(No Model.)

2 Sheets—Sheet 1.

J. WALLWORK.

MACHINE FOR GRINDING THE EDGES OF BAND SAW BLANKS OR OTHER METALLIC STRIPS.

No. 448,099. Patented Mar. 10, 1891.

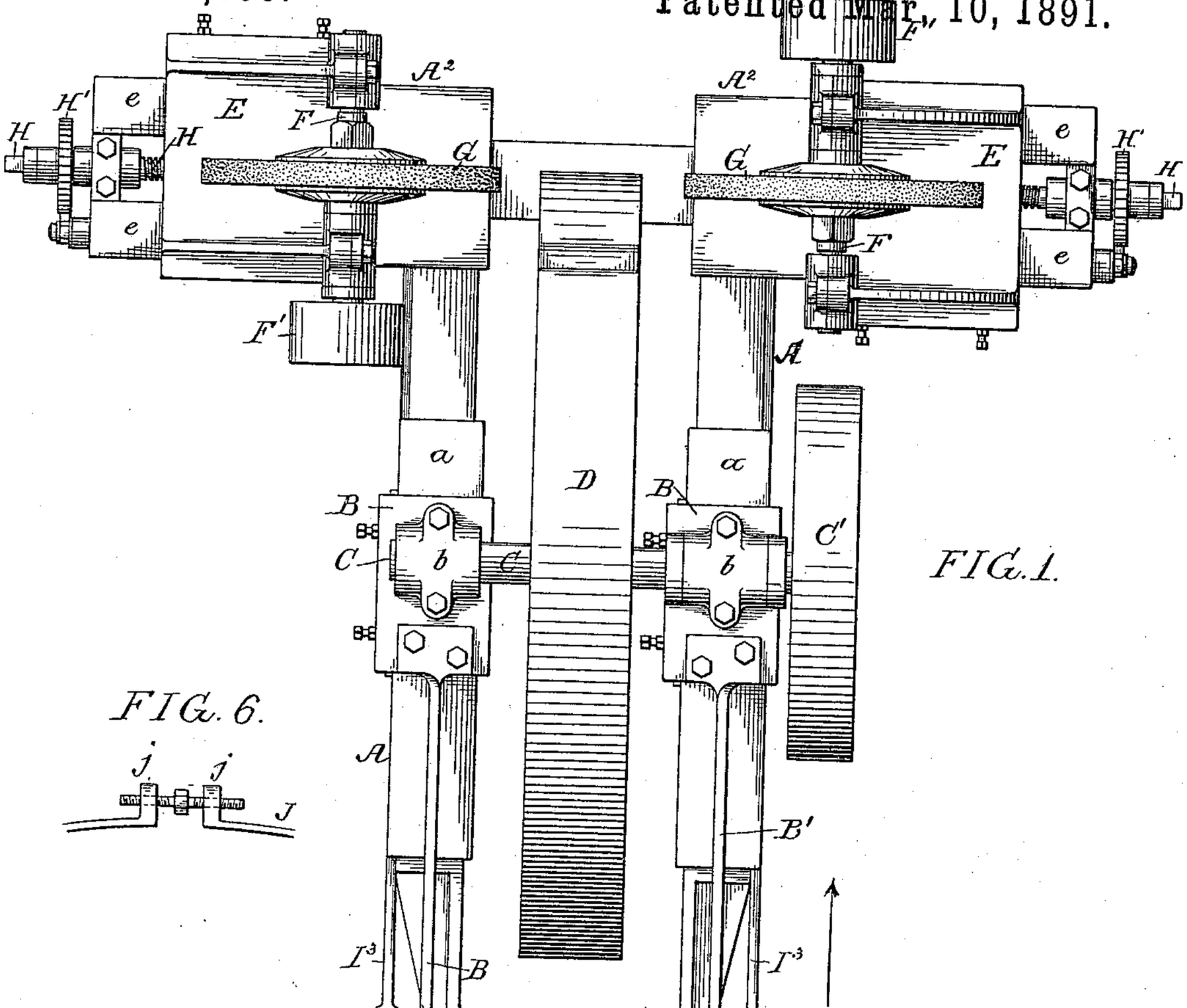


FIG. 1.

FIG. 6.

