

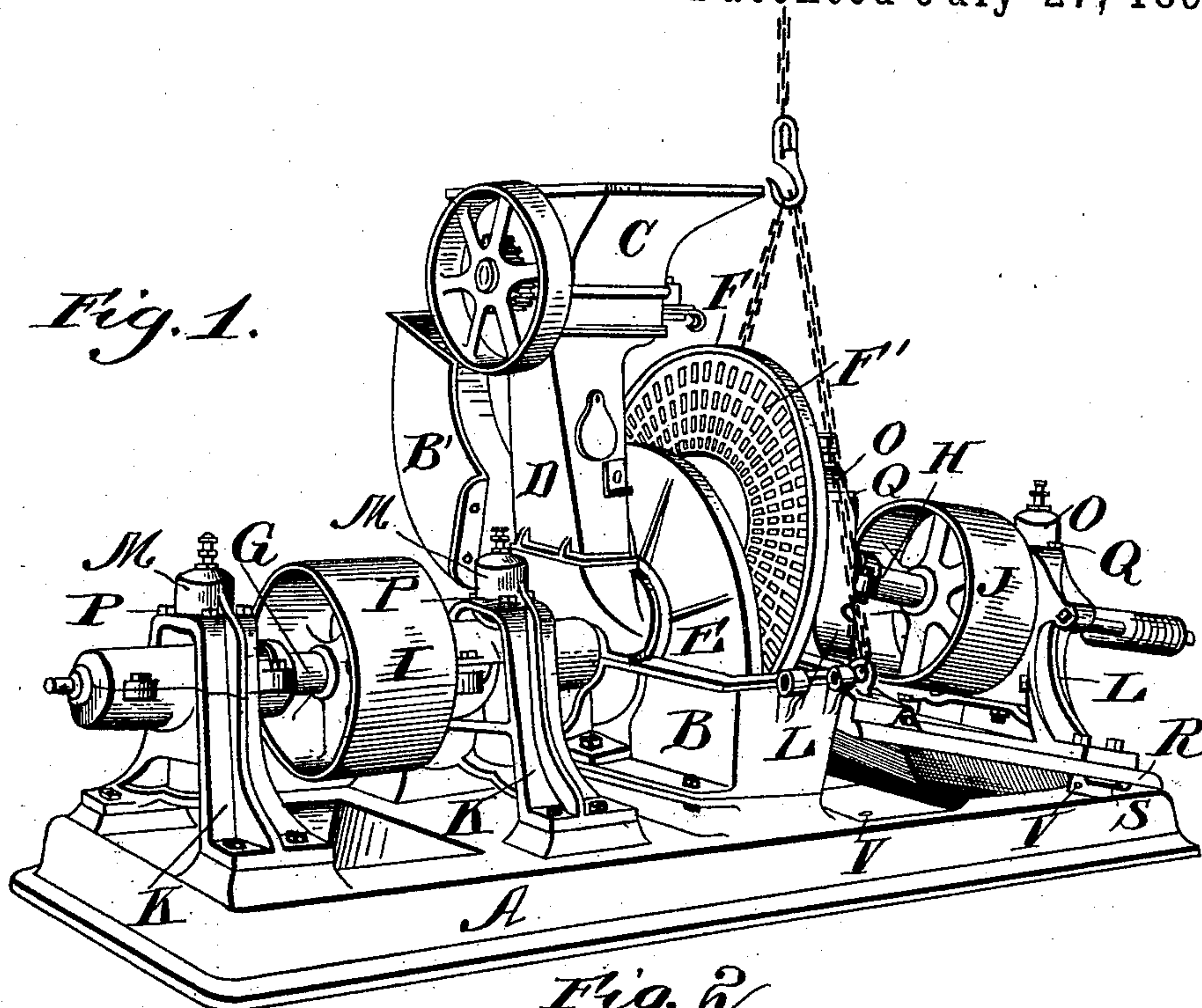
(No Model.)

