

M. M. LINDSAY & J. W. HEDGEPEETH.

MACHINE FOR PERFORATING PAPER.

APPLICATION FILED APR. 16, 1908.

916,172.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1

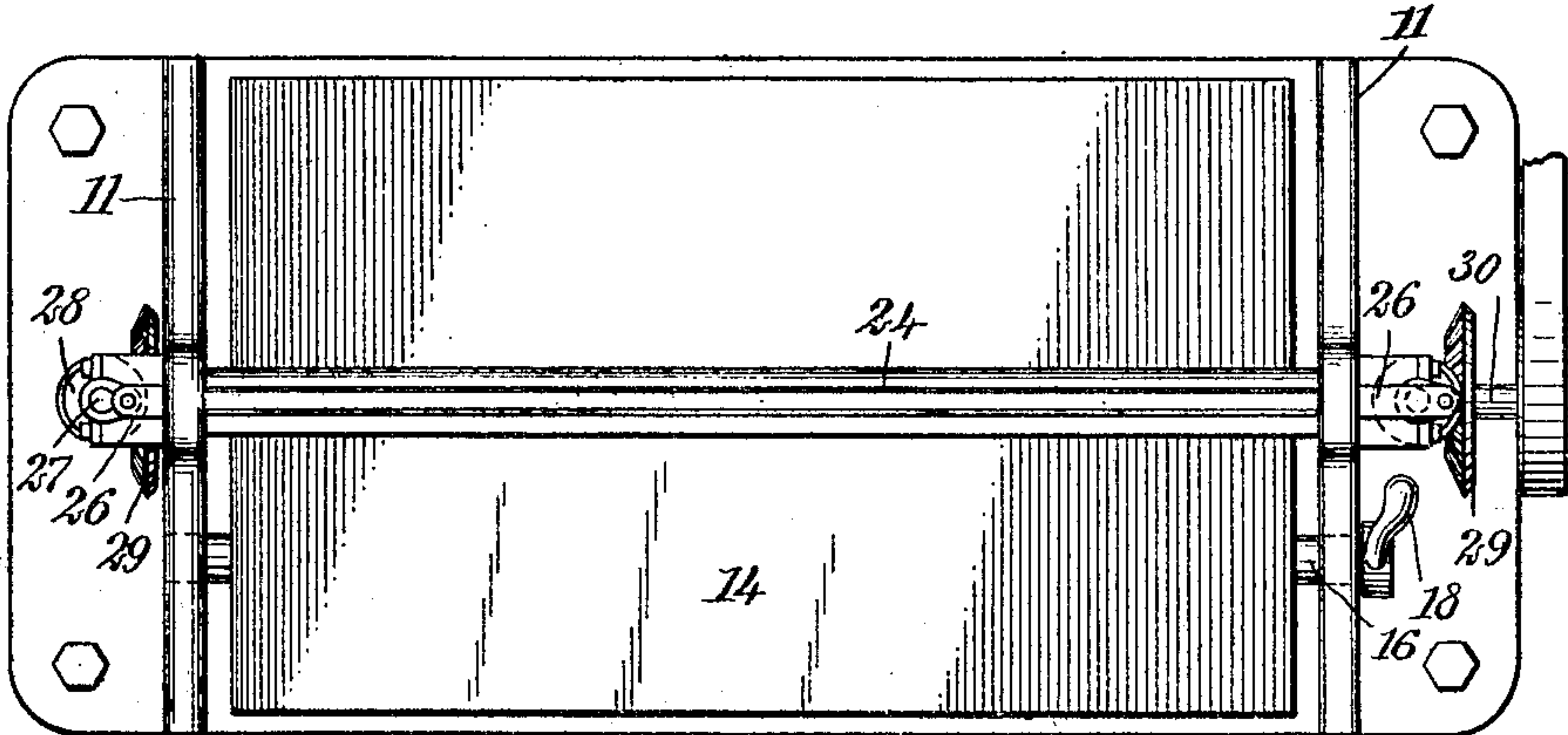
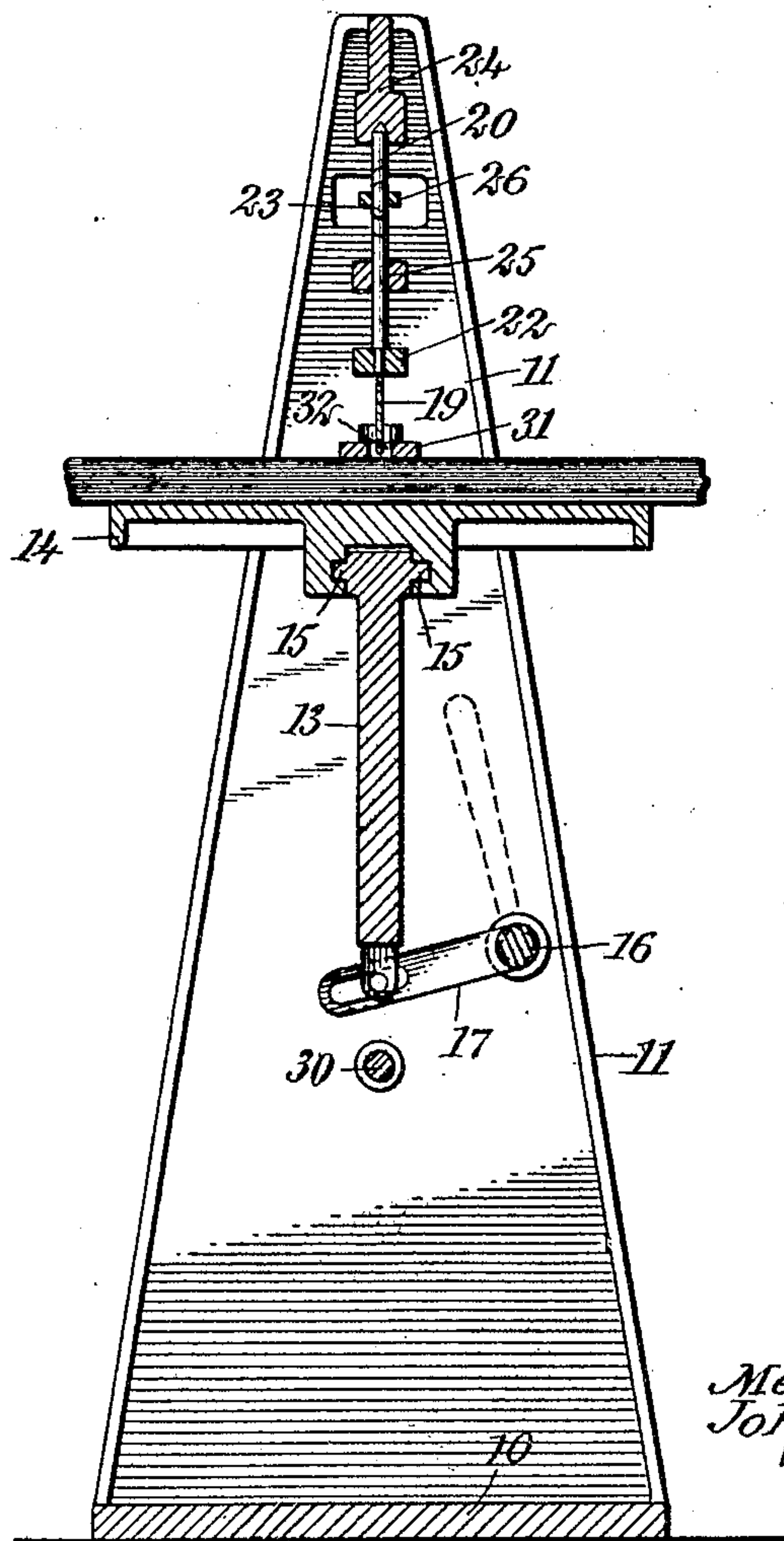


