

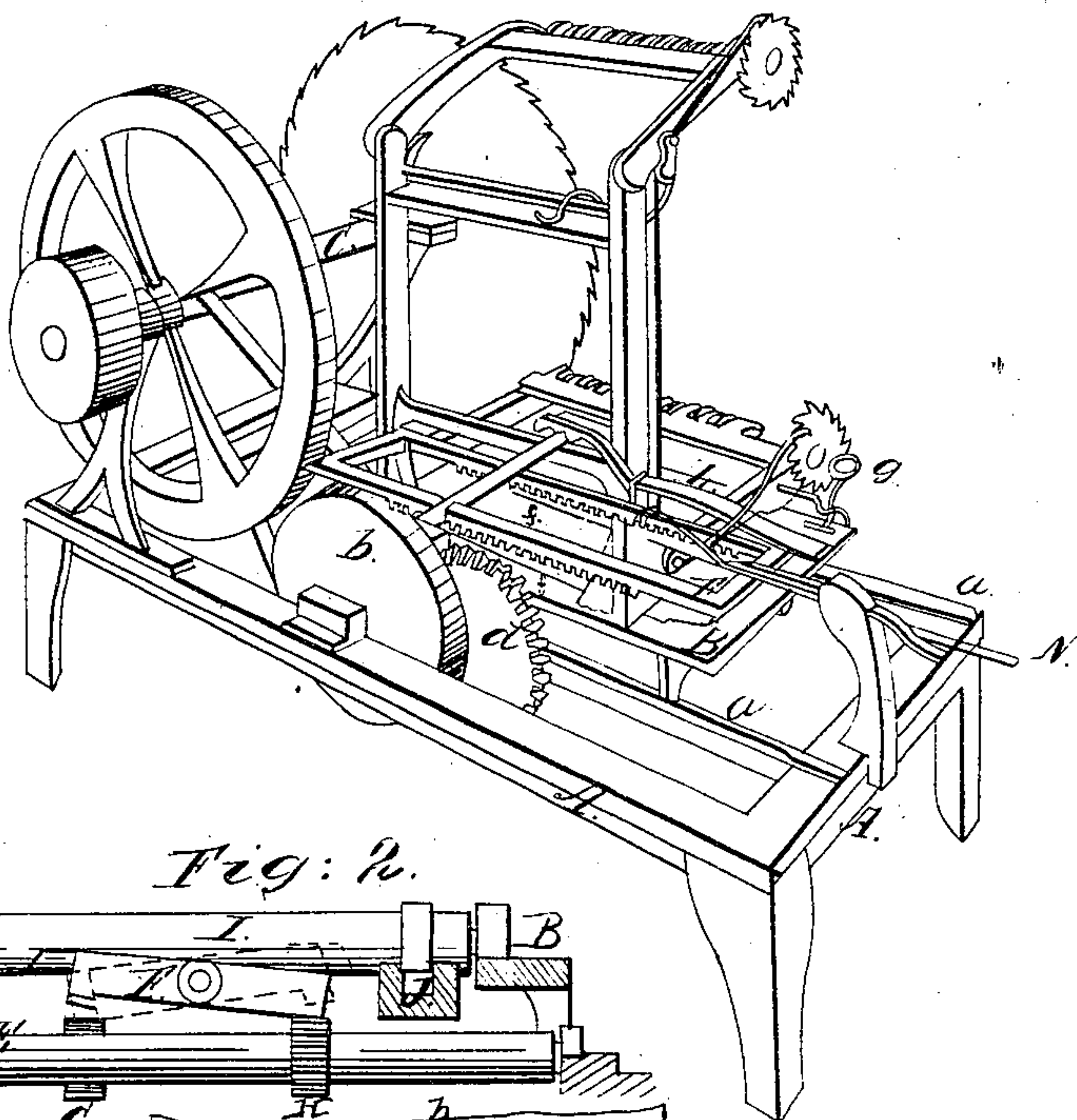
*J. Baker.*

*Shingle Machine.*

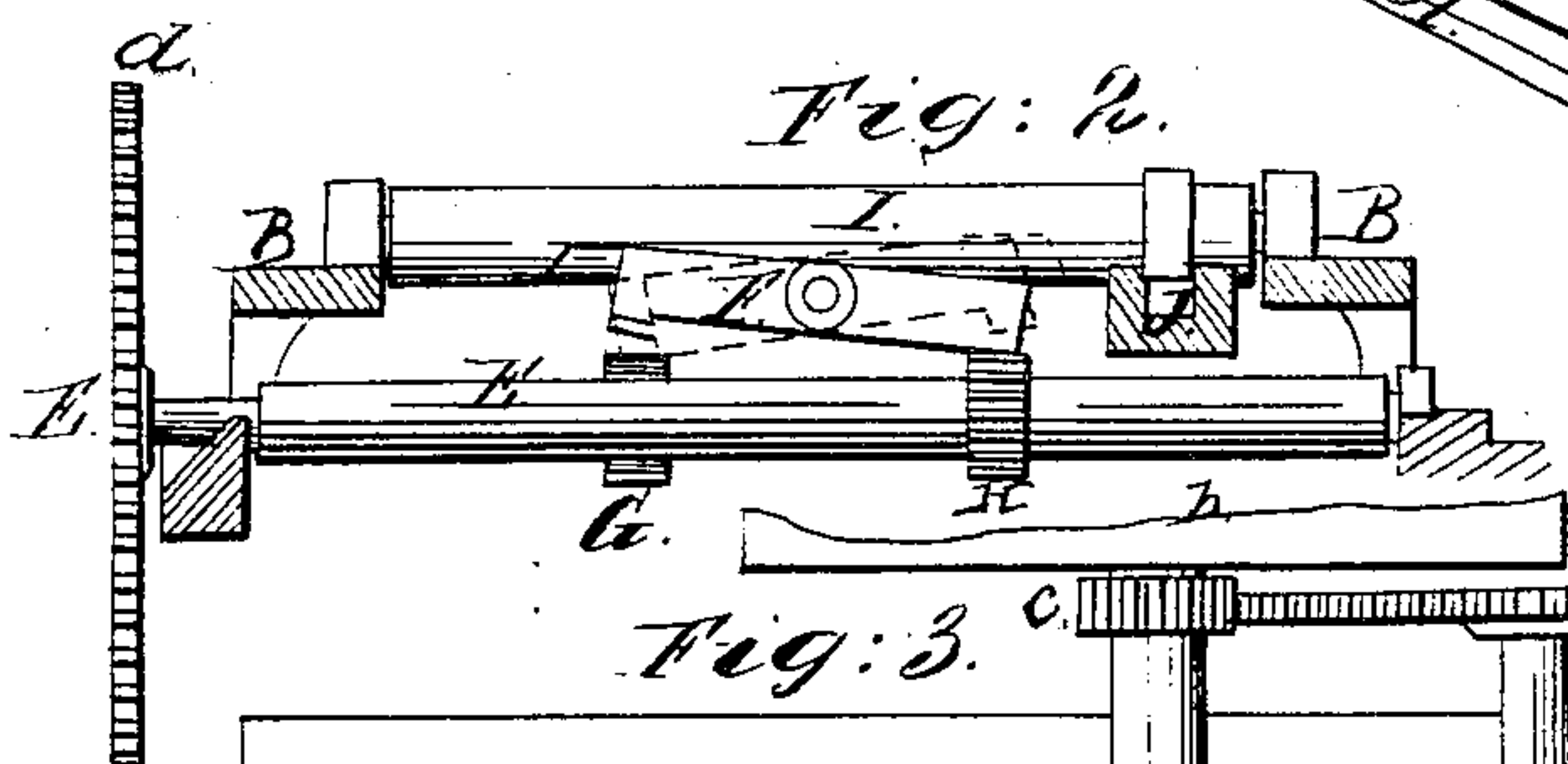
*No 98,334.*

*Patented Dec. 28, 1869.*

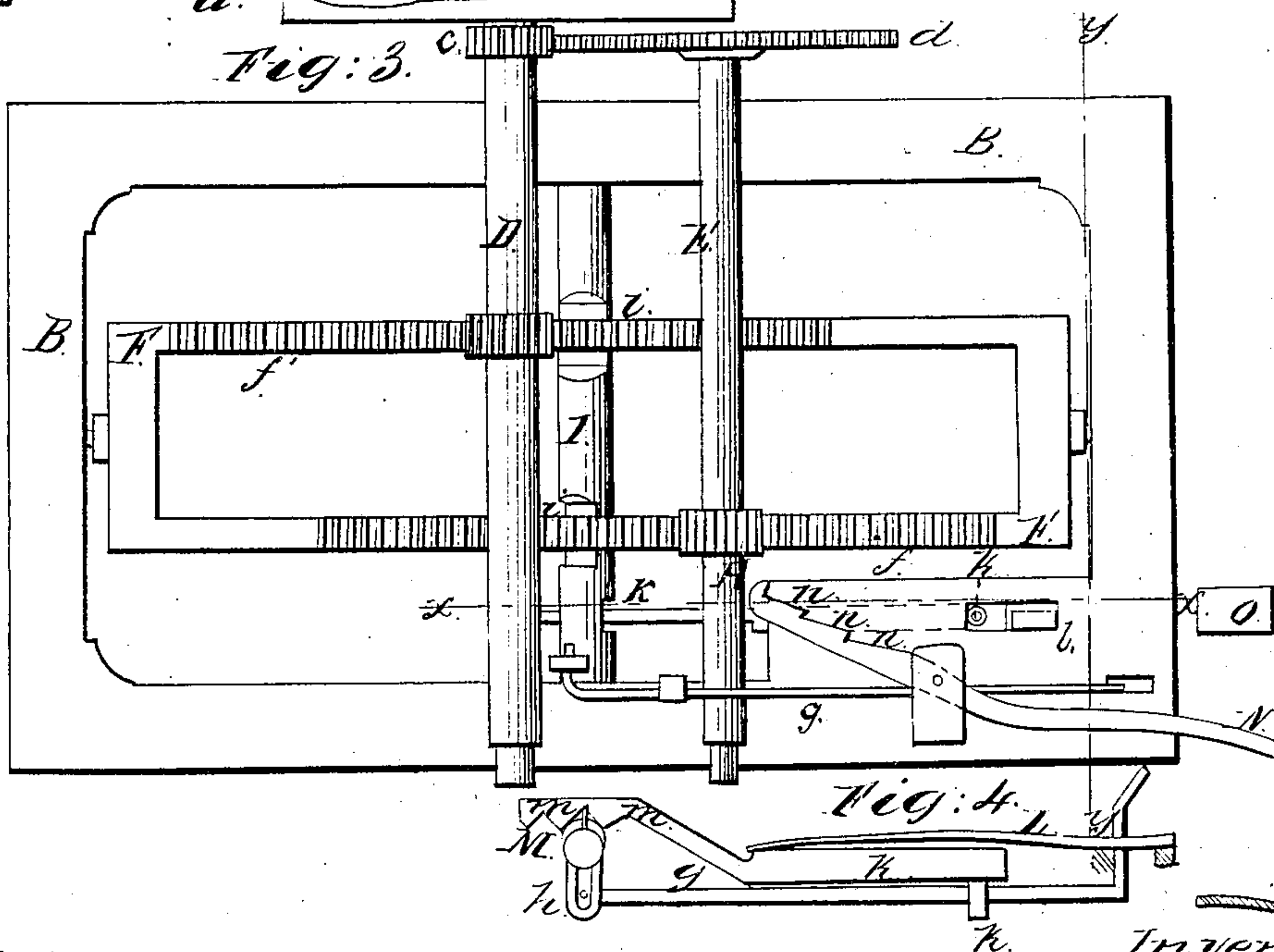
*Fig: 1.*



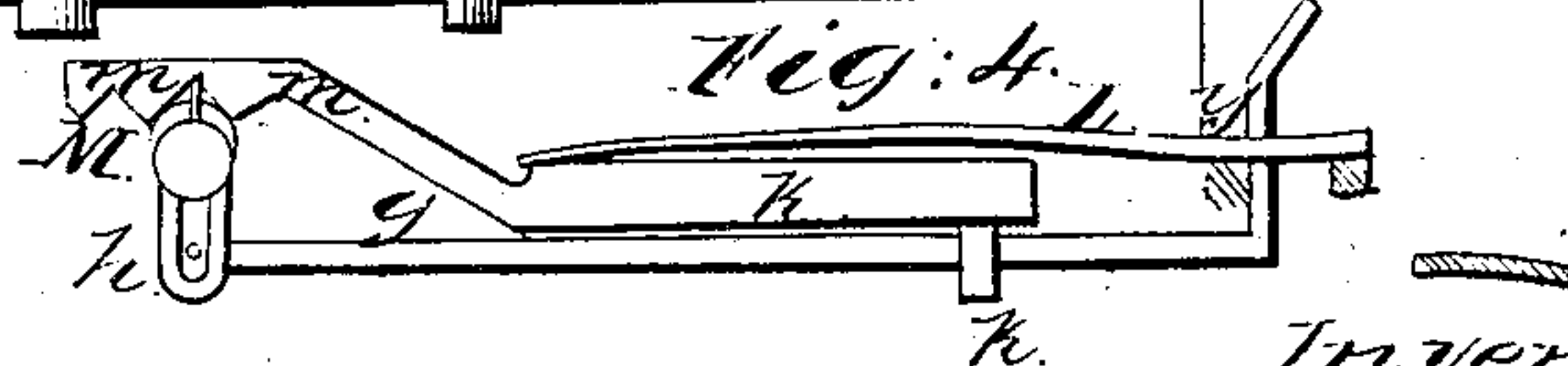
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



*Witnesses:*

*W. F. Chubb*  
*John D. Day*

*Inventor:*

*Joseph Baker*  
*Per attorney*  
*Thos J. Sprague*



# United States Patent Office.

JOSEPH BAKER, OF SHERIDAN, ASSIGNOR TO HIMSELF AND R. C. HATHAWAY, OF IONIA, MICHIGAN.

Letters Patent No. 98,334, dated December 28, 1869; antedated December 9, 1869.