J. F. WINCHELL.  
GRINDING MILL.

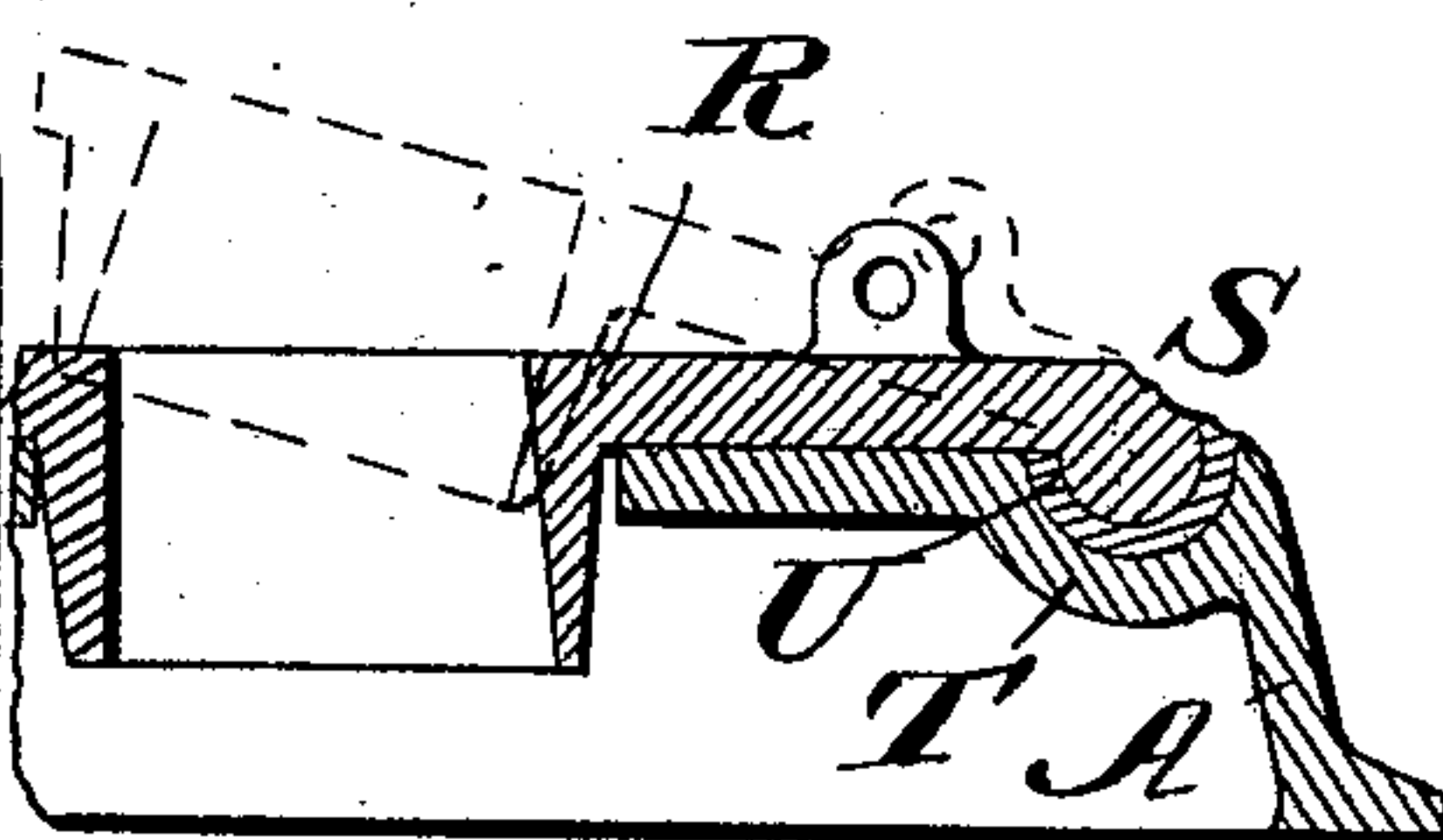
