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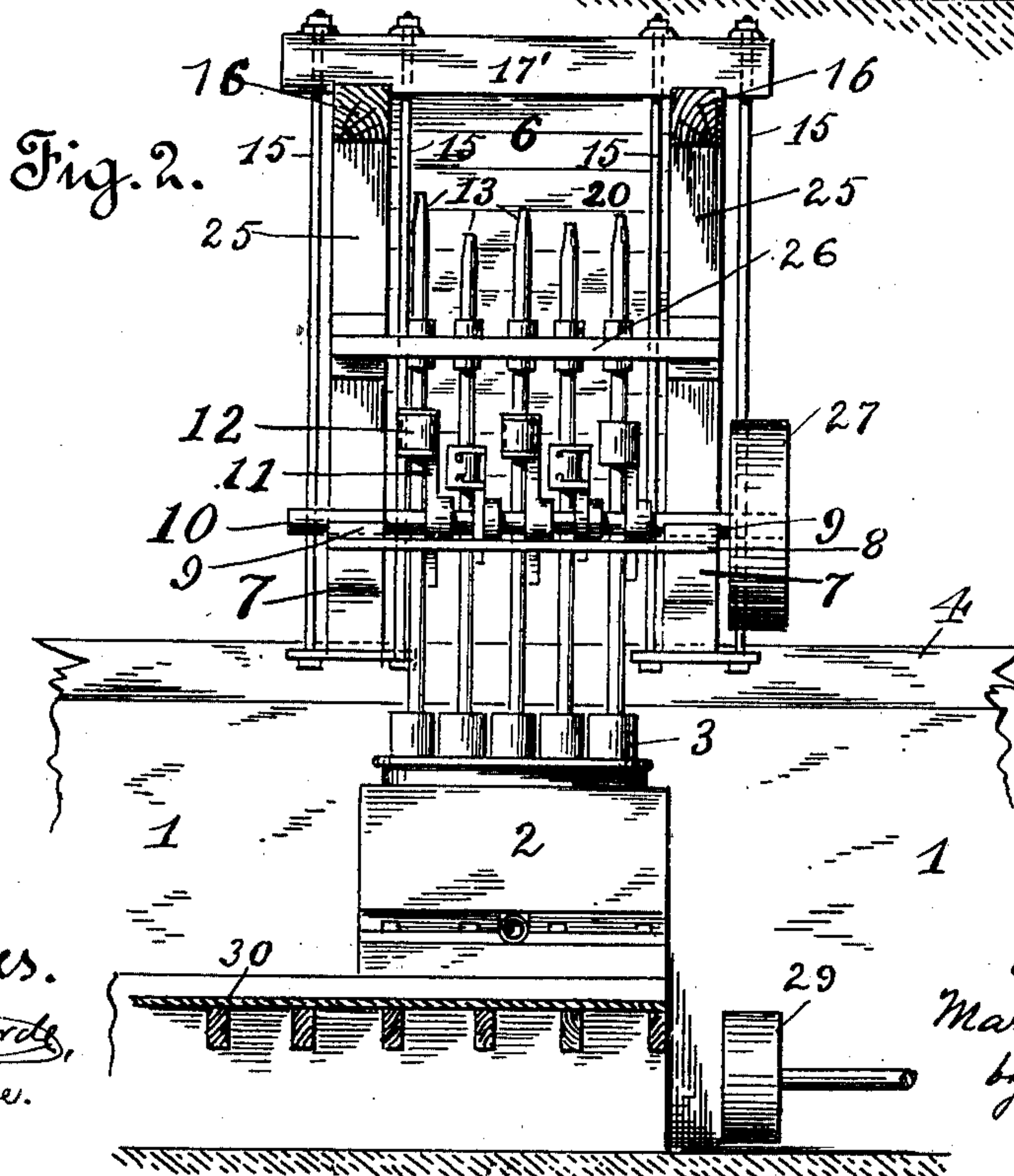
