Apr. 10, 1923. 1,451,610

I. GESTAS

BORING MACHINE FOR PAPER

Filed Sept. 15, 1921

Fig. 1.

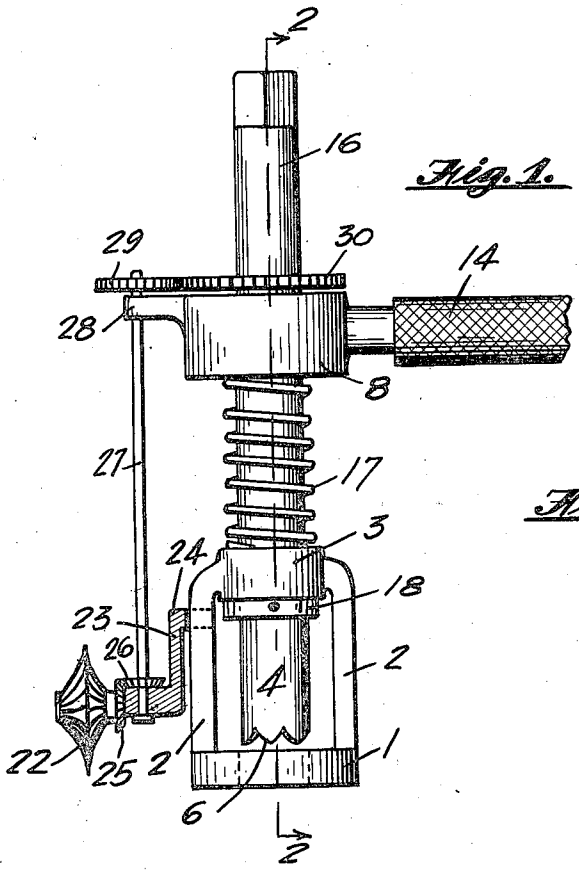


Fig. 2.

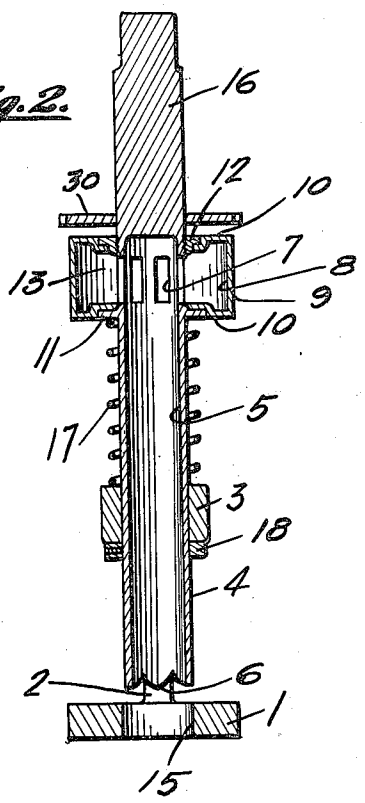
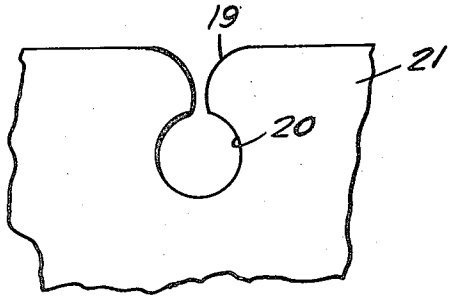


Fig. 3.



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UNITED STATES PATENT OFFICE.

ISIDORE GESTAS, OF LOS ANGELES, CALIFORNIA.

BORING MACHINE FOR PAPER.

Application filed September 15, 1921. Serial No. 500,878.

To all whom it may concern:

Be it known that I, ISIDORE GESTAS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Boring Machines for Paper, of which the following is a specification.

This invention relates to a boring machine for paper and it is the object of this invention to provide a simple device that will drill holes in ledger leaves or other loose leaves to be used in the ordinary loose leaf folders. A further object is to provide a cutter that will drill a hole through the paper and at the same time, will cause the detached, wasted portion to be taken away from the vicinity of the cutter.