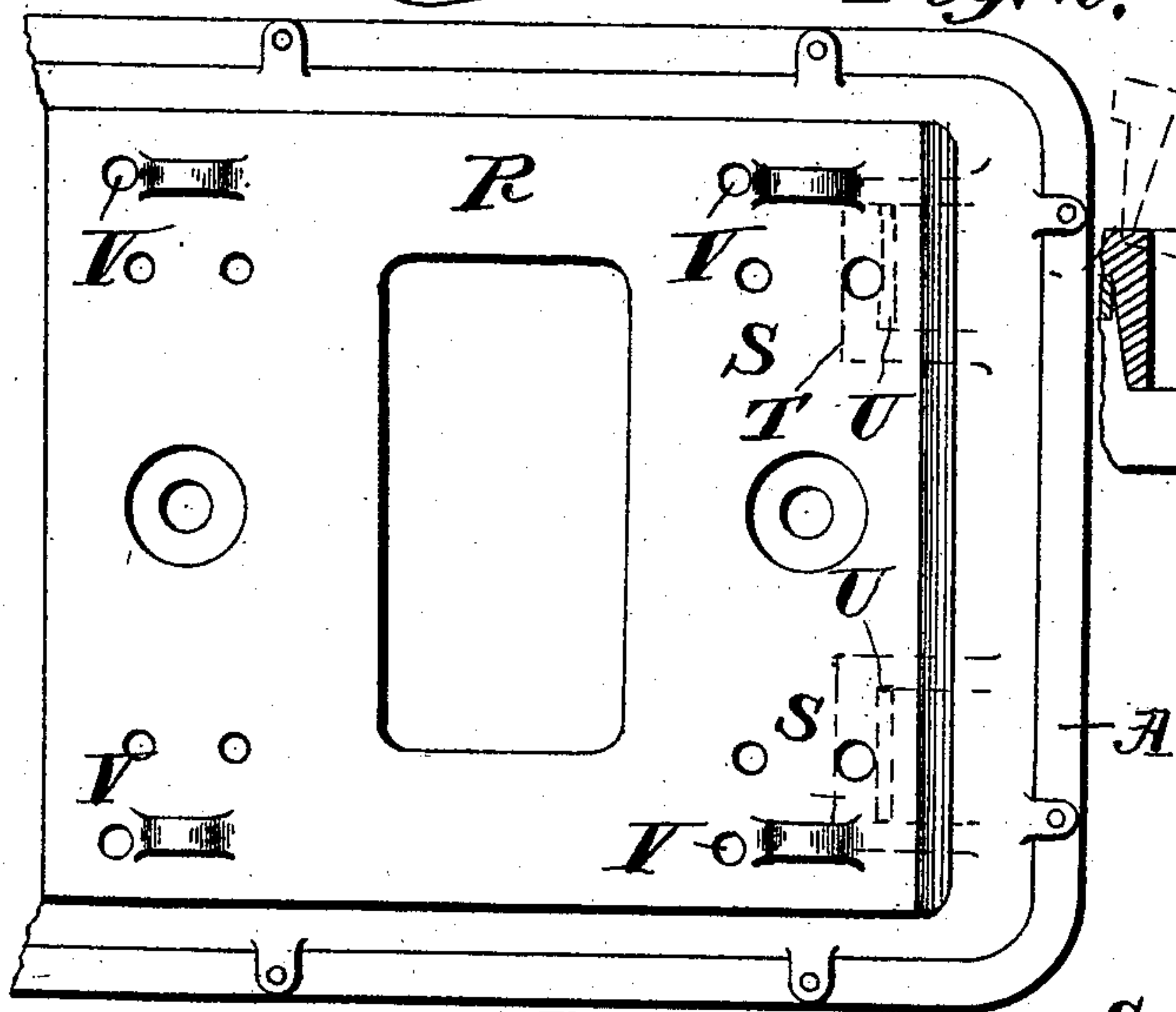
No. 586,984.

