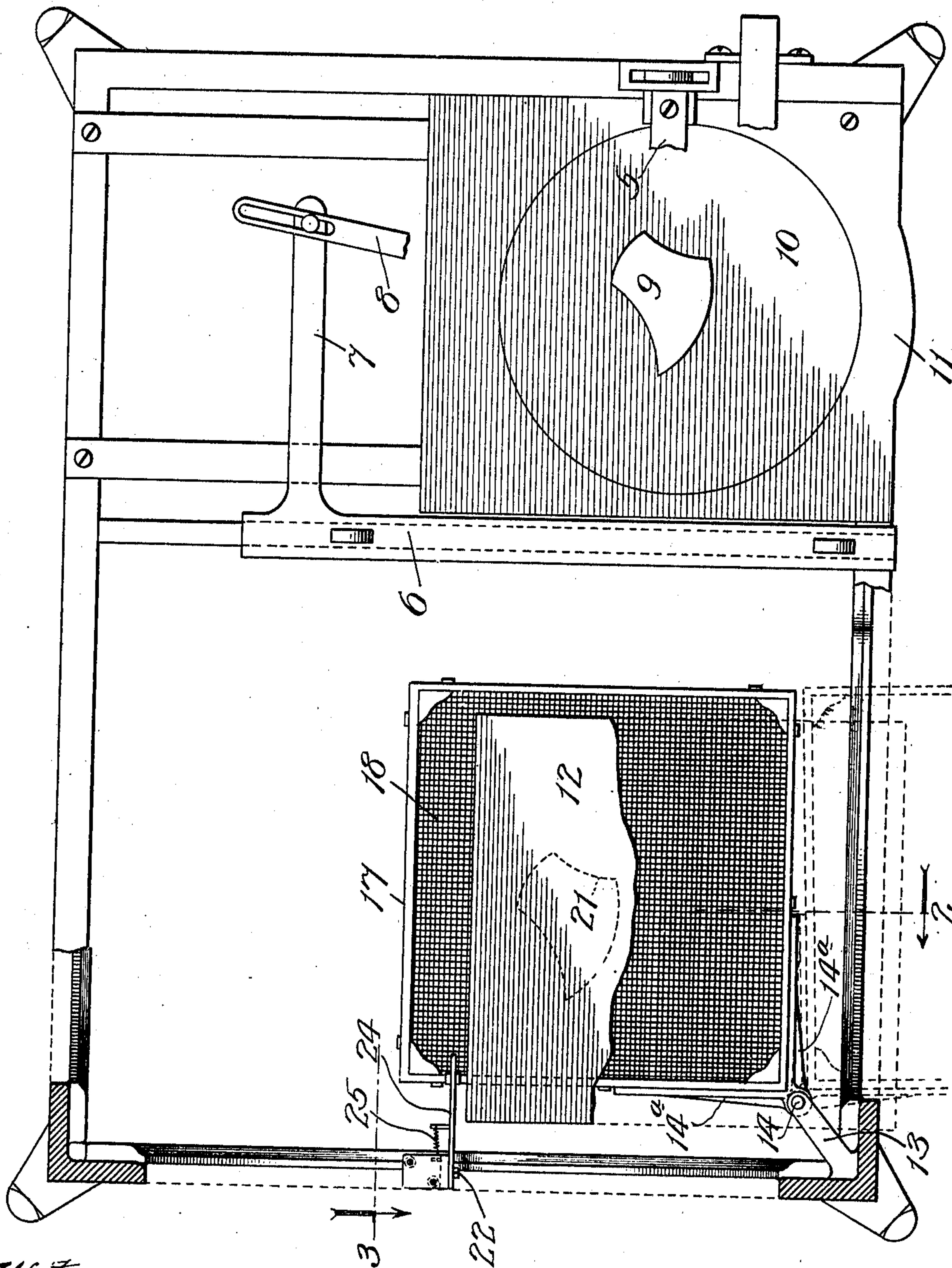


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C. E. REED.
PATTERN CUTTING MACHINE.
APPLICATION FILED JUNE 3, 1910.

Patented Dec. 13, 1910.

2 SHEETS—SHEET 1.



Witnesses:

Ed. Chylod,
Chas. H. Buell.

Fig. 1.

Inventor:
Charles E. Reed,
By *D. S. Gresham, Jr.,* *Christina Miles*
Attys.

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2 SHEETS—SHEET 2.

Fig. 2.

