

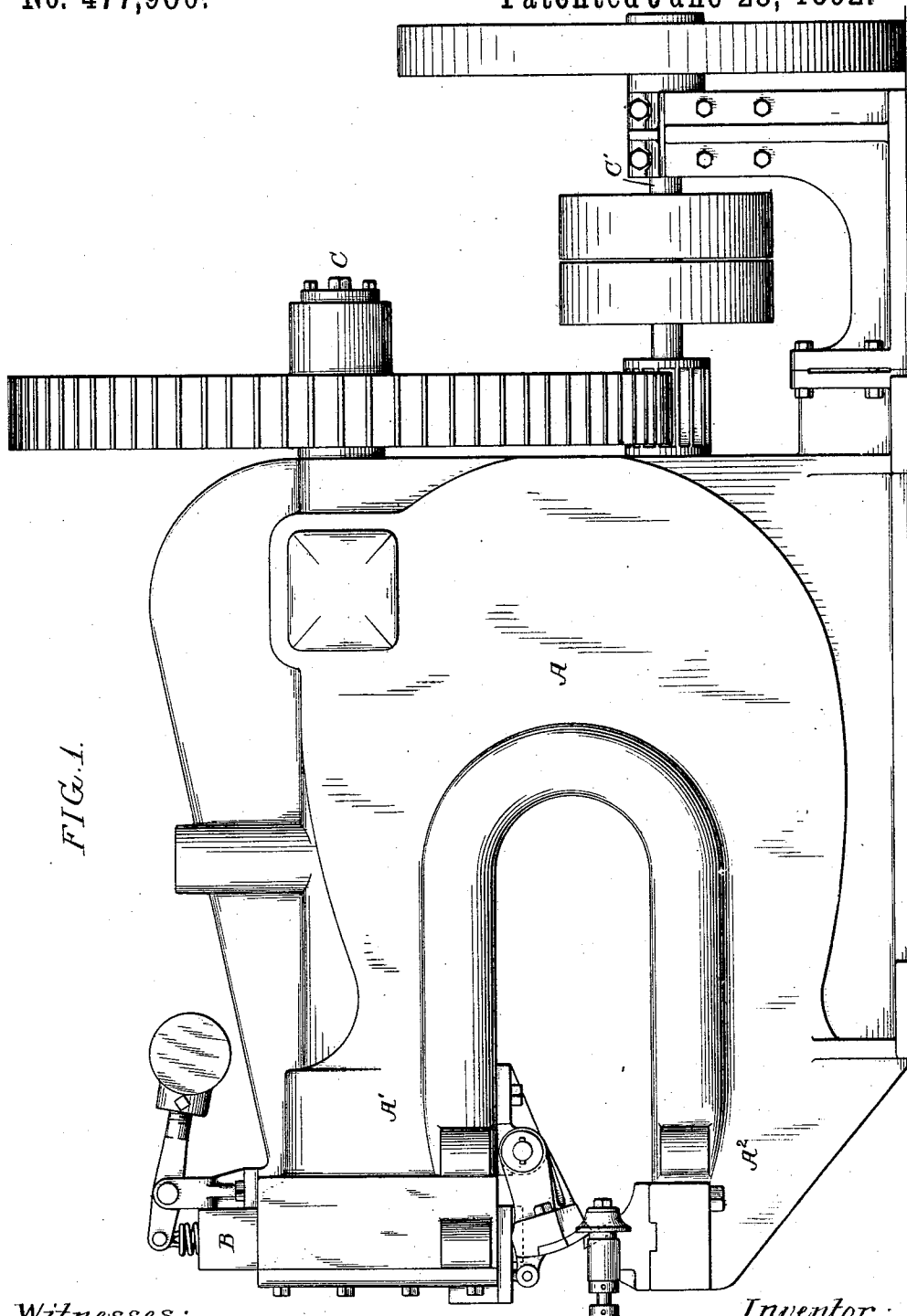
(No Model.)

3 Sheets—Sheet 1.

H. C. JONES.
BEVEL SHEARING MACHINE.

No. 477,900.

Patented June 28, 1892.



Witnesses:
Hamilton D. Turner
Alex. Barkoff

Inventor:
Henry C. Jones
by his Attorneys
Houson Houson

(No Model.)