Patented July 27, 1897.

*Fig. 1.*



*Fig. 2.*

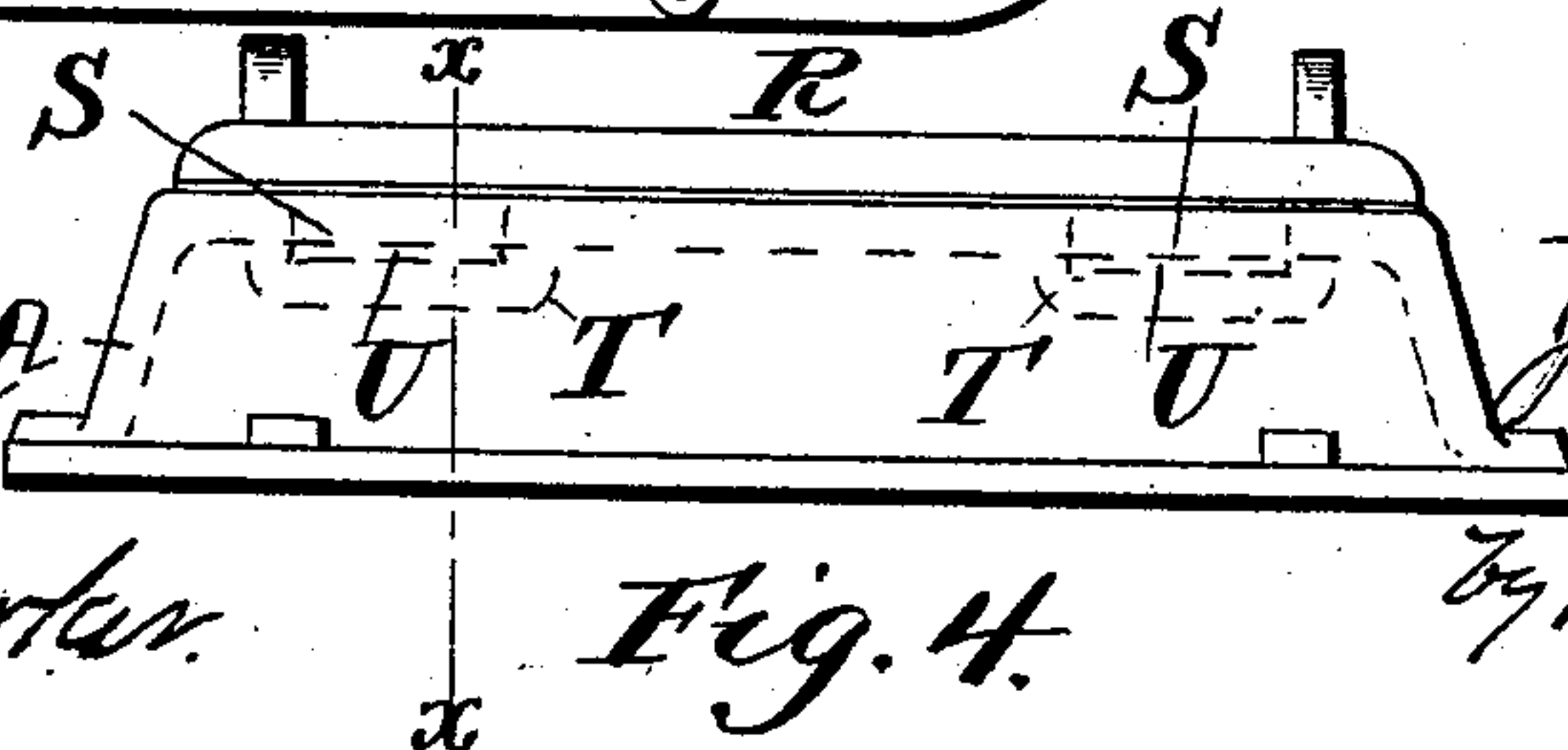


*Fig. 3.*

Witnesses:

*J. B. McGinnis*

*Chas. W. Parker*



*Fig. 4.*

*Inventor*  
*James F. Winchell*

*By H. A. Toulmin*  
*Atty.*



# UNITED STATES PATENT OFFICE.

JAMES F. WINCHELL, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE FOOS MANUFACTURING COMPANY, OF SAME PLACE.

## GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 586,984, dated July 27, 1897.

Application filed June 14, 1895. Renewed June 17, 1897. Serial No. 641,183. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. WINCHELL, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Grinding-Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in the manner and means of mounting the base-plate of bearing-standards for heavy machinery.

15 My invention is designed especially for use in connection with grinding-mills wherein a rotary and a stationary or two oppositely-rotating grinding-heads are employed and armed with removable grinding-plates made in sections or segments.

