

(No Model.)

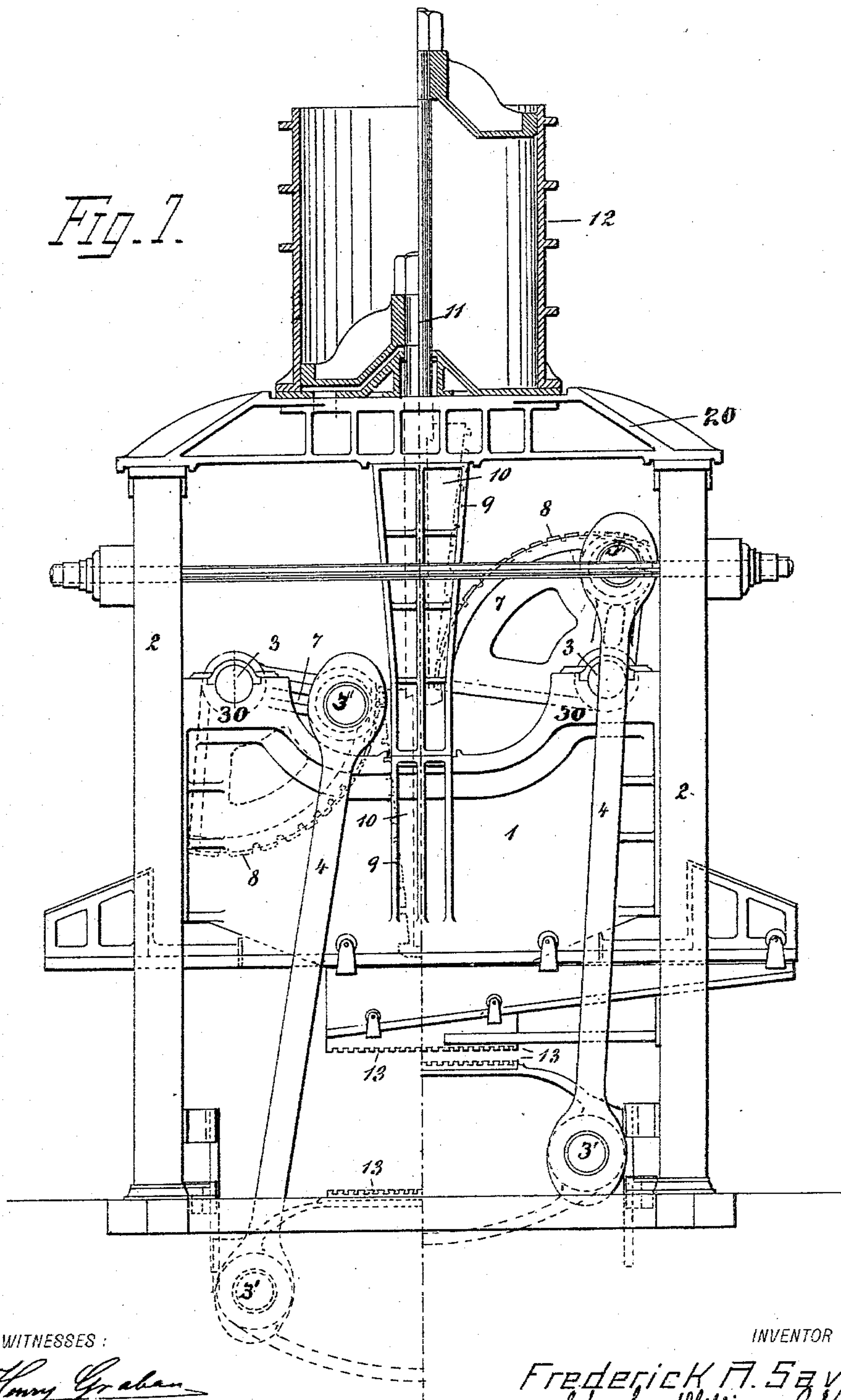
2 Sheets—Sheet 1.

F. A. SAVILE.
COTTON PRESS.

No. 551,452.

Patented Dec. 17, 1895.

Fig. 1.



WITNESSES:

Henry Graham
Joseph H. Milans.

INVENTOR

Frederick A. Savile.
BY *Charles William King*

ATTORNEYS.

(No Model.)