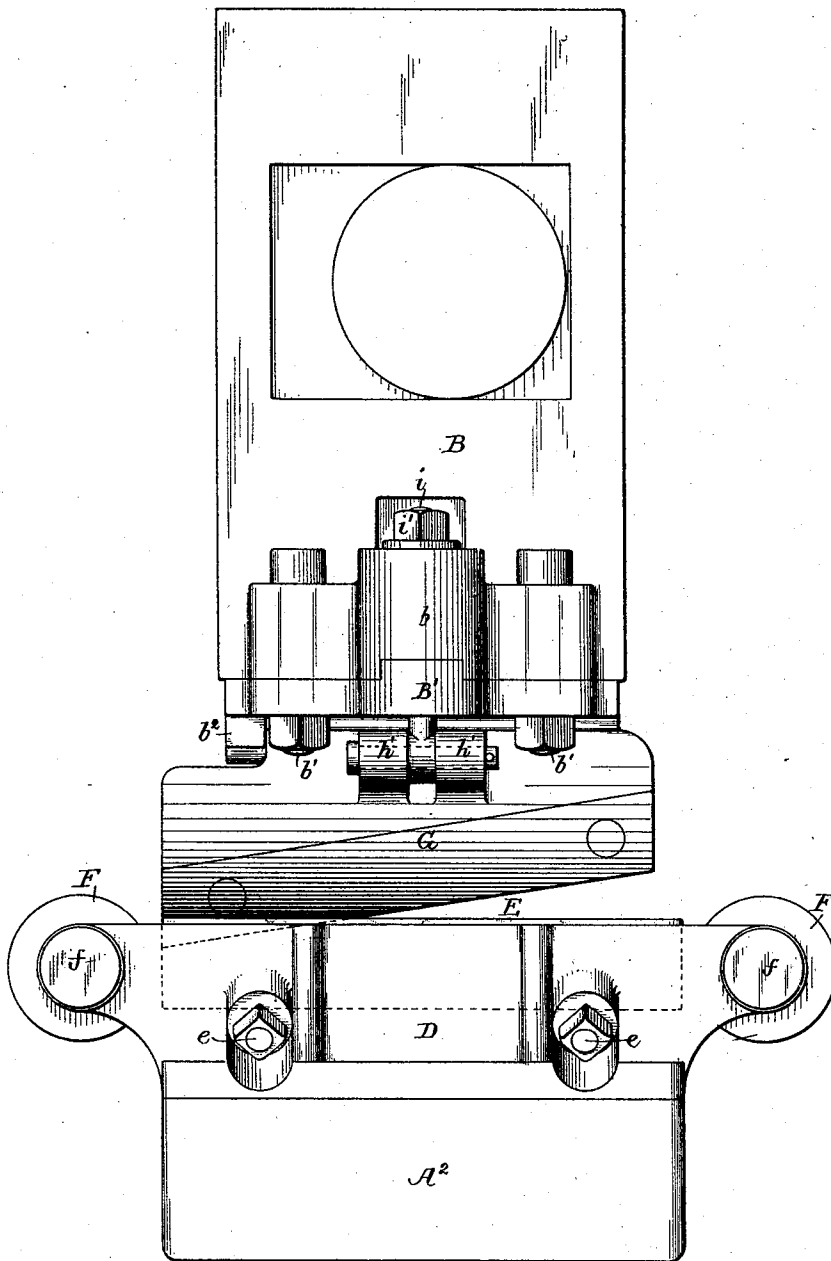
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FIG. 2.



