

(No Model.)

H. C. ROWELL.

APPARATUS FOR THE CONSTRUCTION OF CHIMNEYS.

No. 521,820.

Patented June 26, 1894.

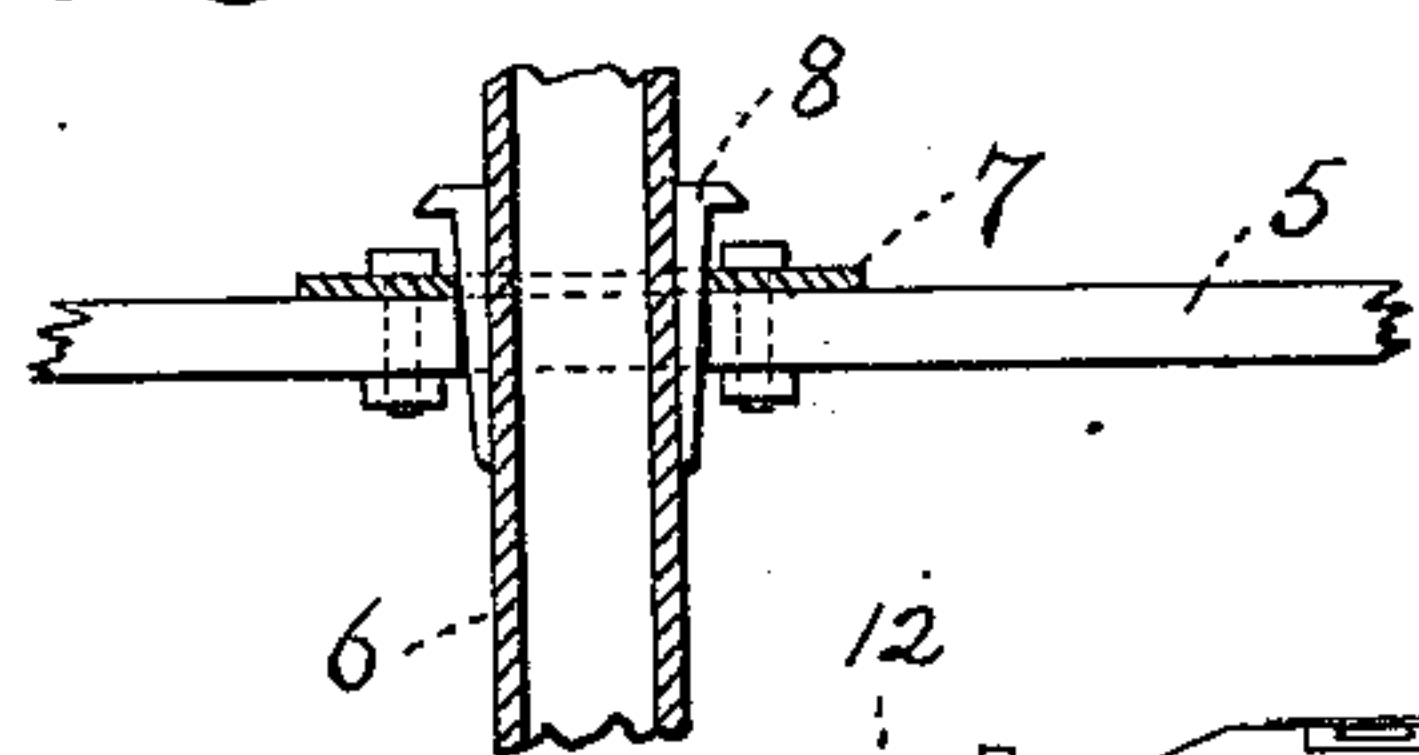
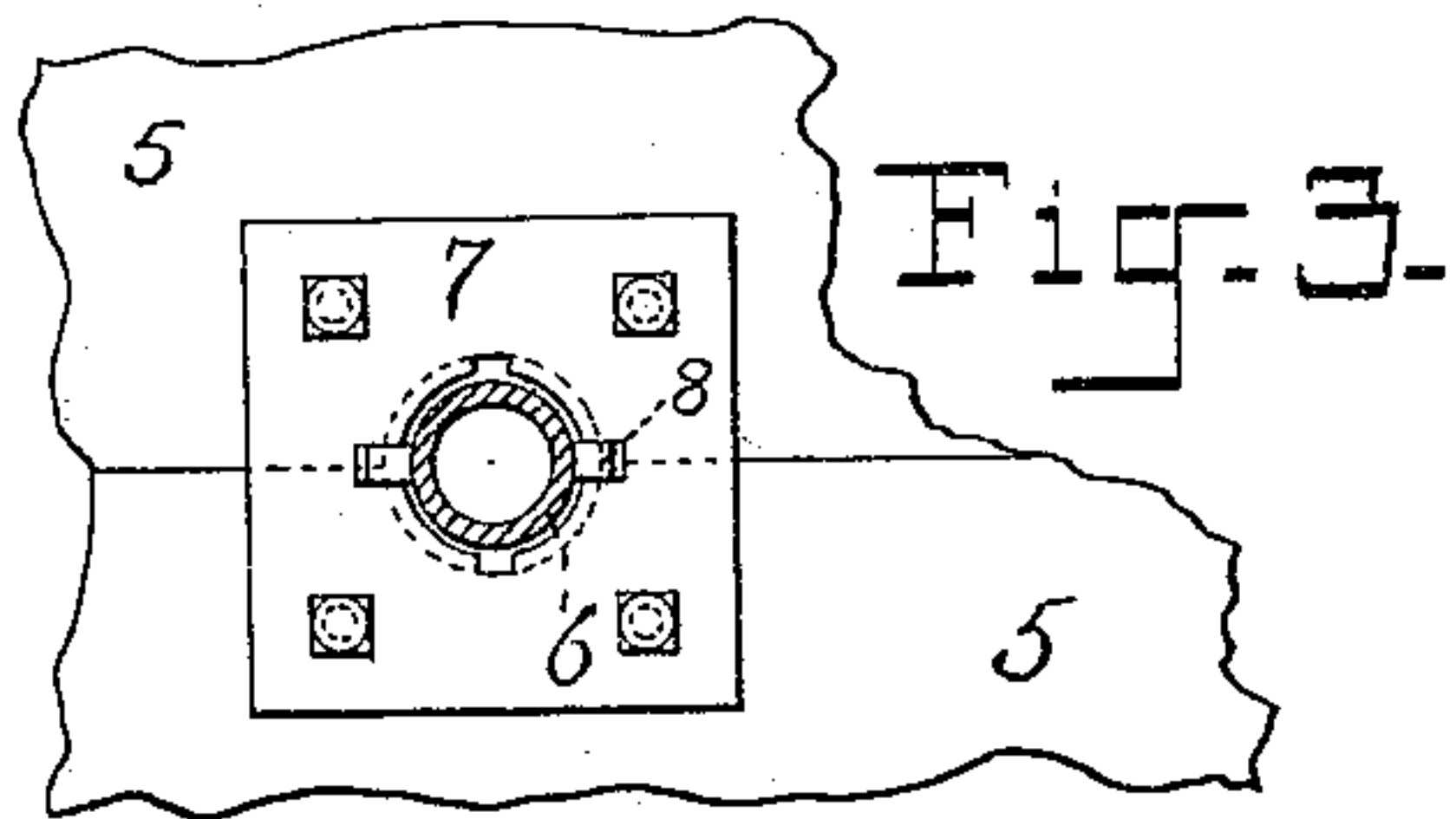