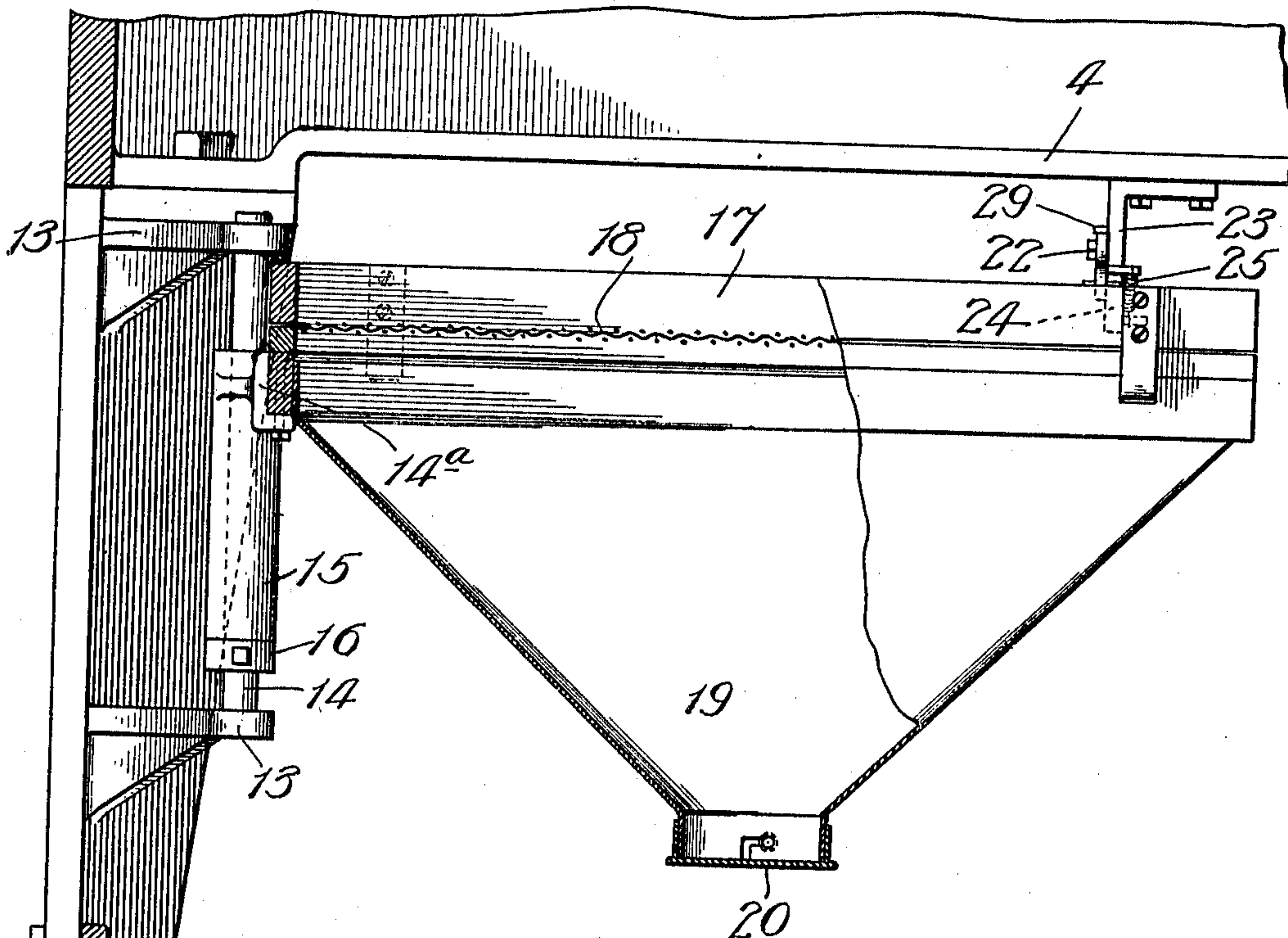