FIG. 4

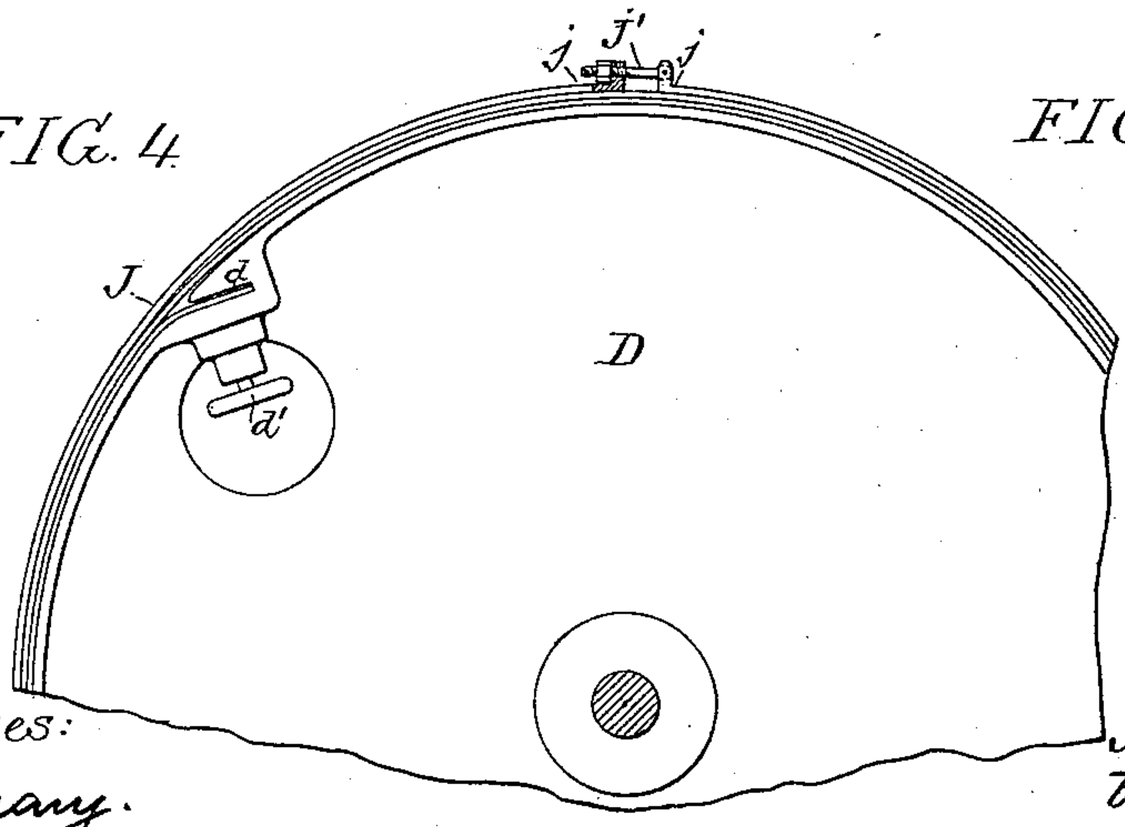
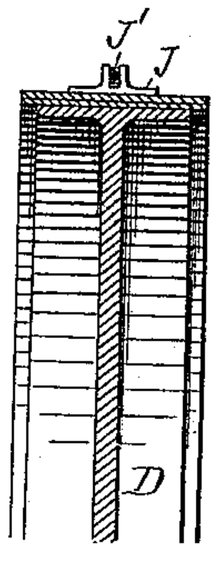


FIG. 5



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Inventor:
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(No Model.) 2 Sheets—Sheet 2.

J. WALLWORK.

MACHINE FOR GRINDING THE EDGES OF BAND SAW BLANKS OR OTHER METALLIC STRIPS.

No. 448,099. Patented Mar. 10, 1891.

FIG. 2.