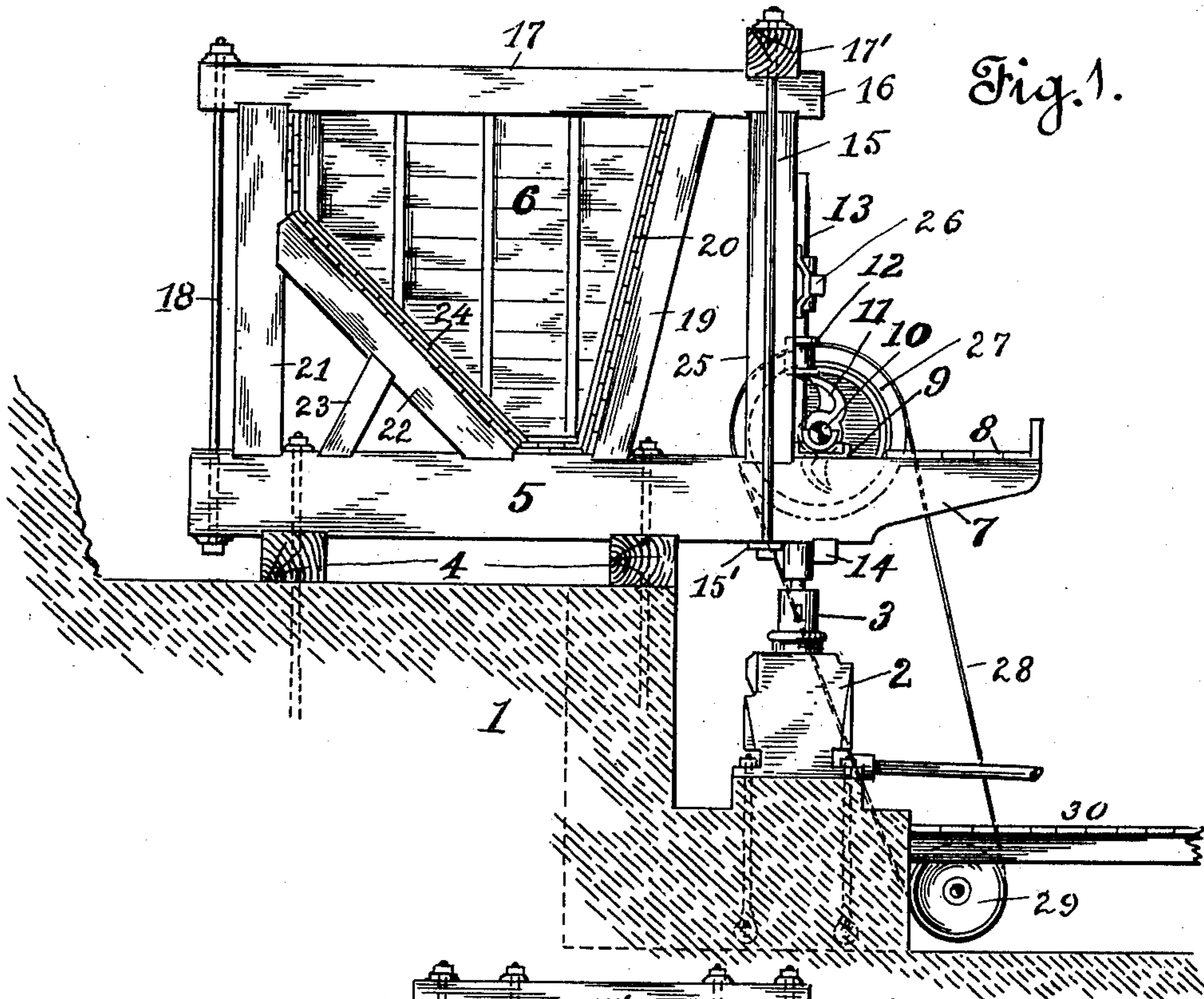
PATENTED APR. 5, 1904.