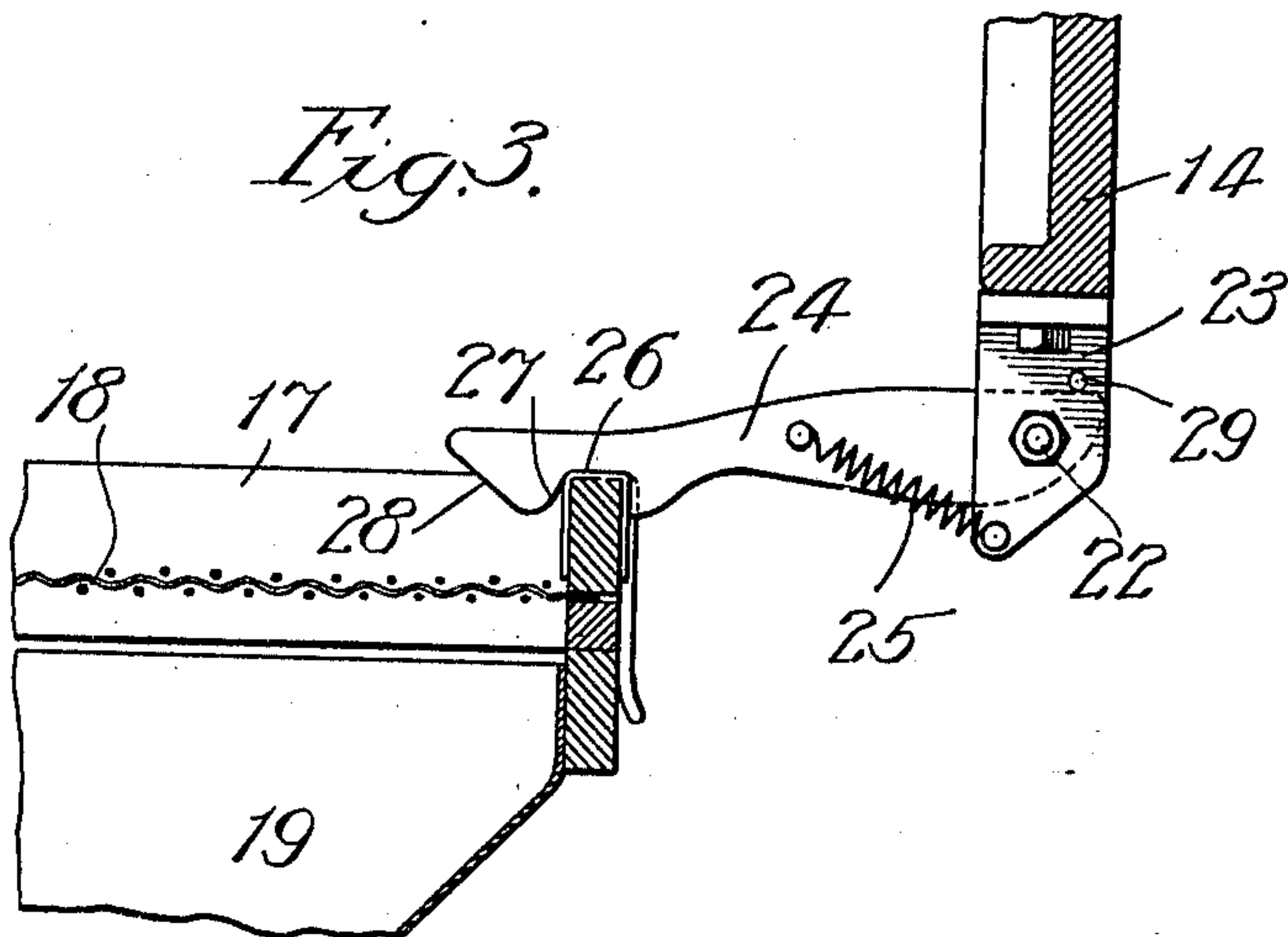