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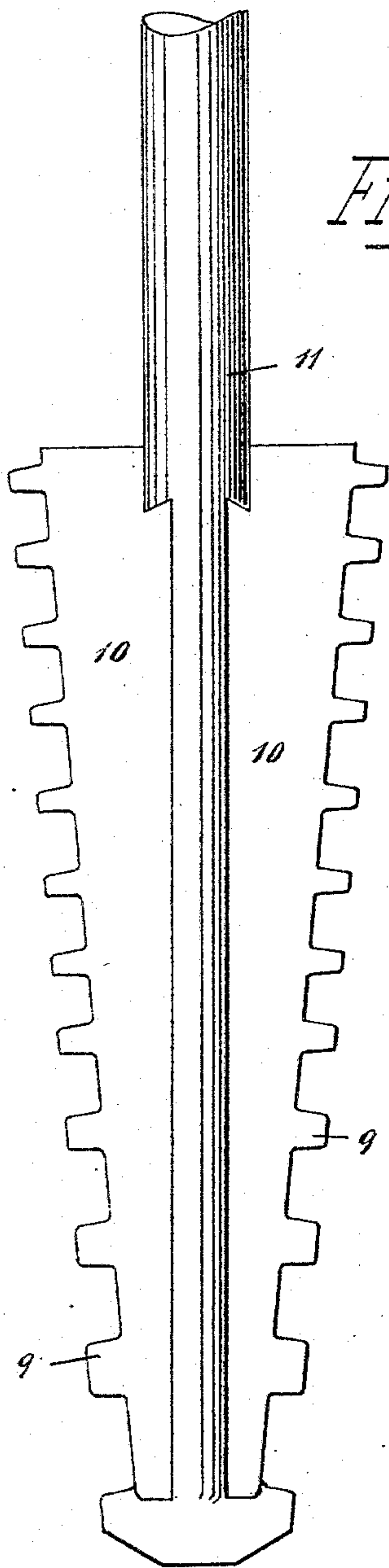


Fig. 2.

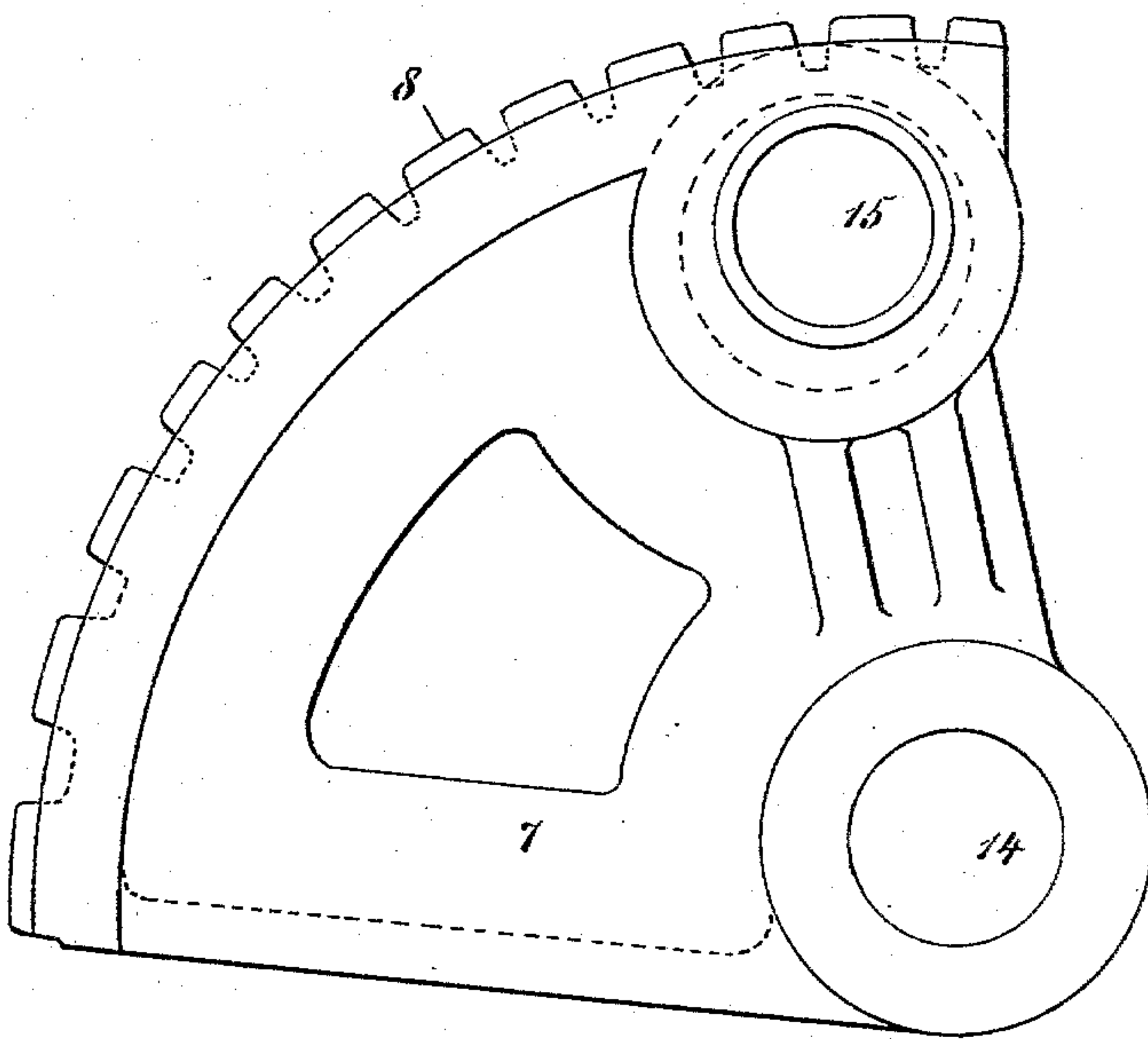


Fig. 3.