## IMPROVEMENT IN SHINGLE-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same

### To whom it may concern:

Be it known that I, JOSEPH BAKER, of Sheridan, in the county of Montcalm, and State of Michigan, have invented a new and useful Improvement in Shingle-Machines; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

The nature of this invention relates to an improvement in devices for feeding the bolt to the saw in a shingle-mill, from which bolt shingles are sawn, my device being more particularly designed as an improvement on the shingle-machine patented by Jerrie R. Hall, June 22, 1858.

It consists in a tilting frame pivoted in the feed-table, the under sides of said frame being provided with toothed racks, which alternately and automatically engage with pinions on the forward and back-motion shafts, for slowly feeding the bolt to the saw, and giggering back swiftly after the shingle is sawn from the bolt, as hereinafter more fully shown and set forth.

In the accompanying drawings—

Figure 1 is a perspective view of my improvement, attached to and operated by the shingle-machine of said Hall, the parts of said machine which are not my invention being shown in red lines.

Figure 2 is a front elevation of the reciprocating parts, being a cross-section on the line  $xx$  in

Figure 3, which is a plan view of the under side of my device.

Figure 4 is an elevation of the reversing-gear, being a section on the line  $yy$  of fig. 3.

Like letters refer to like parts in each figure.

In said Hall's machine, the giggering back is effected by a heavy weight, attached to the feed-table by a cord or chain travelling over a pulley. The feed-table, when the shingle is sawed from the bolt, is disengaged from the feed-gear by a tripping-device, and is drawn back by the weight, involving a considerable expenditure of power in lifting said weight at each cut.

The object of my invention is to dispense with said weight, and to afford a reliable feed-motion with the least expenditure of power.