Fig. 3.



Witnesses:
Ed. E. Chylord,
Chas. H. Bull.

Inventor:
Charles E. Reed,
By Dymforth, Le, Critton & Wiles,
Attys.

UNITED STATES PATENT OFFICE.

CHARLES E. REED, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES E. REED & COMPANY,
OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PATTERN-CUTTING MACHINE.

978,487.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed June 3, 1910. Serial No. 564,728.

To all whom it may concern:

Be it known that I, CHARLES E. REED, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pattern-Cutting Machines, of which the following is a specification.

My invention relates particularly to improvements in pantographic pattern-cutting machines involving the use of a pattern-cutter in the form of a rapidly reciprocating die, which, in the operation of cutting a pattern from a sheet of suitable material, is caused to travel in a path corresponding to the outline of a pattern-model and produces the pattern by punching holes in the sheet.

My object is to provide in a machine of the character stated, means for separating from the patterns so produced, the small bits of material cut by the die from the sheet; and to provide for the ready removal of the patterns from the machine.

As I have devised my improvements for use more particularly in connection with a machine of the type forming the subject matter of United States Reissue Letters Patent No. 11,569, granted to me on September 29, 1896, I have chosen to illustrate them as embodied in the machine illustrated and described in said patent, a description of the accompanying drawing being as follows:

Figure 1 is a plan view of the pattern-cutting machine forming the subject of said Letters Patent showing my improvements applied thereto, this view being partly broken and partly in horizontal section. Fig. 2 is an enlarged section taken at the line 2 on Fig. 1 and viewed in the direction of the arrow; and Fig. 3, an enlarged section taken at the line 3 on Fig. 1 and viewed in the direction of the arrow.

The frame of the machine is represented at 4, portions of the pantographic frame carrying the stylus, or tracer, and the die (neither of which is illustrated) and operating as described in said patent, being represented at 5, 6, 7 and 8. The pattern-model against the edges of which the stylus referred to operates is represented at 9 as supported on a disk 10 journaled in a plate 11 secured to the frame 4. A sheet of material from which patterns are to be cut by the die as described, is represented, in part, at 12, this sheet in practice being embraced between the male and female members of the

die supported on an overhanging yoke-frame, as described in said patent, whereby when the pattern is severed from the sheet it is free to fall.

Extending inwardly from the frame 4 at the corner thereof adjacent to the sheet 12 is a pair of vertically-spaced lugs 13 connected together by a rod 14 upon which a sleeve 15 resting on a collar 16 rigid on the rod is journaled. The rod 14 is formed with a pair of arms 14^a of angle-shape in cross-section, which preferably extend at right-angle to each other as represented in Fig. 1, these arms forming a support for a rectangular frame 17 which is embraced at one corner by the arms 14^a to which it is secured in any desired manner. The frame which, in practice, is located below the plane occupied by the sheet 12, is provided with a perforated support or tray 18, preferably formed of wire-screen of a mesh slightly larger than the bits of material punched from the sheet in the operation of forming the pattern. The lower end of the frame is provided with a hopper-shaped receptacle 19 equipped with a removable and replaceable bottom 20.

In the operation of the machine, the bits of material punched from the sheet 12 by the die in forming a pattern, such for instance as that represented at 21, fall through the openings in the support 18 and into the hopper 19 where they collect and from which they may be removed through its lower end as desired. The patterns are caught by the support 18, and when the frame 17 is swung upon the rod 14 to the position represented by dotted lines in Fig. 1, they may be readily removed from the machine.

I prefer to employ some means for releasably holding the frame in position under the sheet, a description of those illustrated being as follows: Fulcrumed at its rear end, as indicated at 22, to the depending portion of an angle-bracket 23 bolted to a member of the frame 4, is an arm 24 which is yieldingly pressed downwardly by a coiled-spring 25, one end of which is secured to the arm 24 and the other end to the bracket 23. The outer free end of the arm 24 contains in its underside a recess 26 into which the adjacent upper edge of the frame 4 extends when the frame is in normal position for releasably holding the latter in position under the sheet. The underside of the arm 24 beyond the re-

cess 26 is formed with inclined surfaces as represented at 27 and 28, whereby the frame 17 may be freely disengaged from the catch for releasing it and engage therewith for locking it by merely swinging the frame 17 on the rod 14. The bracket 23 carries a pin 29 which is arranged above the arm 24 near its fulcrum, and serves to limit the downward movement of this arm at its free end under the action of the spring 25, for preventing the surfaces 27 and 28 from extending below the upper edge of the frame.

While I have illustrated and described my invention as embodied in a pattern-cutting machine, I do not wish to be understood as intending to limit it to use in this connection, as it may be used in connection with any machine wherein the functions performed thereby render its employment desirable.

What I claim as new and desire to secure by Letters Patent is—

1. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

2. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support, and a hopper located beneath said support, for the purpose set forth.

3. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a shiftable perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

4. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support pivotally mounted on the machine beneath said device and adapted to receive and support the blanks cut from the sheet and permit

the bits of material cut from the latter in forming the blank to discharge through the support.

5. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a shiftable perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support, and means for releasably holding said support in operative position, for the purpose set forth.

6. In a machine of the character set forth, a shiftable perforated pattern-receiving support and a spring-pressed catch for releasably holding said support in operative position, for the purpose set forth.

7. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support pivotally connected with the machine and extending below said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support, and means for releasably holding said support in operative position.

8. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a shiftable support formed of a frame having a false bottom located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

9. In a machine for punching blanks from a sheet of material the combination with the punching device thereof adapted to operate on the sheet, of a shiftable support formed of a frame having a perforated false bottom and a hopper secured on the frame below said false bottom, said support being located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

CHARLES E. REED.

In presence of—

RALPH SCHAEFER,
JOHN WILSON.