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PATENTED JUNE 5, 1906.

P. H. McGRATH.
HINGE.

APPLICATION FILED FEB. 4, 1905.

2 SHEETS—SHEET 1.

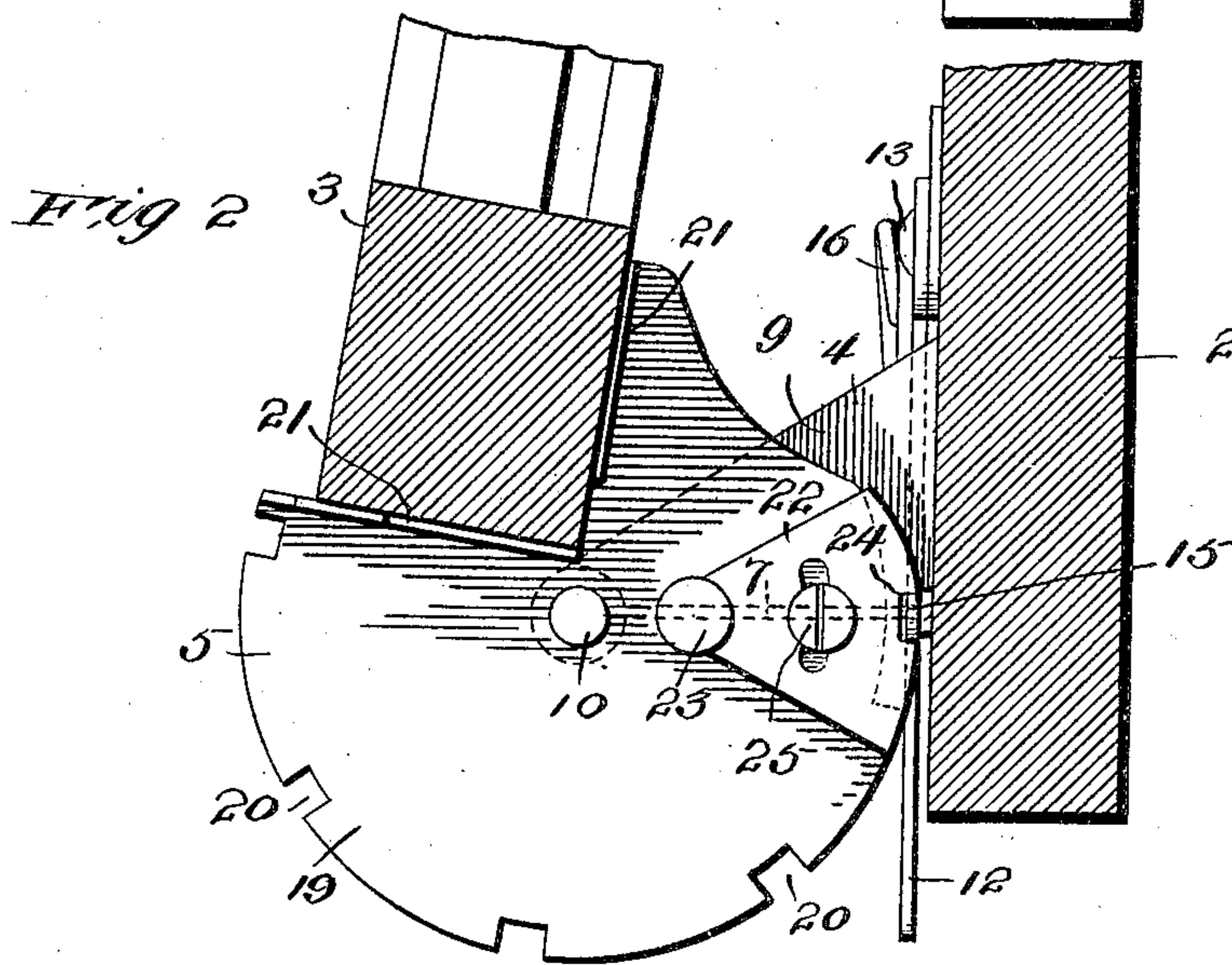
