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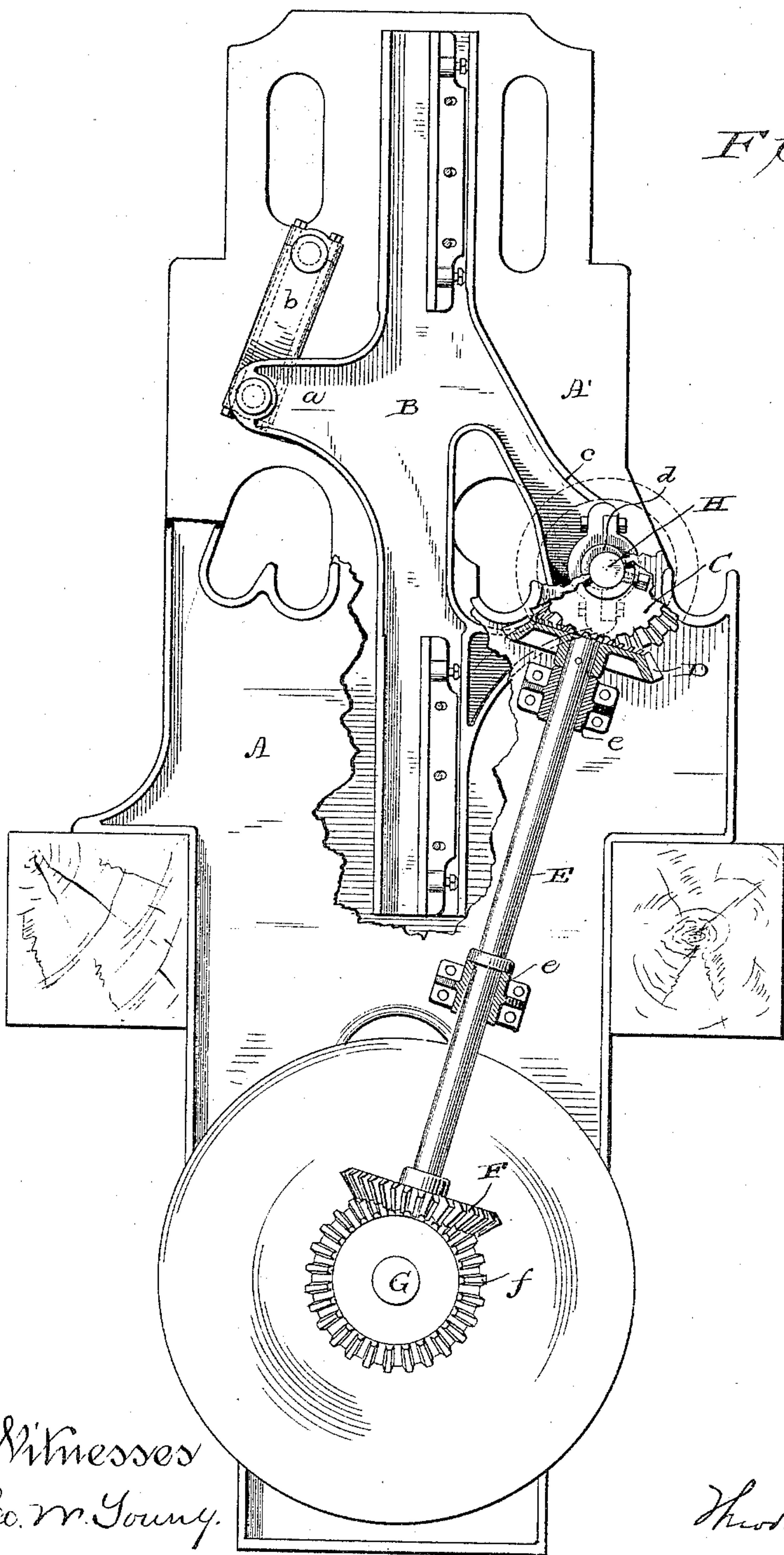
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T. S. WILKIN.  
GANG SAW MILL.

No. 444,965.