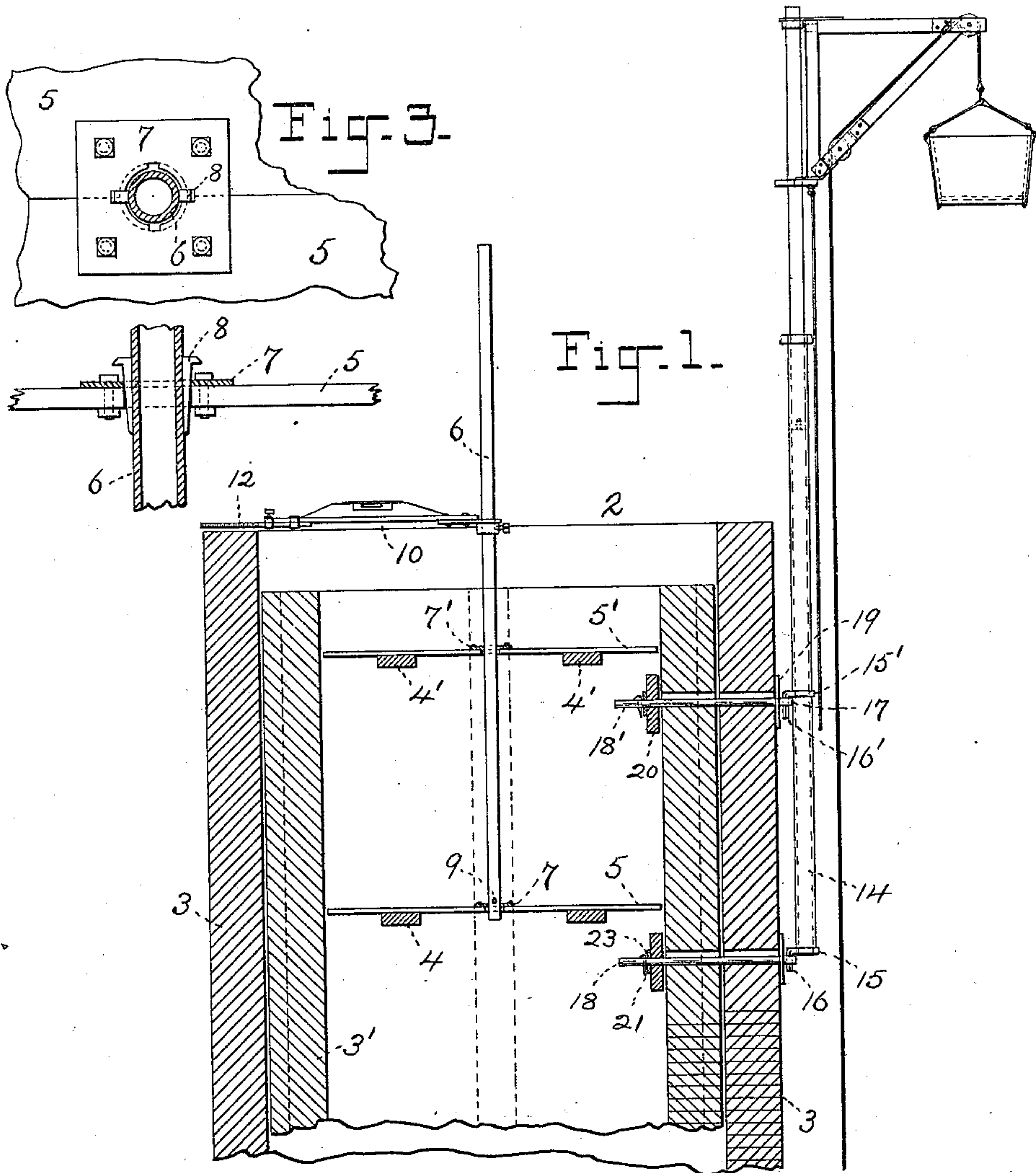
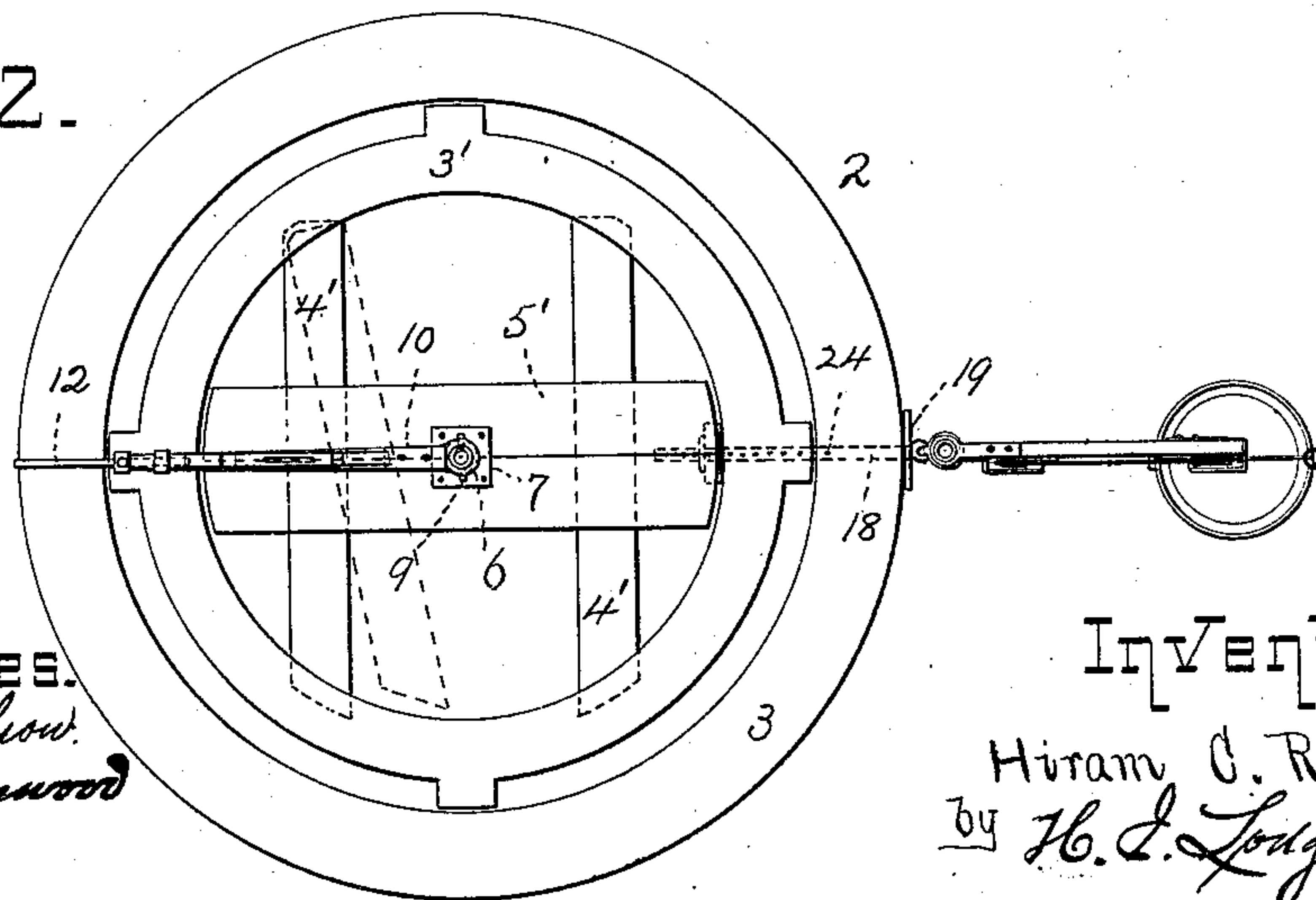