M. P. BOSS.  
STAMP MILL.

APPLICATION FILED MAY 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.  
*H. H. H. H. H.*  
*Walter F. H.*

Inventor.  
Martin P. Boss  
by *H. F. Booth*  
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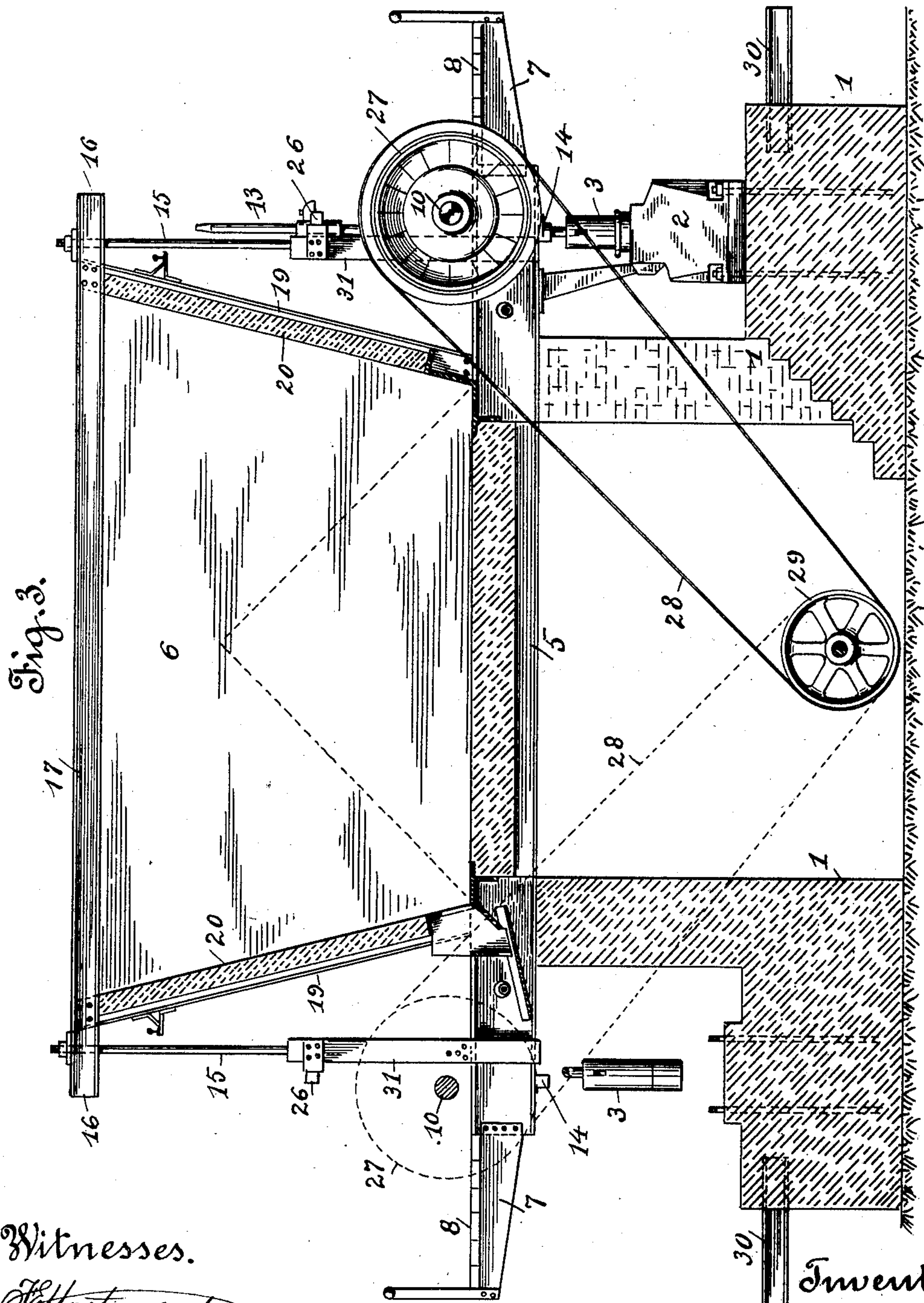
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2 SHEETS—SHEET 2.



Witnesses.

*W. H. Monteverde,*  
*Walter E. Chas.*

Inventor

*Martin P. Boss*  
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# UNITED STATES PATENT OFFICE.

MARTIN P. BOSS, OF SAN FRANCISCO, CALIFORNIA.

## STAMP-MILL.

SPECIFICATION forming part of Letters Patent No. 756,774, dated April 5, 1904.

Application filed May 27, 1903. Serial No. 158,909. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN P. BOSS, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Stamp-Mills; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of stamp-mills for crushing ore and rock.

The objects of my invention are to secure free access to the mortars and lower working parts, to simplify the frame which supports the parts necessary for the operation and guidance of the stamps, and to secure consistently with simplicity both strength and durability in said frame.