Fig. 2



WITNESSES  
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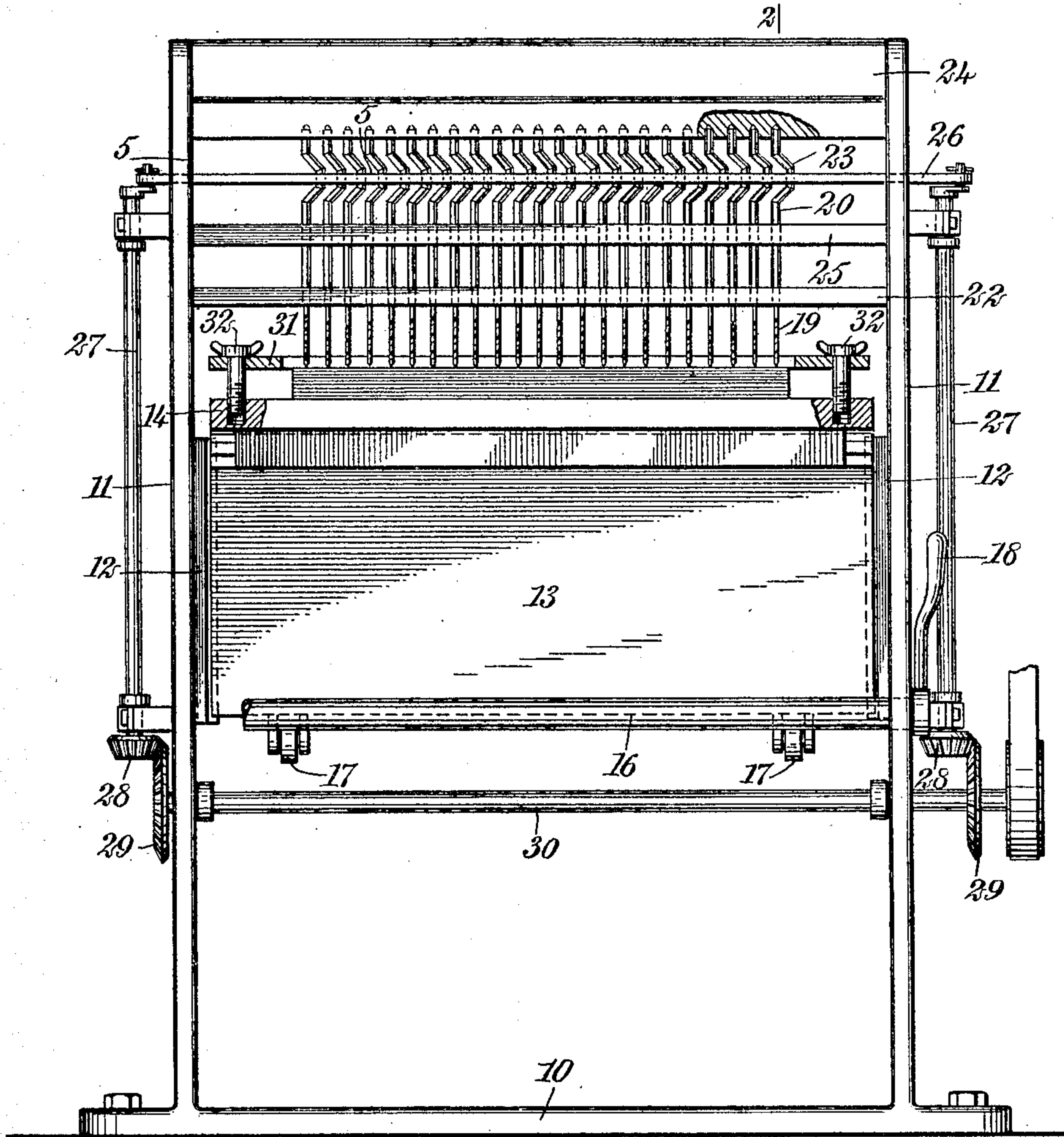