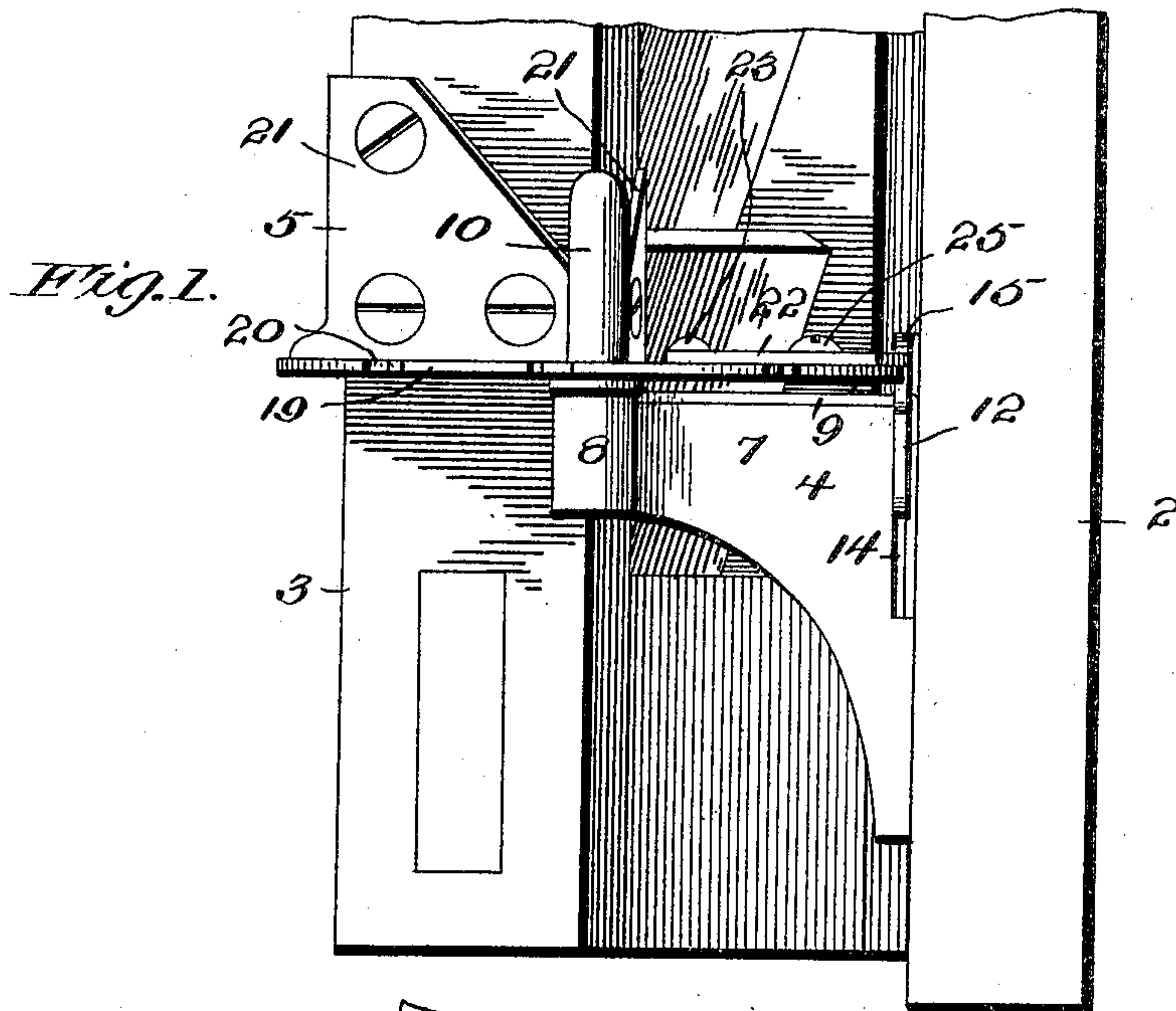
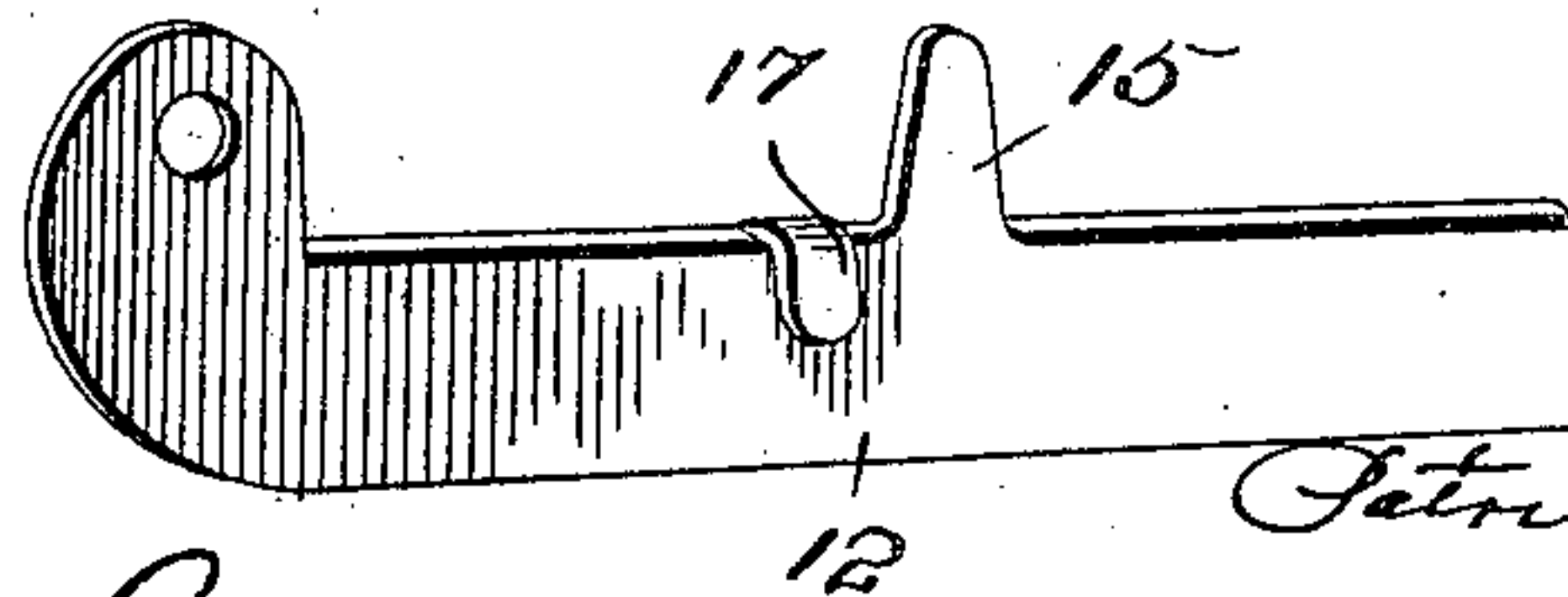