The common constructive practice in stamp-mills is to make a frame comprising a sill at about or below the level of the mortar and a massive vertical post upon which the cam-shaft and the guide-girths are supported. Strong bracing is required and makes of the whole structure a heavy, cumbersome, and top-heavy frame, which renders access to the mortars and lower working parts particularly inconvenient and difficult.

In a former application for a patent filed by me January 14, 1903, Serial No. 139,006, I have shown a form of frame construction intended to simplify the structure and to afford access to the lower working parts, said structure comprising, essentially, sills raised above the level of the lower working parts, said sills being supported at both ends and carrying the cam-shaft and guide-girths.

My present invention, while embodying the same general idea of elevating the shaft and girth-supporting members high enough to give free access to the lower working parts, consists in a beam extending outwardly from and over a retaining-wall or its equivalent at a proper height above the mortar to carry the cam-shaft and guide-girths, said overhanging beam being anchored at one end only or held down by weight sufficient at said end to firmly support the overhanging cam-shaft and its accompaniments. This overhanging beam may be any beam firmly anchored or weighted and large and strong enough to carry the load,

said beam being by reason of its projection or overhang a true cantaliver. In its preferred form this overhanging or cantaliver beam is an extension of the ore-bin sill, and in practice is suitably strengthened by braces. In this form I have herein illustrated it.

Referring to the accompanying drawings, Figure 1 is an end view of my stamp-mill in single row, showing my cantaliver-frame in wooden construction. Fig. 2 is a front view of same with the lower guide-girths 14 omitted. Fig. 3 is a cross-sectional elevation of my stamp-mill in double row, showing my cantaliver-frame in steel construction.

Referring first to Figs. 1 and 2, 1 is a concrete or other suitable foundation, upon a relatively lower part of which is anchored the mortar 2, in which the stamps 3 operate. Upon a higher portion of foundation 1 are laid the base-timbers 4, on which are the sills 5 of the ore-bin 6, both timbers and sills being anchored to the foundation. These sills 5 have extensions 7 projecting beyond the front of the bin and beyond the vertical plane of the stamps and in practice sufficiently far to carry a platform 8. Upon these overhanging extensions 7, which are true cantalivers, are the boxes 9, which carry the cam-shaft 10, the cams 11 of which operate under the tappets 12 of the stamp-stems 13 in the usual manner. The lower guide-girths 14 of the stamp-stems are also carried by these cantaliver extensions 7, said girths being secured to the under side of the extensions, as shown. Now in order to brace the overhanging beams or cantalivers 7 there are the tension members, which consist of long bolts 15, uniting the cantalivers or overhanging extensions with the forwardly-projecting ends 16 of the top beams or girders 17 of the ore-bin 6. The bolts 15 embrace the extensions 7 below by short cross-yokes 15', and above they pass through cross-pieces 17' on top of girders 17. The back ends of these top girders or beams 17 are secured by tension-bolts 18, which pass down to the rear ends of the sills 5 of the ore-bin. The compression members consist of the heavy timbers 19, which support the front wall 20 of the ore-bin, said timbers being framed into the sills 5 below and into the top girders 17 above. Ver-



tical compression members 21, consisting of heavy timbers, extend between the back ends of the sills and top girders, while inclined timbers 22, braced by struts 23, extend between the rear members 21 and the sills 5 and support the sloping back wall 24 of the ore-bin. Vertical timbers 25 between the tension-bolts 15 extend between the extensions 7 and the top girders 17 and carry the top guide-girths 26 of the stamp-stems.

27 is the cam-shaft pulley. 28 indicates the driving connection, and 29 the driving-pulley.

30 is a lower platform projecting from foundation 1.

It will now be seen that the whole front of the mill is open and that its lower working parts particularly are unobstructed and can be freely reached; also, that the cantalivers 7 are fully braced and that the whole frame structure is simple, strong, and durable. I have not deemed it necessary to show in Figs. 1 and 2 any feed device for conducting the ore from the bin.