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

HIRAM C. ROWELL, OF BERLIN, NEW HAMPSHIRE.

APPARATUS FOR THE CONSTRUCTION OF CHIMNEYS.

SPECIFICATION forming part of Letters Patent No. 521,820, dated June 26, 1894.

Application filed February 16, 1893. Serial No. 462,551. (No model.)

To all whom it may concern:

Be it known that I, HIRAM C. ROWELL, a citizen of the United States, residing at Berlin, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Apparatus for the Construction of Chimneys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to apparatus employed in the erection of chimneys.

My improvements consist in devices by which several important advantages are obtained not only in expediting the work, but in saving the expense and labor now involved in the erection of staging to uphold the men, as likewise the material.

My invention is embodied primarily in the general arrangement by which the men are enabled to work from the inside, this in circular chimneys is of the utmost importance, since the work is accessible in every direction, and the time in going round the chimney, when built up from the outside is not required, either in laying brick or in the distribution of material. Secondly, in avoiding the use of permanent scaffolding, or staging which extends for the whole height of the chimney, and so saving the expense in the purchase of such stock, as likewise in building and removing the same. Thirdly, in providing removal put-logs and floor stagings, which are carried up with the work. Fourthly, in providing a removable central pole to coincide with a normal or plumb line, and serving as the longitudinal center or axis from which all measurements are to be calculated; further in providing a sweep mounted upon said pole, whereby not only can the level of the various courses be readily ascertained, but the batter or taper of the chimney can be regulated as the work progresses.

The drawings accompanying this specification represent in Figure 1. a vertical sectional elevation of an apparatus embodying my invention. Fig. 2 is a plan of the same. Fig. 3 is a plan and vertical section of the

collar for supporting and adjusting the central axis.

In said drawings I have indicated a chimney at 2 circular in cross-section and consisting of the outer wall 3 and the inner wall 3' into which are inserted put-logs or transverse beams 4, commonly called "puds." These puds are adapted to uphold the flooring composed of stout planks 5 nailed or preferably bolted to save splitting or destroying the planks. These puds are beveled at their ends, as clearly shown in dotted lines in Fig. 2, so that they can be readily removed from the openings in which they are held by swinging the beveled ends inward till the puds occupy the position shown in dotted lines in Fig. 2 when the opposite ends can be withdrawn from the openings in which they are supported.