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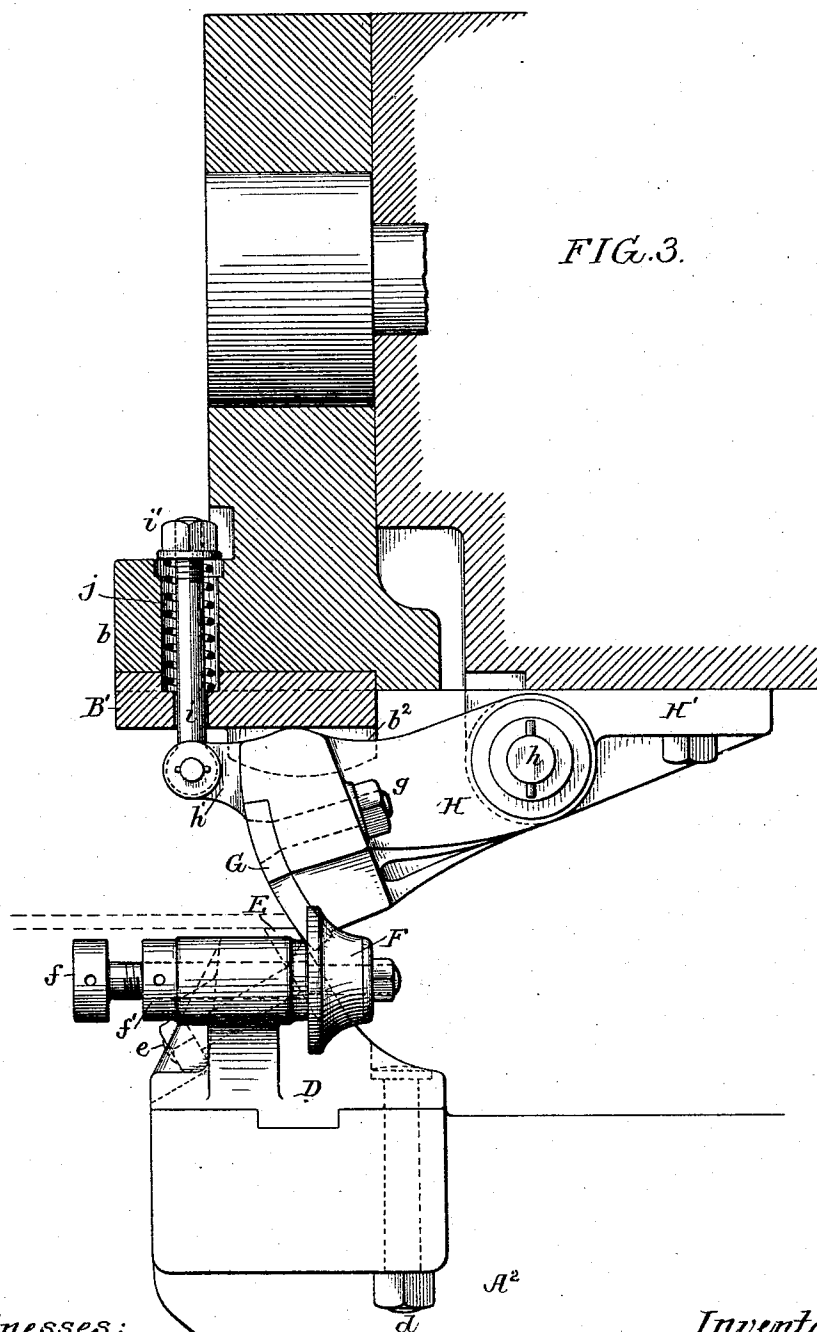
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Henry C. Jones
by his Attorneys
Hudson Brown

UNITED STATES PATENT OFFICE.

HENRY C. JONES, OF WILMINGTON, DELAWARE.

BEVEL-SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,900, dated June 28, 1892.

Application filed April 4, 1892. Serial No. 427,697. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. JONES, a citizen of the United States, and a resident of Wilmington, New Castle county, Delaware, have invented certain Improvements in Bevel-Shearing Machines, of which the following is a specification.

The object of my invention is to construct a machine for cutting metal plates upon a bevel. My invention being especially applicable to boiler and tank work, the mechanism is so arranged that it can be applied to an ordinary metal cutting or punching machine.

In the accompanying drawings, Figure 1 is a side view of a metal-cutting machine with my improvements attached. Fig. 2 is a face view of sufficient of the machine to illustrate my invention; and Fig. 3 is a side view, partly in section, of the head portion of the machine.