Referring now to Fig. 3, wherein I show a mill in double row with a steel construction of frame, it will readily be seen that the same principles of construction are employed. To assist comparison, I have deemed it best to apply to similar parts the same designating numerals as far as possible. The foundation 1, though duplicated on each side, receives on its lower portion the mortars 2. The sills 5 of the ore-bin 6 extend between the duplicated upper levels of the foundation, and a space is left under them to house the driving-pulley 29 of the driving connection 28 to the cam-shaft pulley 27 of each row of stamps. The sills 5 project their cantaliver extensions 7 from each end, and the cam-shaft 10 and lower guide-girths 14 are carried by said cantalivers, while the upper girths 26 are carried by stirrups 31, which embrace the cantaliver extensions below and receive in their upper ends the tension-bolts 15, the upper ends of said bolts being connected with the projecting ends 16 of the top girders 17. The various tension and compression members by being duplicated on each side complete the bin and the necessary bracing, obviating the use of the back members of the single construction by assuming their functions.

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

1. In a stamp-mill, a beam anchored to sustain the counter-load of the working mechanism over the mortar at a point beyond the supporting wall or column.

2. A stamp-mill comprising in its construction a mortar, stamps with stems, guides for the stems, an operating-shaft, and a beam anchored to sustain said guides and the operating-shaft over the mortar at a point beyond the supporting wall or column.

3. A stamp-mill having a beam anchored at one end only, and having its other end projecting beyond the supporting wall or column, and overhanging the mortar, said overhanging end sustaining the counter-load of the working mechanism over said mortar.

4. A stamp-mill comprising in its construction a mortar, stamps with stems, guides for the stems, an operating-shaft, and a beam anchored at one end only, and having its other end projecting beyond the supporting wall or column and overhanging the mortar, said end sustaining the guides and the operating-shaft over said mortar.

5. A stamp-mill having an overhang for supporting and guiding the moving parts of the mill above the level of the mortar, said overhang consisting of an extension of the ore-bin sill.

6. A stamp-mill comprising in its construction a mortar, stamps with stems, guides for the stems, a shaft for operating the stamps, and overhung extensions of the ore-bin sills supporting said operating-shaft and guides.

7. In a stamp-mill, an ore-bin having sills with overhung extensions supporting and guiding the moving parts of the mill located above the level of the mortar.

8. A stamp-mill comprising in its construction a mortar, stamps with stems, guides for the stems, a shaft for operating the stamps, an ore-bin, and sills for said bin having overhung extensions supporting the operating-shaft and the guides.

9. A stamp-mill comprising in its construction a mortar, stamps with stems, guides for the stems, a shaft for operating the stamps, an ore-bin, and sills for said bin having overhung extensions supporting the operating-shaft and the guides, said extensions carrying a platform at their outer ends.

10. A stamp-mill comprising in its construction a mortar, stamps, guides, operating-shaft, an ore-bin having sills with cantaliver extensions supporting the guides and operating-shaft located above the level of the mortar, tension members uniting said sill extensions with the top girders of the bin, and compression members between said girders and sills.

11. A stamp-mill comprising in its construction a mortar, stamps, guides, operating-shaft, an ore-bin having sills with cantaliver extensions supporting the guides and operating-shaft, top girders of said bin having end extensions, tension members uniting said end extensions with the cantaliver extensions of the sills, and compression members between the girders and sills.

12. In a stamp-mill, an ore-bin having sills with cantaliver extensions for supporting and guiding the moving parts located above the level of the mill-mortar, top girders for said bin, tension members uniting the cantaliver extensions of the sills with the top girders,



and compression members between the sills and girders and forming the support for the front wall of the bin.

13. In a stamp-mill, an ore-bin having sills with cantaliver extensions for supporting and guiding the moving parts located above the level of the mill-mortar, top girders for said bin, tension members uniting the cantaliver extensions of the sills with the top girders, compression members between the sills and girders and forming the support for the front wall of the bin, and compression members between the rear ends of said sills and girders.

14. In a stamp-mill, an ore-bin having sills with cantaliver extensions for supporting and

guiding the moving parts located above the level of the mill-mortar, top girders for said bin, tension members uniting the cantaliver extensions of the sills with the top girders, compression members between the sills and girders and forming the support for the front wall of the bin, compression members between the rear ends of said sills and girders, and tension members between said rear ends.

In witness whereof I have hereunto set my hand.

MARTIN P. BOSS.

Witnesses:

WALTER F. VANE,  
D. B. RICHARDS.