20 The object or design of my invention is to afford a means for permitting access to these grinding-plates, so that they may be removed when worn out or broken and replaced by new ones without removing either grinding-head and its shaft and pulley from the bearings and without removing the bearing-caps, the removal of which parts entails great loss of time and labor and can only be done in the case of heavy mills with the aid of a derrick or some form of hoisting apparatus, and even then the work is laborious and slow, attended with many difficulties, and involves almost the entire disorganization of at least half of the mill and the resetting of the parts together and in position.

35 By my invention I am enabled to separate the grinding-heads without losing the alignment of the shafts.

40 In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a perspective view of a grinding-mill embodying my invention of the type manufactured and sold by the Foos Manufacturing Company, of Springfield, Ohio, my assignee of this invention; Fig. 2, a plan view of the standard-plate; Fig. 3, a sectional view thereof on the line *xx* of Fig. 4, and Fig. 4 an end elevation of the standard-plate and base.

50 I will describe my invention as applied to a grinding-mill such as illustrated in the ac-

companying drawings, but it will be understood that it is applicable to other forms of mills and also to other machinery or apparatus where the difficulties which the invention overcomes are to be met with.

The letter A designates a base, usually made of cast metal, and the letter B a casing for the grinding-heads, a part of the casing being removed to exhibit the heads and the grinding-plates and a part being tipped back, as shown at B'. The material is fed between these plates by a construction involving a hopper C, with its crushing or agitating mechanism, and a chute D. This mill has two grinding-heads E and F, having grinding-plates, preferably in sections, F', (only the plates on the head F being shown,) both of which rotate, being respectively mounted on the shafts G and H, carrying pulleys I and J and mounted in bearings formed in standards K K and L L, which have caps M M and O O, held to the standards by bolts P P and Q Q. These standards K K are bolted to the base A, but the standards L L are bolted to a plate R, which I term the "standard-plate." This plate is formed with a journal or rounded lug or projection S at each outer corner and on the under side. Such journals are adapted to fit into bearings or recesses T, formed in the base A and having metal boxes or bushings U. This standard-plate R is otherwise constructed to rest upon the base A and to be bolted thereto, as shown at V.

Now when access is to be had to the grinding plates or sections F' all that is necessary to do is to unscrew the bolts at V and then attach a chain or other hoisting apparatus to the standard-plate R, as shown, and lift the end nearest to the grinding-head F, the plate turning on its journals S. This so separates the heads that the plates or sections of both are accessible. The plates or sections on the lower side of the heads are made accessible by rotating the heads to bring the desired plates uppermost or outward. When the repairs or exchange of plates has been made, the standard-plate, with its incumbent standards, shaft, head, grinding-plates, and pulley, &c., is lowered, again turning on its journals. During the raising and lowering operation and while the parts are suspended these



journals hold the bearing-plate in its proper position, so that the alinement of its shaft is at all times maintained and so that the machine will work perfectly when the plate is again lowered. It will be seen that it has been necessary to remove only a portion of the casing and several bolts to permit of this adjustment or manipulation of one entire section of a large and complicated machine. This invention has gone into practical operation in connection with the commercial sale and use of the mill shown and described and has increased the salability of such machine and proved valuable to users.

The term "standard-plate" will of course be understood as meaning any plates that carry the bearings, whether the bearings be formed in specific standards or be otherwise supported by such plate.

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

1. In a grinding-mill, the combination with the base having standards rigidly secured thereto at one side of its middle, a shaft mounted in said standards and having a grinding-

head, and having on the other side of the middle two bearings depressed in its upper surface at or near the corners and a standard-plate fitted to rest upon said latter portion of the base and having two rounded projections forming journals fitted into said depressed bearings, standards rigidly secured to said standard-plate, a shaft mounted in said standards and a grinding-head on the shaft.

2. In a grinding-mill, the combination with the base, standards secured thereto at one side of its middle, a shaft mounted in said standards and a grinding-head on said standards, and bearings on said base at the other side of its middle, a standard-plate fitted to rest upon said latter part of the base and fitted to tip in said bearings, standards secured to said plate, a shaft mounted in said standards and a grinding-head on said standards.

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

JAMES F. WINCHELL.

Witnesses:

OLIVER H. MILLER,  
W. M. MCNAIR.