In the construction of a chimney I prefer to employ two scaffolds, a lower one, as before premised, and an upper one composed of the puds 4' and planks 5'. Prior to the erection of the chimney the center point is formed and this is subsequently indicated by the aid of a perfectly turned stiff iron pipe or rod 6, which is supported in collars 7, 7', and which I designate as the axis, and firmly fastened to the planking both upper and lower. Keys 8 are employed which are inserted between the collars and the axis in order to adjust and maintain the latter truly vertical, while a pin 9 is driven through the axis at its lower extremity to act as a support. Thus as the work progresses, so this axis is raised and from it as a center, all necessary measurements are taken for the proper erection of the chimney. In connection with the axis I have arranged a sweep or horizontal swinging arm 10, of a length equal to the maximum radius of the chimney. Upon this sweep is affixed a spirit level by which horizontal adjustment is obtained, while its free end is supplied with an adjustable or sliding end piece 12 graduated with linear units. By means of this sweep not only can the level of the horizontal courses of brick be readily ascertained for any circumference, but the outlines of the chimney can be made a perfect circle, and at the same time by following the proper unit on the graduated end-piece, each course can be brought inwardly, and a true taper of the chimney be made easily and gradually, the

deviations and irregularities being practically eliminated. This sweep is adjustably secured by a collar and thumb-screw and is raised successively as each course of brick is laid.

I have shown in the drawings a derrick mounted in eyebolts removably secured to the chimney, but as the derrick forms no part of my invention I shall only refer to it incidentally in the description, in connection with the removable eye-bolts which support the same, as will be more fully described.

The drawings show the derrick and axis just raised with the outer wall carried up staging high and at proper place a brick or half brick is omitted for eye-bolt; ten or twelve courses are put on, the inner brick being racked back from eye-bolt hole. The sweep is shortened to suit the core by running the graduated piece back; the core is now built up until it reaches the opening left for eye-bolt not in use. This is now placed in position, bricked in firmly and fastened on the inside, the lowermost puds and floor-boards are now removed, raised, and said puds are relocated above, two, three or more courses of brick being laid to hold puds firmly, while the core is always kept lower than the outside, so that the sweep will pass over the tubs, at the time the outer wall courses are being laid.

To raise the derrick the operation is as follows: The mast is now raised until lower gudgeon will pass into eye-bolt 18', while gudgeon 16' drops into eye-bolt just built in, as described. The topmast and crane are now restored to their former positions. Before raising the center pole or axis the sweep is unmounted, while the fastening pin is removed, as likewise the keys 8; said axis is now raised until the pin 9 can rest upon the collar 7', when said pin is replaced while the keys are again inserted. Furthermore the collar 7 is removed to the top or new staging, fastened in position and the keys replaced so as to plumb the center pole. The sweep is now put on and all is ready to proceed as before. It is understood that for convenience there are three series of puds and the same of the planks, hence when the next lift occurs the

lowermost puds and planks are first raised as before described.

The above operations are repeated until the head of chimney is reached, when if projection or overhang is more than the distance between chimney and mast, the eye-bolts are loosened, pushed out the required distance, when blocks of wood are placed between the collar 19, and chimney, the eye-bolts are re-fastened and work proceeds as before.

What I claim is—

1. In an apparatus for the construction of chimneys, the combination with supporting puds adapted to be removably secured within the work, of platforms carried by said puds, an axial pole or rod carried by said platform and a sweep pivotally mounted on said rod, for securing measurements during construction, substantially as set forth.

2. In an apparatus for the construction of chimneys, the combination with supporting puds adapted to be removably seated in the inner face of the work, and platforms carried by said puds, of a pole or rod adjustably mounted in said platforms, and an extensible and contractible sweep pivotally mounted on said pole or rod and provided with means for securing the level.

3. In an apparatus for the construction of chimneys, the combination with interior platforms, of supporting puds for said platforms mounted in niches in the inner face of the structure and having beveled ends, to permit the ready removal of the same as the work progresses, substantially as set forth.

4. In an apparatus for the construction of chimneys, the combination of the bevel-ended supporting puds 4, 4', the platforms 5, 5', carried thereby, the axis pole or rod 6, adjustably mounted in said platforms, the leveling sweep 10, and the graduated arm 12 having an extensible and contractible connection therewith.

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

HIRAM C. ROWELL.

Witnesses:

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