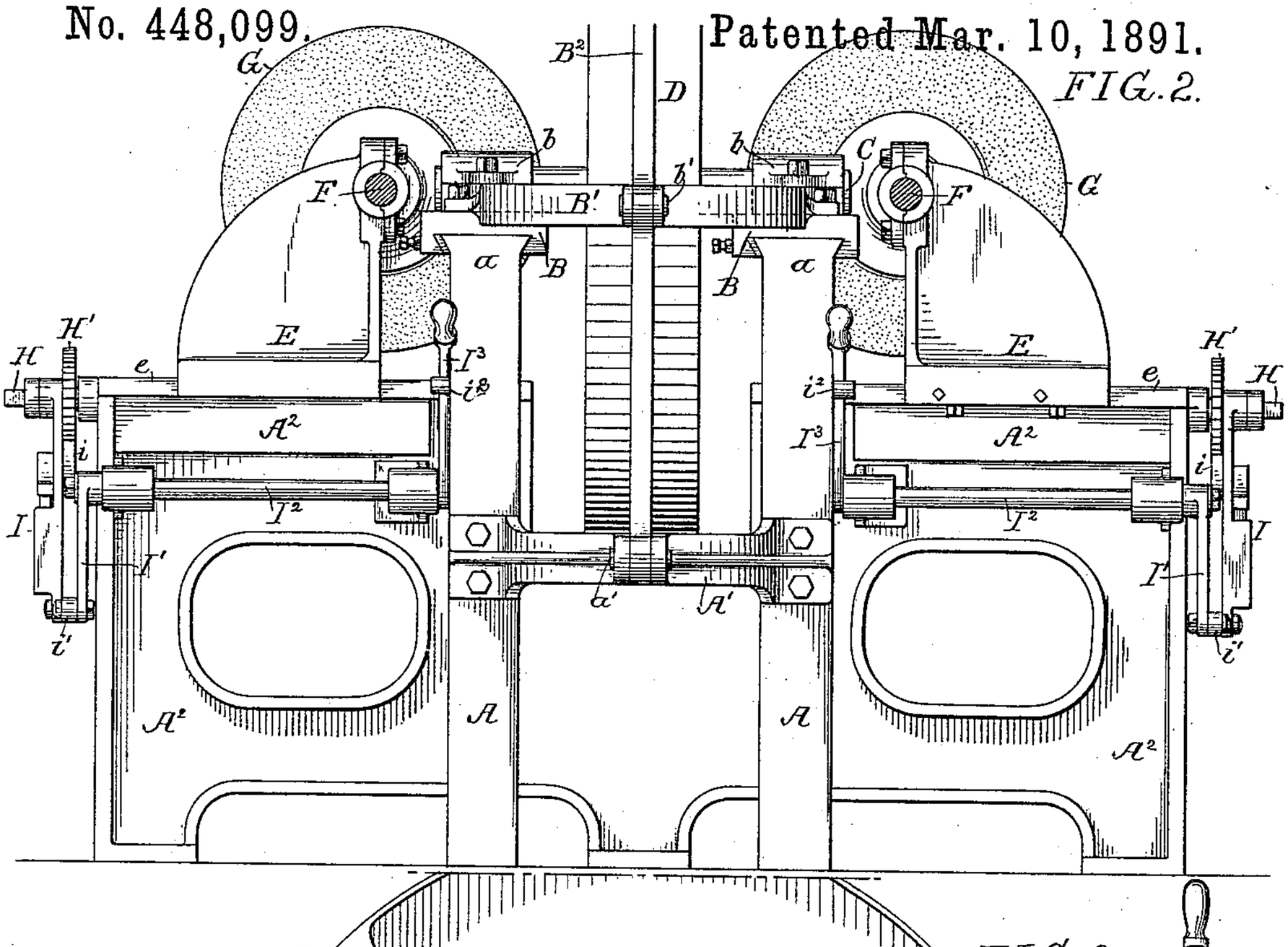
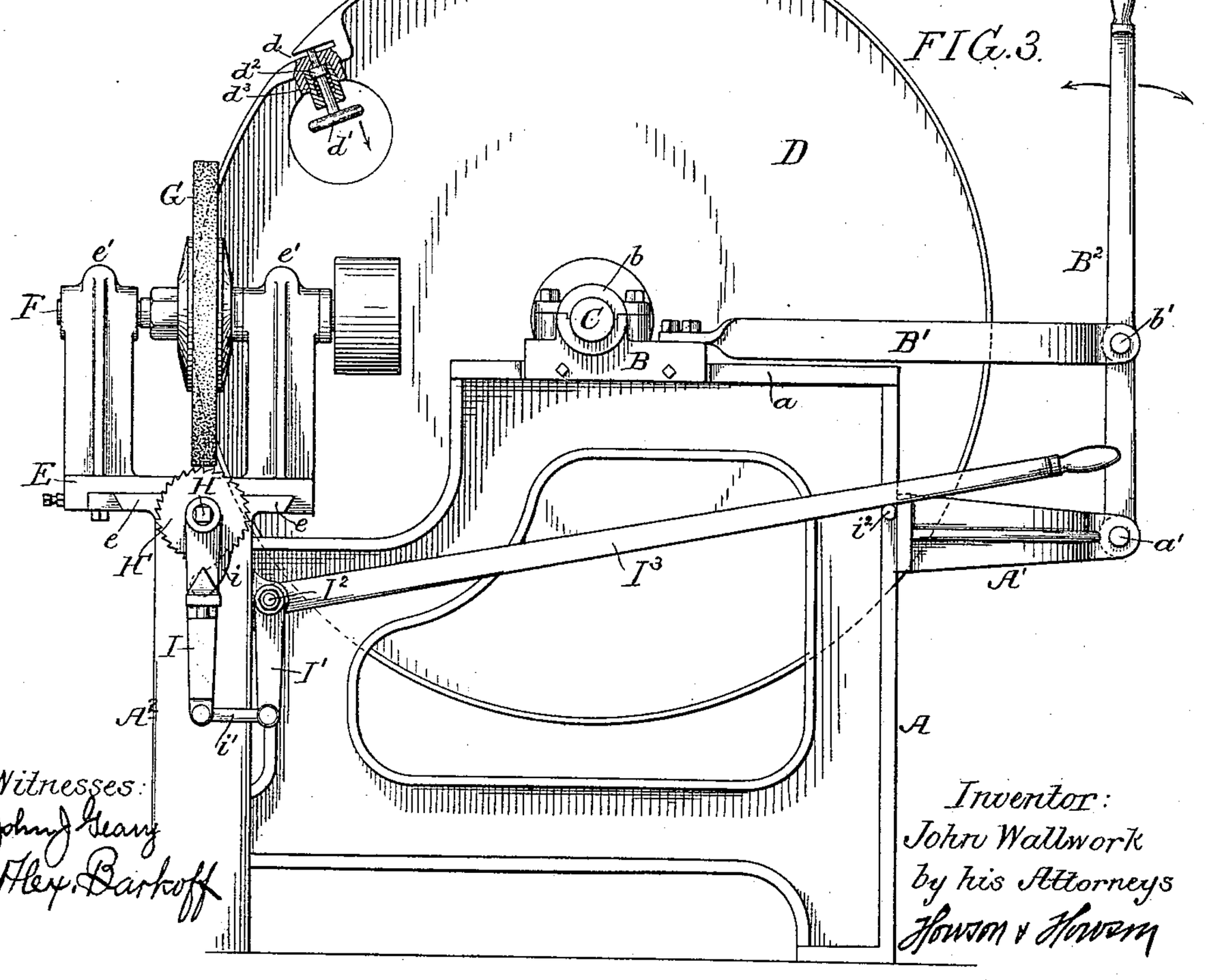