Fig. 5.



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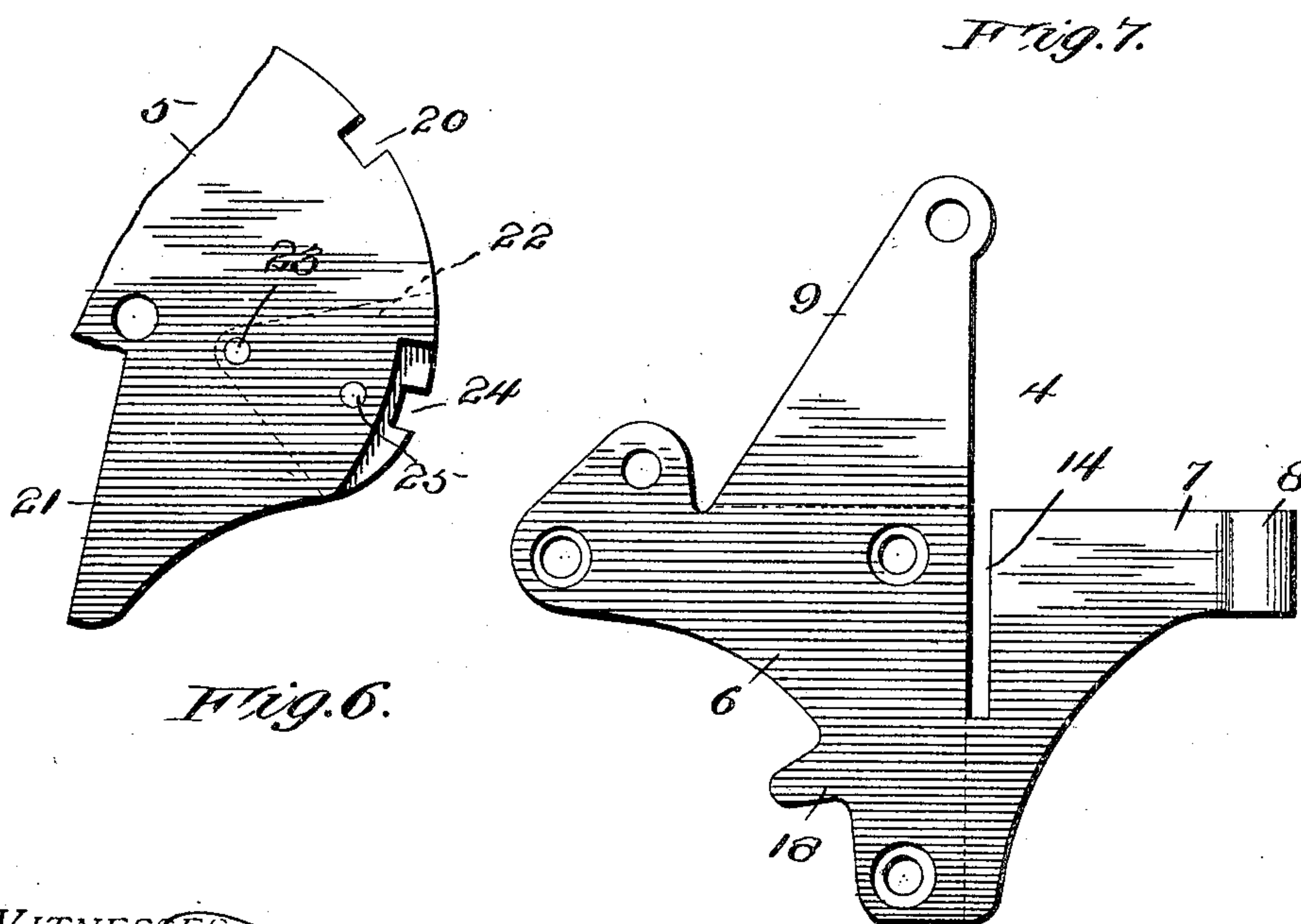