Fig. 5

Fig. 3

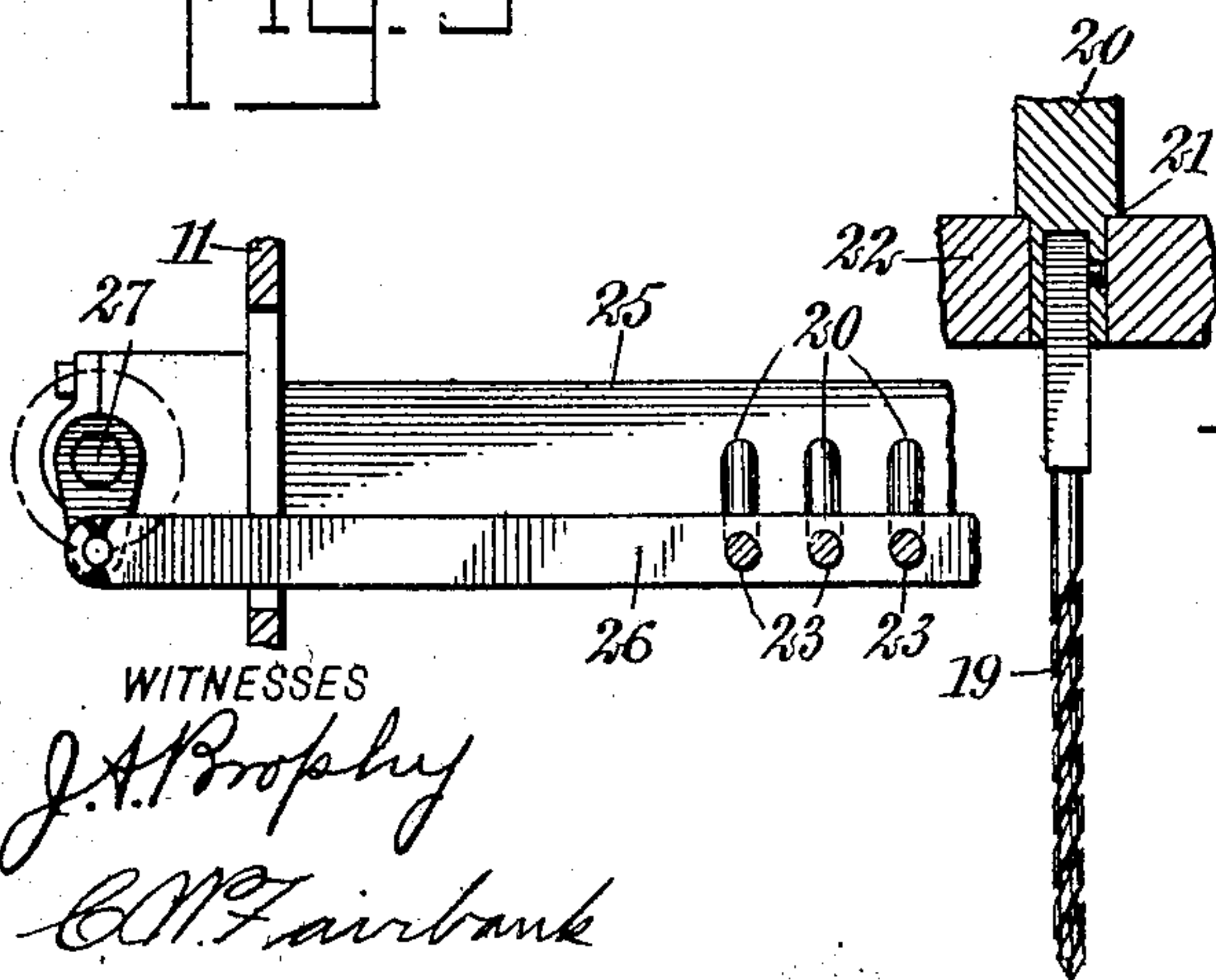


Fig. 4

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# UNITED STATES PATENT OFFICE.

MELLISH MOTTE LINDSAY AND JOHN WILLIAM HEDGEPEETH, OF RIPLEY, TENNESSEE,  
ASSIGNORS OF THREE-FOURTHS TO SAID LINDSAY AND ONE-FOURTH TO SAID  
HEDGEPEETH.

## MACHINE FOR PERFORATING PAPER.

No. 916,172.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed April 16, 1908. Serial No. 427,323.

*To all whom it may concern:*

Be it known that we, MELLISH MOTTE LINDSAY and JOHN WILLIAM HEDGEPEETH, both citizens of the United States, and residents of Ripley, in the county of Lauderdale and State of Tennessee, have invented a new and Improved Machine for Perforating Paper, of which the following is a full, clear, and exact description.

10 This invention relates to certain improvements in machines for perforating paper, and more particularly to machines especially adapted for forming a plurality of perforations simultaneously through a large number of sheets.

15 In our improved machine, instead of providing punches or the like for forming the perforations, we provide a plurality of drills, and so construct the machine that the drills are operated simultaneously. The paper is rigidly clamped to a support and said support may be moved toward and from the drills and also in the direction of the length of the row of drills.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

25 Figure 1 is a top plan view of a machine constructed in accordance with our invention; Fig. 2 is a vertical transverse section, said section being taken on the line 2—2 of Fig. 3; Fig. 3 is a side elevation of the machine, portions thereof being broken away; Fig. 4 is a detail of the drill-holding mechanism; and Fig. 5 is a detail showing the drill-operating mechanism.