FIG. 3.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN WALLWORK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HENRY DISSTON & SONS, INCORPORATED, OF SAME PLACE.

MACHINE FOR GRINDING THE EDGES OF BAND-SAW BLANKS OR OTHER METALLIC STRIPS.

SPECIFICATION forming part of Letters Patent No. 448,099, dated March 10, 1891.

Application filed June 14, 1889. Serial No. 314,264. (No model.)

To all whom it may concern:

Be it known that I, JOHN WALLWORK, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Machines for Grinding the Edges of Band-Saw Blanks or other Metallic Strips, of which the following is a specification.

The object of my invention is to construct a machine by which the edges of a band-saw blank or similar metallic strip may be accurately ground to an even width throughout its length. This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved machine. Fig. 2 is an elevation looking in the direction of the arrow, Fig. 1. Fig. 3 is a side view of the machine. Figs. 4 and 5 are detailed views showing the application of a band-saw blank to the drum, and Fig. 6 is a view of a modified form of clamp.

A is the frame of the machine, made in the peculiar form shown and having two undercut slideways *a a*, to which are adapted slides B B, carrying the bearings *b b* for the shaft C, on which is the drum D. On the periphery of the drum is secured the strip the edges of which are to be ground. The drum is of such width in Fig. 5 that the strip to be ground will lap over the edge of the drum, as shown. The shaft C is driven by a belt passing around a belt-pulley C′ on said shaft.