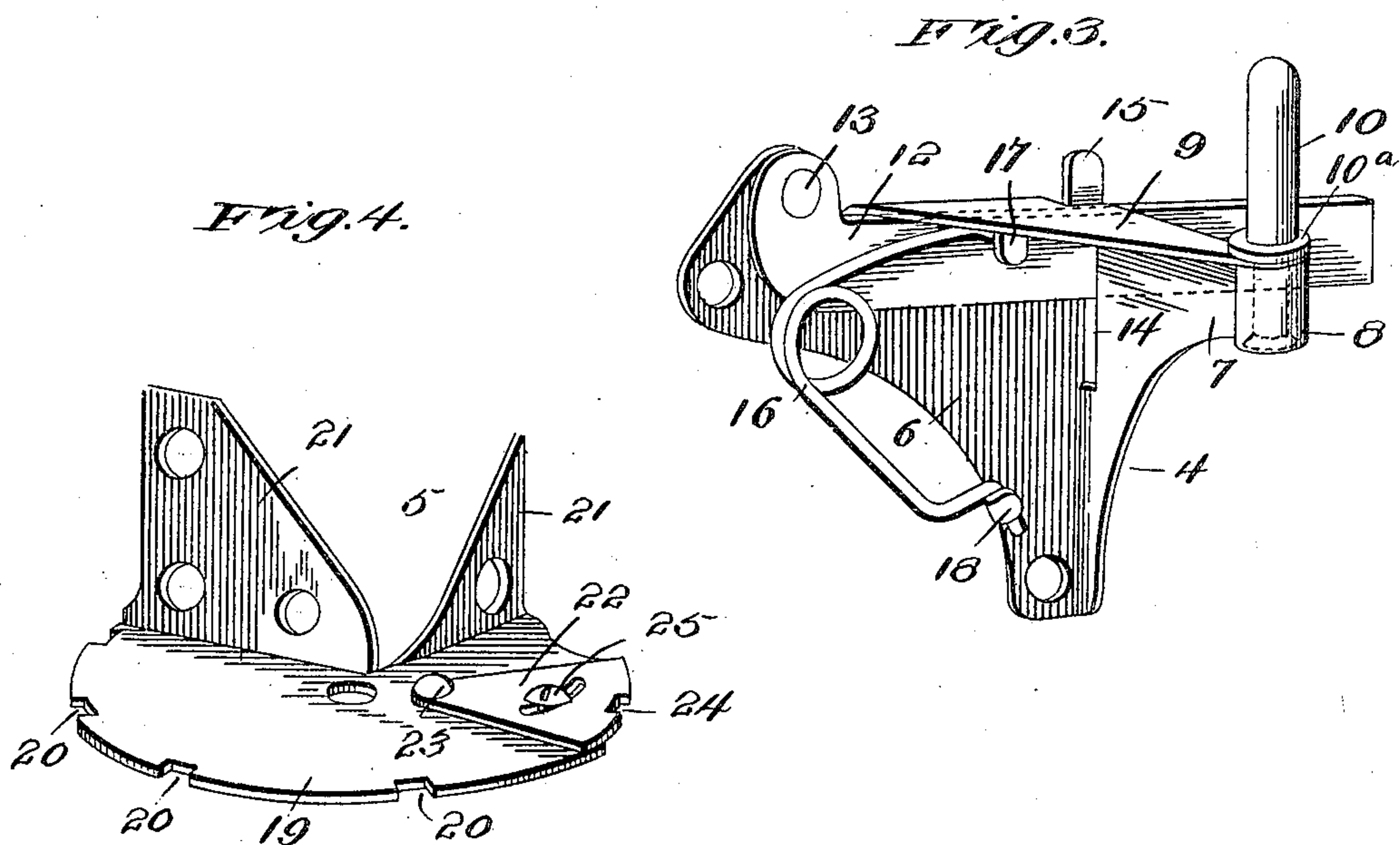
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UNITED STATES PATENT OFFICE.