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UNITED STATES PATENT OFFICE.

FREDERICK ARTHUR SAVILE, OF NEW ORLEANS, LOUISIANA.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 551,452, dated December 17, 1895.

Application filed April 16, 1895. Serial No. 545,949. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK ARTHUR SAVILE, a citizen of Great Britain, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Cotton-Compresses; 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 relates to presses to be used in compressing bales of cotton, particularly of the kind illustrated in United States Patents Nos. 204,240 and 258,246, granted to E. I. Morse; and it consists of improvements in the construction of such machines and of the several parts thereof.

I have shown my improvements as applied to a Morse cotton-press, though they are applicable to other machines in which a rack and segments are employed to give motion to the compressing-platen of the machine. I therefore do not wish to be understood as confining my invention to the particular style of machine shown in the drawings.

Referring to the said drawings, Figure 1 is a sectional elevation of a cotton-press embodying my improvements, the gearing of one-half of the machine being shown in its extreme position in one direction and at the other half of the machine in its extreme opposite position. Fig. 2 is an enlarged edge view of the rack. Fig. 3 is an enlarged side view of one of the sectors.

In the said drawings a number of the parts of a Morse compress are shown, which will, however, not be described in this specification, as they form no part of the present invention.

In the said drawings, 2 2 represent the upright frame pieces or posts of the machine, at the upper ends of which is supported a metallic frame 20, which connects these posts together and forms the support for the cylinder 12. Between the posts, on either side of the machine, there are mounted the housings 1, in the upper portions of which are formed the bearings 30 for the journals or axles 3 of the sectors 7. 4 are the eye-bars or lifting-rods, which connect the sectors with the lower or movable platen 13. 3' indicates the

pin connecting the lower end of each rod 4 with the platen, and 3'' the pin connecting the rod with the sector.

10 indicates the rack-bar, which is of wedge-shape and is toothed so as to engage with the sectors 7. This rack-bar is connected by a rod 11 with the piston of the steam-cylinder 12.

I have discovered that in the Morse presses, as heretofore constructed, a considerable loss of power, amounting to about twenty-five per cent., has been experienced, from the fact that the bearings for the sectors 12 have been located close to or between the frame-pieces 2 of the machine, so that when the sectors are moved into their extreme upper positions the rods 4 are still inside of the fulcrum of the sectors, and hence the greatest effectiveness in working of the toggles is not attained. I have therefore arranged the bearings, which are formed in the upper portions of the housings 1 sufficiently far inside the posts or standards 2 to allow the sectors 7 to be turned up sufficiently far to bring the pivot-pins 3'', to which the upper ends of the connecting-bars are joined, directly over the journals or axles 3, upon which the sectors swing, as indicated in the right-hand part of Fig. 1. It will thus be seen that when the sector is in its elevated position the pivot-pins 3'', 3, and 3' are substantially in line with each other. Not only is the effectiveness of the press in the power of its stroke increased by this disposition or arrangement of parts, but when the parts come to the position indicated at the right-hand portion of Fig. 1, which is the position occupied with the bale under the greatest degree of compression, and where the parts rest while the bale-ties are being passed around the bale and secured, they are practically locked by reason of the journals or pivot-pins 3'', 3, and 3' being in line with each other, so that the steam-pressure in the cylinder 12 does not have to be relied upon while the parts of the press are at rest.

Experience has demonstrated that the most vulnerable part of the compress is the sector, which, being made of iron, is liable to have its teeth broken. The rack-bar, which engages with and operates the sectors, is constructed of steel, and therefore little or no breakage occurs in this part. In order to prevent this

breakage of the sectors, I construct the teeth thereof of greater size than the corresponding teeth of the rack which engages therewith, the teeth of the sectors being about
5 fifty per cent. larger than the corresponding teeth upon the rack-bar. By thus relatively increasing the size of the teeth of the sectors, I am enabled to very much increase the effectiveness of the press without danger of
10 breakage of the parts. This difference in the relative size of the teeth is illustrated in Figs. 2 and 3 of the drawings, in which 8 indicates the teeth upon the sectors, and 9 the teeth formed upon the plates which constitute the
15 wedge-shaped rack-bar.

The teeth upon the rack-bar may increase in size toward its lower end, as illustrated, there being a corresponding difference in the size of the teeth of the sectors; but whether
20 the teeth increase in size or are of the same size throughout, the same relative difference between the sizes of the teeth upon the rack-

bar and upon the sectors is maintained throughout.

I prefer that the teeth should extend straight 25 across the faces of the rack-bar and of the sectors, although I do not wish to be limited to this shape.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 30

In a cotton press, the combination of the sectors connected with the movable platen and the rack gearing with the sectors, the teeth upon the sectors being relatively larger 35 than the corresponding teeth upon the rack with which they mesh, substantially as set forth.

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

FREDERICK ARTHUR SAVILE.

Witnesses:

B. DREIFUS,
JAMES N. LAVOS.