In the drawings—

A represents the main frame of said Hall's machine, provided with longitudinal ways  $a$ , upon which travels the feed-table B.

C is the saw-shaft, from which motion is communicated by a belt to the pulley  $b$  on the transverse shaft  $D$ , journaled in the main frame.

A pinion,  $c$ , on the shaft  $D$ , engaging with a spur-wheel,  $d$ , on a second transverse shaft,  $E$ , communicates a slow rotary motion to the latter.

On this shaft  $E$ , in the machine referred to, is a pinion, which communicates a slow forward motion to the feed-table, through a rack on its under side.

In the frame of the feed-table B, I pivot longitudinally a tilting frame,  $F$ , on the under sides of whose longitudinal bars, I secure the toothed racks  $f f'$ .

On the shaft  $D$ , I secure a pinion,  $G$ , and a similar pinion,  $H$ , on the shaft  $E$ , immediately under the racks in the tilting frame.

The pinions are of such diameter that when the tilting frame is in a horizontal position, neither of them will engage with the toothed racks.

When, however, the side of the tilting frame carrying the rack  $f$  is pressed down, the teeth of that rack will engage with those of the pinion  $H$ , as shown in fig. 2, and the feed-table will be moved forward by the slow motion of the pinion, feeding the bolt to the saw.

When the rack  $f'$  is caused to engage with the pinion  $G$  on the shaft  $D$ , the feed-table is rapidly giggered back.

To effect the tilting of the frame  $F$ , and cause the racks to engage with the forward and back feed-pinions, I journal in said frame the rock-shaft  $I$ , in whose under side are flattened spaces to form the cams  $i$  and  $i'$ , so arranged that when the rock-shaft is partially rotated in either direction, the edges of one of the cams will press down the side of the tilting frame underneath it, and throw its rack into gear with the pinion below, while, by means of the rod  $g$  secured to the rocker-arm  $h$  of the rock-shaft, said rock-shaft may be so turned that its cams will cause the tilting frame to assume a horizontal position, disengaging both its racks from the feed-pinions, when the feed-table will remain stationary.

In one side of the feed-table is a groove,  $J$ , fig. 2, in which is laid a slide,  $K$ , fig. 4, pressed down by a half-leaf spring,  $L$ .

In the bottom of the groove is a slot,  $l$ , through which projects a stop-pin,  $k$ , permitting the slide to move the length of the slot.

The rock-shaft  $I$  is provided with a feather,  $M$ , fig. 4, which engages with one of the angular notches  $m$  in the slide  $K$ , and as the feed-table moves in either direction, the stop-pin holding the slide fast, the outer end of the latter is lifted up by the feather  $M$  until the other notch engages with it. The angular side of the notch, by the action of the spring  $L$ , partially rotates the rock-shaft, and thus tilts the frame  $F$ , and reverses the feed by throwing one of the racks out and the other in gear with the proper pinion.

O is a stop on the main frame, against which the stop-pin  $k$  of the slide strikes, in giggering back, to throw the feed-table in gear for the forward motion; and

N, a lever, provided with notches  $n$ , serving as stops



to the stop-pin *k*, for throwing in gear the rack *f'* with the pinion *G*, for gigging back the feed-table.

The lever *N* is pivoted to the frame, so that the travel of the feed-table toward the saw may be varied to suit the width of the shingle-bolt, by presenting either of its notches *n* to the stop-pin *k*.

What I claim as my invention, and desire to secure by Letters Patent, is—

In shingle-machines, the vibrating tilting frame *F*, provided with racks *f f'*, the pinions *G* and *H*, rock-

shaft *I* provided with cams *i i'*, rocker-arm *h*, and feather *M*, the notched slide *K* provided with stop-pin *k*, the rod *g*, stop *O*, and graduated stop-lever *N*, or their equivalents, when constructed, arranged, and operating substantially as and for the purposes set forth.

JOSEPH BAKER.

Witnesses:

HENRY J. SISSEM,  
ARBA CHUBB.