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HINGE.

No. 822,686.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed February 4, 1905. Serial No. 244,194.

To all whom it may concern:

Be it known that I, PATRICK H. McGRATH, a citizen of the United States, residing at Wollaston, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to hinges, and primarily to that kind known as "lock," which have means for positively maintaining a shutter or blind either in an open or closed or in intermediate positions.

The hinge constituting the subject of the present invention can be readily, inexpensively, and quickly made, easily applied, and when in operative position secures in a practical manner the functions hereinbefore set forth.

Other objects and advantages of the invention will appear in the following description, while the novelty of the invention will be made the basis of the claims succeeding such description. In said description I will set forth in detail that adaptation of my invention which I have selected for illustration in the drawings accompanying and forming a part of this specification; but I do not limit myself to the disclosure thus made, for certain variations may be adopted within the scope of said claims.

Referring to the said drawings, Figure 1 is an elevation of the hinge, showing the way it is associated with a casing and blind or shutter, the latter illustrated as wide open. Fig. 2 is a top plan view of the hinge, the shutter and window-casing or equivalent parts being in section. Figs. 3 and 4 are perspective views of the two leaves of the hinge. Fig. 5 is a detail view of the latch carried by the inner leaf of the hinge. Fig. 6 is a like view of a part of the other leaf viewed from below, and Fig. 7 is a view of the blank from which the inner leaf may be formed.

Like characters refer to like parts in all the figures.

In the drawings I have illustrated at 2 what may be part of a window-casing and at 3 part of a shutter, blind, or other equivalent swinging structure. Rigidly connected with the casing and shutter are the two pivotally-connected leaves of my hinge, the fixed or casing leaf being denoted in a general way by 4 and the other by 5. These two

leaves may be made from any desirable material—for example, sheet-steel. The fixed leaf 4 of the hinge is of stable construction, it involving a face-plate 6, which may be attached, as by screws, to the casing 2, said face-plate being shown as perforated to receive such fastening devices. Extending forward from the back and located approximately at right angles thereto is a vertical flange 7, which terminates at its free end in a vertical sleeve 8, the purpose of which will hereinafter appear. Directly united with the vertically-disposed face-plate 6, at the top thereof and projecting forward therefrom, is a horizontal flange 9 of substantially triangular form, which is sustained upon the upper edge of the vertical flange 7. The flange 9 has near its outer corner a perforation to register with the opening of the sleeve 8, such opening and sleeve being adapted to receive the lower portion of a shouldered pin, as 10, the butt of which is riveted or upset to hold the pin in place and to also hold the parts of the leaf 4 in proper assembled relation. The upper portion of the pin 10 serves as the pin-tle for the hinge. Said pin may be driven into place. It will be understood that the two flanges 7 and 9 have registering openings which receive the reduced portion of the pin 10. Between the shouldered portion of the pin and the flange 9 I may fit an ordinary washer 10^a.

The leaf 4 can be quickly formed from the blank shown in the drawings. After the said blank has been made it may be shaped to present its finished form by bending its flanges forward, after which the pin 10 will be put into place and upset at its lower end. The hinge involves in addition to two leaves, one of which may be as described, a latch of suitable character, the one illustrated being denoted by 12, and a pivot, which may be a rivet 13, extending through its tail, which extends slightly upward. The latch is shown as being of flat form, and as it moves up and down it traverses the outer surface of the face-plate 6, through the upper outer corner of which said pivot 13 extends to accurately guide the latch. The latch between its ends extends through and works vertically in a slot 14 in the leaf 4, said slot being shown as formed in the flange 7 near its junction with the face-plate 6. Between the ends of the

latch it is provided on its upper edge with a finger 15 of taper form or the sides of which converge toward the top thereof for a reason that will be hereinafter set forth. The outer
5 or free portion of the latch serves as a finger-piece to facilitate the manipulation thereof for releasing a shutter.

The latch is normally held to its operative position in a yieldable manner, and for this
10 purpose a spring, as 16, may be employed. The spring is of practically V form, being provided at the junction of its branches with one or more coils to increase its effectiveness. The branches of this spring engage hook-like
15 lugs, as 17 and 18, on the latch 12 and leaf 4, respectively, to hold the finger or operative portion of the latch normally in its working position.

The shutter-carried leaf 5 includes in its
20 make-up a plate, as 19, of flat form, having a circular outer edge in which notches, each designated by 20 and of any desirable number, may be suitably formed. The plate 19 is angularly recessed to fit the shutter, and
25 from the walls of the recesses flanges, each denoted by 21, rise and are perforated to receive screws or equivalent fastenings to hold the outer leaf to the shutter, blind, or similar part. The plate or sector 19 is perforated to
30 receive the vertically-disposed pin 10 to pivotally connect the two leaves. The taper finger 15 of the latch is adapted to cooperate with the several notches 20 to hold the shutter or blind in a desired adjusted position.
35 By making the finger of taper form I adapt it to snugly fit each one of the several notches or to be driven well into said notches, by the latch-operating spring to prevent rattle of the latch, and also to compensate for or take
40 up wear in the finger and walls of the notches.