Other objects and advantages will be seen and the invention readily understood from the following description of the accompanying drawings, in which:

Fig. 1 is a side elevation of the device, part of which is broken away to show details of construction.

Fig. 2 is a central section taken on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary plan view of a leaf after the hole has been cut.

The improved boring machine comprises substantially a base 1, having supports 2 projecting upwardly therefrom and terminating in a bearing member 3, in which is a rotatably slidably mounted paper cutter 4. The cutter is hollow at its lower portion as at 5 and the cutting teeth 6 are formed on the tubular part of the drill.

Outlet ports 7 are formed in the upper end of the bore 5 which terminates intermediate the ends of the drill.

The means provided for drawing the wasted portion cut by the drill, comprises a cylindrical casing 8 having a peripheral portion 9 and upper and lower radial portions 10 which are rotatably supported upon the drill as by a radial flange 11 formed on the drill adapted to hold the casing against the downward movement. The upper portion of the casing has engagement with a nut 12, screw-threaded upon the drill stem, the casing being positioned around the port 7 so that the wasted portion will be carried upwardly through the bore 5, the ports 7 into the annular chamber 13 within the casing and out through a conduit 14 by suction created by any suitable means not shown.

Suitable means for forcing the drill downwardly through an opening 15 in the base 1, and into the paper, may be had by placing the stem 16 within a chuck of a drill press or other suitable mechanism and means are provided for normally holding the cutter out of engagement with the paper. Such means comprises a spring 17, mounted upon the shaft between the bearing 3 and the casing 8, and to limit the upward movement of the drill, a collar 18 is fixed upon the lower portion of the drill so as to butt against the lower side of the bearing 3.

To facilitate the introduction of the leaf within the folder without completely removing the covers of the same, passages 19 are cut from the hole 20 in the leaf 21 to the edge of said leaf and this device also provides suitable means for performing this operation. Such means comprises a cutter 22, rotatably mounted upon a bracket 23 having slidable engagement with one of the supports 2 as by a yoke 24.

A bevel gear 25 is fixed upon the cutter and engages a second gear 26 fixed upon a shaft 27, journaled at its lower end in the bracket 23 and at its upper end in a bracket 28, projecting outwardly from the casing 8. Fixed upon the shaft above the bracket 28 is a gear 29 which engages a second gear 30 fixed upon the stem 16 of the drill and it will be seen that as the drill is rotated, the cutter 22 will rotate also and by placing the device so that the periphery of the cutter will just engage the outer side of the hole, the cutter then being pushed downward will form the groove 19.

Various changes may be made in the details of construction by those skilled in the art without departing from the spirit of my invention as set forth in the appended claims.

I claim as my invention:

1. A paper boring machine, comprising a support, a cutter having a stem mounted in said support, a passageway through said stem, a chamber surrounding said stem, ports in said stem communicating with said chamber, and means for causing the wasted portion of the paper to pass into said chamber through said passage and ports.

2. A paper boring machine comprising a cutter having a tubular shank, a flange

formed on the shank, a stem formed in the end of the shank, a nut on the stem, and a casing arranged between and engaged by said flange and nut, said shank being formed with openings between the flange and nut to provide communication between the shank and said casing.

3. A paper boring machine comprising a cutter having a tubular shank, a flange formed on the shank, a stem formed in the end of the shank, a nut on the stem, and a casing arranged between and engaged by said flange and nut, said shank being formed with openings between the flange and nut to provide communication between the shank and said casing, a support including a bearing mounted for sliding movement upon the shank, a base carried by the support and having an opening adapted to receive said cutter, a collar fixed to the shank below the bearing, and expansible means mounted on the shank between the flange and bearing for normally urging the support and base toward said cutter.

In testimony whereof I have signed my name to this specification.

ISIDORE GESTAS.