The two slides B B are connected together by a yoke B′, which is pivoted to a vertical-handled lever B^2, pivoted to a bracket A′ at *a′*, so that on moving the lever in the direction of the arrows, Fig. 3, the drum can be adjusted in respect to the grinding-disks described hereinafter.

Projecting from each side of the frame A are frames A^2, on which are undercut slideways *e*, and adapted to each slideway is a carriage E, having bearings *e′* for a shaft F, carrying a grinding-disk G secured to the shaft in the usual manner. The disks are driven by belts passing over belt-wheels F′ on the shafts, Fig. 1.

On the under side of each carriage E is a screw-threaded lug, to which is adapted a threaded shaft H, having at its outer end a ratchet-wheel H′. A lever I, pivoted to the shaft H, carries a pawl *i*, which engages with the teeth of the ratchet-wheel H′, and as this lever I is reciprocated it will feed the carriage, and consequently move the grinding-wheels toward or from the drum D. The lever I is connected by a link *i′* to a lever I′, secured to a shaft I^2, which has its bearings in the frame of the machine, and secured to the opposite end of this shaft is a handled lever I^3, projecting to the front of the machine and held in its upper position by a pin i^2. By moving this handled lever I^3 the pawl-lever I will be vibrated, and consequently the grinding-wheel will be fed toward or from the drum, as described above. This mechanism is duplicated on the opposite side of the frame, as shown in Figs. 1 and 2.

The saw-blank or other strip to be ground is provided with an opening at one or both ends, and one end is slipped in a slot *d* in the rim of the drum D. A spring-pin *d′* projects into the slot and passes through the opening in the end of the strips, so as to hold it in place. The spring-pin *d′* is constructed in the present instance as clearly shown in Fig. 3, being provided with a collar d^2, back of which is a spring d^3, so that on moving the pin in the direction of its arrow the band can be removed. The strip is then wrapped around the periphery of the drum, and when in position a metallic band J (shown clearly in Fig. 4) is placed over the strip. Each end *j* of the band J has a projection, one projection carrying a screw-bolt *j′*, adapted to a slot in the opposite projection, and by turning a nut on the bolt the band will be tightened, and thus secure the strip to the drum. Other forms of clamps may be used, as, for instance, that shown in Fig. 6, in which a double screw passes through projections on each end of the band. Any other well-known forms of clamp may be used for this purpose without departing from my invention.

Although the machine described is constructed with particular reference to the grinding of band-saw blanks, it will be evident that it can be used for grinding strips of any kind in which parallel edges are required. It will also be evident that in some cases only one

grinding-disk may be employed, one side of the strip being ground at a time, or in some cases only one side may be ground, where saw-teeth have already been cut upon the opposite side.

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

1. The combination, in a machine for grinding the edges of metallic strips, of a revolving drum, around which the strip to be ground is wound and secured, devices for securing the strip to the drum, with grinding-wheels situated at the sides of the drum and adapted to grind the edges of the strip clamped to said drum, substantially as described.

2. The combination, in a machine for grinding the edges of metal strips, of a revolving drum on which the metallic strip the edges of which are to be ground is secured, devices for securing the strip firmly to the drum, with carriages on each side of the drum, grinding-wheels carried thereby and so situated as to grind the edges of the strip, with mechanism for feeding the grinding-wheel toward or from the drum, substantially as set forth.

3. The combination, in a grinding-machine, of the slotted drum, a spring-pin adapted to engage with one end of the strip to be ground, with a clamp to pass around the periphery of the drum and secure the strip in place upon the drum, substantially as described.

4. The combination, in a machine for grinding the edges of metallic strips, of the drum on which is secured the strip to be ground, said drum being narrower than the strip, so that the strip will overlap the edges of the drum, with a narrow securing-band placed around the strip on the drum, by which the strip is firmly secured to the drum, a grinding-wheel at the side of the drum, and mechanism for revolving the said drum, substantially as described.

5. The combination of the frame of a machine for grinding the edges of metallic strips, slides B, adapted to longitudinal ways on said frame, mechanism for moving said slide, with a drum D, the shaft of which has its bearings in the slides, mechanism for revolving said drum, and devices for securing the strip to be ground upon said drum, with ways on the frame at right angles to the slideways of the slides B, carriages E E, adapted to said ways, revolving grinding-wheels having their bearings on said carriages, and devices for moving the carriages toward and from the strip to be ground, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN WALLWORK.

Witnesses:
HENRY HOWSON,
HARRY SMITH.