Shutters and blinds vary in width, and I provide means for holding them wide open notwithstanding such variation in width, the means shown for this purpose and now to be
45 described being of an adjustable nature.

Pivoted at its angle to the upper side of the sector or plate 19 is a segment 22, and a rivet, as 23, may be employed as a suitable pivot. In the curved edge of the segment is a notch
50 24, complementary to the notches 20 and adapted to receive the finger 15 of the latch. The outer curved edge of the segment coincides with that of the plate or sector. The curved edge of the sector, however, is cut
55 away immediately below the segment, so that the finger of the latch can properly enter the notch in the segment. In the segment is formed an arcuate slot concentric with the axis of motion of said segment to receive the
60 shank of a holding-screw, as 25, tapped into the sector. The head of this screw is adapted to bind against the segment and hold it in a desired adjusted position. The notches 20 are equidistantly disposed; but the notch 24

in the segment 22 will be separated from the
65 next adjacent notch 20 a distance depending upon the width of the shutter, this distance being, as will be evident, variable. Should the shutter when open not strike against a
70 building, the screw 25 will be loosened and the segment 22 will be adjusted until such result is accomplished. When it is, the screw will be tightened up to solidly maintain the segment in its proper relation. When the
75 shutter is wide open, the finger 15 of the latch 12 will be solidly fitted in the notch 24. To close the shutter, the free portion of the latch will be depressed to carry said finger out of said notch 24. Should it be desired to
80 lock the shutter closed, the latch will be held down until the shutter is swung to such position, at which time the latch is released and the spring 16, then under maximum tension, thrusts the latch upward to project the finger
85 15 into the notch 20 farthest from the notch 24. Should it be desired to retain the shutter in an intermediate position, the finger will be caused to enter one of the other notches 20.

Having thus described my invention, what
90 I claim is—

1. In a hinge, a pair of leaves, a latch movably mounted on one of the leaves, and adjustable means mounted on the other leaf to be engaged by the latch to maintain the
95 leaves in full open relation.

2. In a hinge, a pair of leaves, a latch movably mounted on one of the leaves, the other leaf having a notched sector the notches of which are engageable by said latch, and ad-
100 justable means mounted on that leaf having the sector, to be engaged by the latch to maintain the leaves in full open relation.

3. In a hinge a pair of leaves, a latch movably mounted on one of the leaves the other
105 leaf having a notched sector the periphery of which is cut away, and a notched segment supported by said sector and having a notch in its curved edge, complementary to the notches in said sector, the latch serving to en-
110 gage the several notches.

4. A hinge-leaf having a notched sector and a segment cooperative with and adjustable with respect to the sector, said segment having a notch complementary to the notches
115 of the sector.

5. In a hinge, a leaf comprising a face-plate, and flanges extending outward therefrom in transverse directions to each other, one flange resting on the other and having a
120 perforation, said other flange having a sleeve, the opening in which registers with said perforation, and a pin extending through the perforation and opening and headed to retain it in place and the different parts of the leaf
125 in proper relation.

6. In a hinge, a leaf comprising in its construction a sector notched in its curved edge

and also cut away in said edge, and an adjustable notched segment supported on the sector the notch in the segment being complementary to the notches in the sector.

5 7. In a hinge, a leaf comprising a faceplate and flanges extended outward therefrom and having registering openings, and a pin to enter the openings to hold the flanges

assembled, said pin also having a pivot portion.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

PATRICK H. McGRATH.

Witnesses:

HELEN M. McDERMETT,

THOMAS A. MULLEN.

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