30 The specific form of the machine illustrated in the accompanying drawings, includes a suitable base 10, and oppositely-disposed standards 11, serving to support the operating mechanism. The inner surface of each standard is provided with a guideway 12, and between the two guideways there is mounted a support 13 for the table or platform 14 to which the paper to be perforated is secured. The support includes a vertically-movable plate having oppositely-disposed flanges 15 extending outwardly from opposite sides thereof at the upper edge, and these flanges fit within grooves in the under surface of the table or platform 14. The table is slightly shorter

than the distance between the end frames, 55 so that it can be moved longitudinally of its support 13, and by reason of the flanges on said support, the table is prevented from tilting or tipping. The table may be raised and lowered in any suitable manner, but preferably there is provided a rock shaft 16, 60 mounted in the frame adjacent the lower edge of the support, and this rock shaft is provided with arms 17, the free ends of which are pivotally and slidably connected 65 to the table support 13. The rock shaft 16 may be operated in any suitable manner, as, for instance, by a handle 18, at one end of the shaft and adjacent one of the end standards. 70

In the upper portion of the machine and above the platform or table, there are mounted a plurality of drills arranged in a row and adapted to be rotated simultaneously. Each drill 19 is secured to the lower 75 end of a vertically-disposed shaft 20, the two being secured together in any suitable manner. For instance, the lower end of the shaft may be provided with a non-cylindrical opening receiving the correspondingly 80 shaped upper end of the drill, as shown in Fig. 4. Adjacent the connection with the drill, each shaft may be provided with a shoulder 21, resting on a transverse bar 22, extending from one standard 11 to the other. 85 Each of the shafts is provided with a crank portion 23, and each extends at its upper end into a socket in the under side of a connecting bar 24 of the frame. The shafts may be braced intermediate their ends by a third bar 90 25, if desired. For rotating the shafts and their drills simultaneously, there is provided a connecting rod 26, having a plurality of perforations therein for receiving the crank portions of the several shafts. The outer ends 95 of the connecting rod 26 are connected to crank pins carried by vertical shafts 27, journaled on the outer surfaces of the standards 11. Each shaft 27 is provided with a bevel pinion 28 at its lower end, and both 100 bevel pinions engage with corresponding bevel gear wheels 29 carried by a main transverse drive shaft 30. The cranks at the upper ends of the two shafts 27 are of the same length as the cranks of the several drill shafts 105 20, and all of the cranks are connected and held in parallelism by the connecting rod 26. As the two shafts 27 are rotated by the drive



shaft 30, the connecting rod 36 is given a parallel motion and serves to rotate the shafts 20 and their corresponding drills 19.

For rigidly securing in place the work to be operated upon, there is provided a clamp 31 in the form of a slotted bar of substantially the same length as the table. At the ends of the bar, suitable screws 32 are provided, extending through openings in the bar and threaded into the table 14. By tightening or loosening these screws, the clamping bar 31 may be forced toward the platform to hold the work under any desired amount of pressure.

Our improved machine is especially adapted for perforating paper, and is so designed that a large number of sheets may be simultaneously perforated in a plurality of places. The machine may be used for perforating other material than paper, without necessitating any material changes in the construction.

In the operation of our improved machine, the paper or other material to be perforated, is placed upon the table or platform 14 and securely held to the table by the clamping bar 31. The table may be moved longitudinally of the slide to bring the desired points beneath the drills and the table, and its support may then be raised by means of the handle 18. After one series of holes has been bored, the table may be moved longitudinally a distance equal to half the distance between the drills, so that a second series of holes may be bored intermediate the hole of the first series, if desired.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In a machine of the class described, the combination of end frames, each having a guide upon one side thereof, a vertically-movable plate extending from one of said frames

to the other and movable along said guides, a table supported on said plate and having guides on its under surface extending longitudinally thereof, whereby said table may be moved longitudinally of said supporting plate but held against lateral movement in respect thereto, a slotted bar extending longitudinally of said table, means for securing said bar to said table to bind the work therebetween, and a plurality of substantially parallel vertically-disposed drills intermediate said end frames and adapted to enter the slot upon the vertical movement of said supporting plate and table.

2. In a machine of the class described, the combination of two end frames, a table supported intermediate said frames and movable longitudinally from one frame toward the other, a supporting plate intermediate said table and along which said table moves, means for raising said plate vertically between said frames, a plurality of transverse bars extending from one of said end frames to the other above said table, a plurality of vertically-disposed drills supported by said transverse bars, each of said drills having a crank portion, a transverse bar in engagement with the crank portion of each of said drills, a drive shaft below said table, and vertically-disposed shafts mounted on the outer sides of said frame and driven by said main shaft, each of said vertically-disposed shafts having a crank at its upper end operatively connected to said last-mentioned bar.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

MELLISH MOTTE LINDSAY.  
JOHN WILLIAM HEDGEPEETH.

Witnesses:

CHAS. CAMPBELL,  
W. B. KEE.