A is the frame of the machine, having an overhanging head portion A' and an extended base portion A². In the head portion is a vertically-reciprocating tool-carrying slide B, which receives its motion from the shaft C, which is driven from the main shaft C' through suitable gears. Mounted on the base portion A² of the frame is a block D, in a recess in which is the lower blade E of the shears, this lower blade being set at an angle and has a flat upper portion, on which rests the plate to be cut, as shown clearly by dotted lines in Fig. 3. This blade E is secured to the block D by bolts e, having countersunk heads, so that they are flush with the back of the blade. On each side of the lower blade are guiding-rollers F, which can be set to any depth required through the medium of the screws f and nuts f', as will be clearly understood on referring to the drawings. Thus the plate is guided by these rollers and an even cut is assured.

The upper blade G is beveled, as shown in Fig. 3, and is carried by a pivoted arm H, to which it is secured by bolts g. This arm is pivoted at h to a bracket H', secured to the under side of the projecting head A' of the machine. In order to keep this arm H' up against the under side of the tool-carrying slide B, I attach a rod i to a projection h' on the arm H and pass the bolt up through a pro-

jection b of the slide B and mount between a nut i' on the upper end of the bolt and an internal flange on the slide B a spring j, which tends to keep the arm H up against the under side of the slide, the spring yielding sufficiently to allow the arm to have free motion when the slide B is depressed.

I preferably mount on the under side of the slide B a bearing-plate B' to take the bearing off the arm H, although this plate is not absolutely necessary. The plate B' is secured to the slide B by bolts b', as shown in Fig. 2.

The upper blade G is inclined, as clearly shown in Fig. 2, so that it will make a shear cut. Consequently a side pressure will be exerted, and to resist this side pressure I form a lug b² on the plate B', against which rests the arm H, so that the strain of this side pressure is taken off the pivot.

The block D on the extended base A² is secured to the said base by bolts d, and the block is tongued into a groove in the base. Thus the block is held firmly in position against any strains caused by the shearing action in the blades.

By this apparatus I am enabled to shear plates readily and accurately at the angle required, and the devices can be readily removed from the machine and the machine used for straight shearing or punching.

By simply removing the bolts d the block D can be removed and another block substituted, and by detaching and removing the bracket H' and removing the bolt i' the upper blades of the shear can be removed and other tools substituted therefor. By this simple arrangement I can combine with the ordinary shears or punch a beveling attachment for beveling the calking edges of plates without introducing into a shop special machinery for the purpose, which is not only costly, but cumbersome.

I claim as my invention—

1. The combination, in metal-plate-beveling shears, of the frame, a lower block, an inclined blade mounted thereon, with a slide reciprocating within the frame, a pivoted arm, an upper blade carried by said arm and acting in conjunction with the lower blade, the face of the blade being curved on a line struck from the pivot-point of the arm, and a pivot for

said arm, said pivot being at the side and on a line parallel with the blades, the arm being acted upon by the slide, substantially as described.

5 2. The combination, in beveling-shears, of the lower stationary blade, a block upon which said blade is mounted, a bracket at one side of the blade, an arm pivoted to the bracket, a blade carried by said pivoted arm, the pivot
10 being on a line substantially parallel with the blades, and a reciprocating slide acting upon the arm with a device by which the arm is attached to the slide, so as to positively move therewith, substantially as set forth.

15 3. The combination of the frame having the extended base portion and the overhanging portion, a reciprocating slide in said head portion, a bracket attached to the under side of the overhanging head, an arm pivoted to
20 said bracket, a blade secured to said arm, a yielding connection between the arm and the slide, a lower blade, and a block carrying said lower blade, said block being mounted upon the extended base, substantially as described.

25 4. The combination of the frame having an extended base and overhanging head por-

tion, the reciprocating slide, a bracket secured to the head portion, an arm pivoted to said bracket, a blade on the arm and a rod carried by said arm and extending through an opening in the reciprocating slide, and a spring mounted between the rod and the slide, with a lower blade mounted upon the extended base, substantially as described.

5 5. The combination of the head, reciprocating slide, a bracket mounted on the head, an arm pivoted to said bracket, a blade thereon, and a yielding connection between the slide and the arm, with a plate B', interposed between the slide and the arm and secured to
40 the slide, a lug b' on the plate to resist the side pressure of the arm, and a lower shear blade and block to which said blade is secured, substantially as described.

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

HENRY C. JONES.

Witnesses:

HENRY HOWSON,
HARRY SMITH.