the cap-plates, cheek-pieces, and the standards, as clearly shown in Fig. 2.

The novel feature of my invention consists in forming inclines 11 upon the under sides of journal-boxes 8 and providing wedges 12, the under sides of which are preferably made parallel with the plane of the machine and rest on surfaces 13 formed upon the cheek-pieces, the upper sides of the wedges being inclines corresponding with inclines 11. Both ends of the wedges lie in recesses 14 in the opposite sides of the cheek-pieces, (see dotted lines Fig. 2,) the recesses in the fronts of the cheek-pieces extending through to the outer side and being surrounded by bosses 15 cast on the cheek-pieces. The wedges are cored out to form central openings 16, and are forced inward to raise the boxes of the upper roller by means of screws 17, the threads of which engage corresponding threads at the rear ends of the wedges. The outer recesses 14 are closed by heavy plates 18, bolted rigidly to the cheek-pieces. The shanks of the screws pass through these plates and are held against endwise motion by heavy collars 19, rigidly secured to the shanks, the outer collars being provided with angular heads 20, through which power is applied in any suitable manner to rotate the screws to move the wedges.

Having thus described my invention, I claim—

In a cane-mill, the combination, with the lower roll, of the upper roll operating by its weight to crush material against the former,

a supporting-frame having stationary bearings for the lower roll, horizontal recesses 14, and vertical recesses open at the top, movable bearings 8, engaging the edges of the latter recesses, cap-plates 9, wedges 12, situated in the recesses 14, screws 17 engaging said recesses and having collars 19, removable plates 18, situated between said collars, and means for securing said plates to the frame, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID R. BOWEN.

Witnesses:

CHARLES E. PICKETT,

ROBT. L. MUNGER.