Patented Jan. 20, 1891.

*Fig. 1.*



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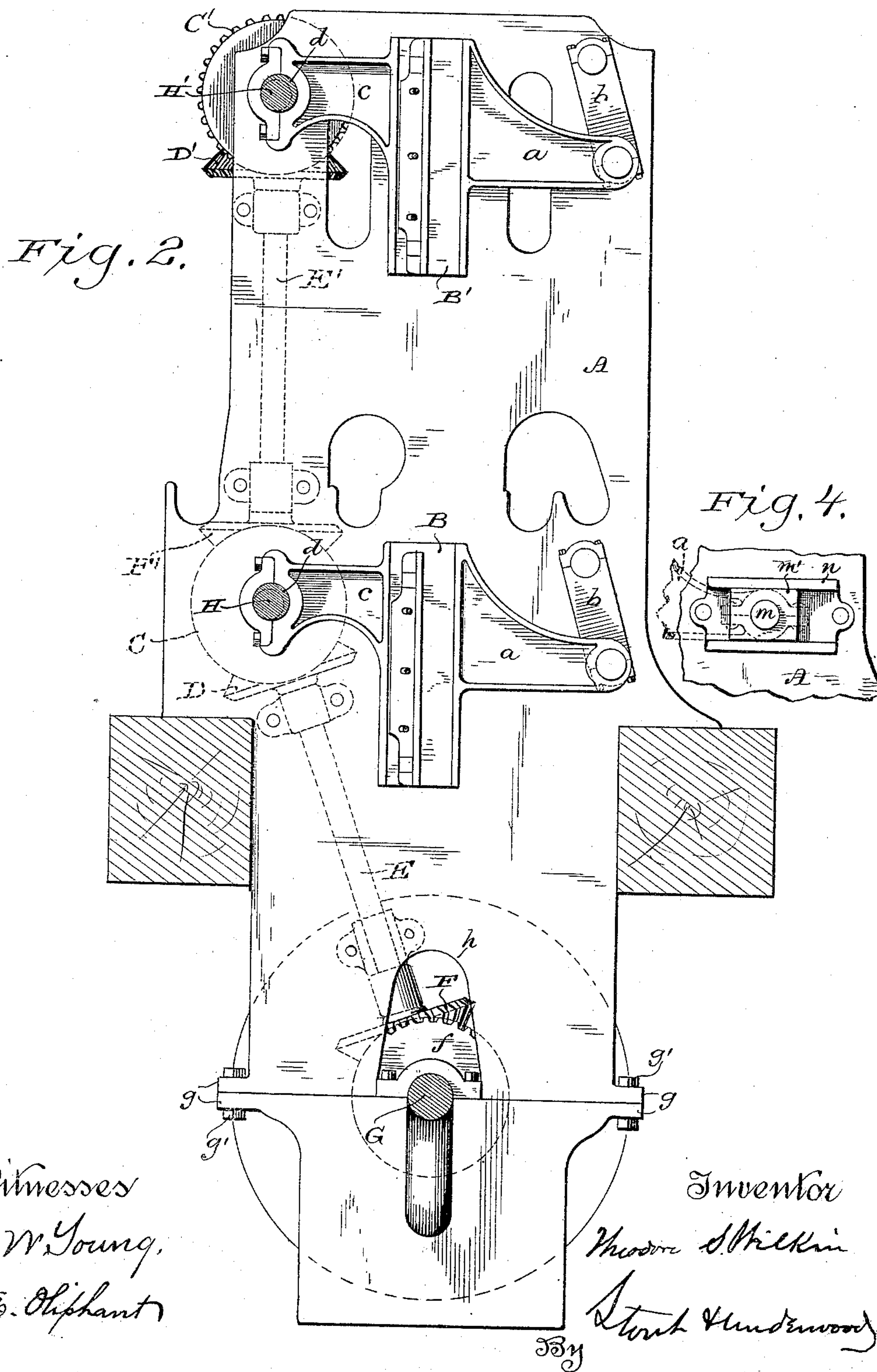
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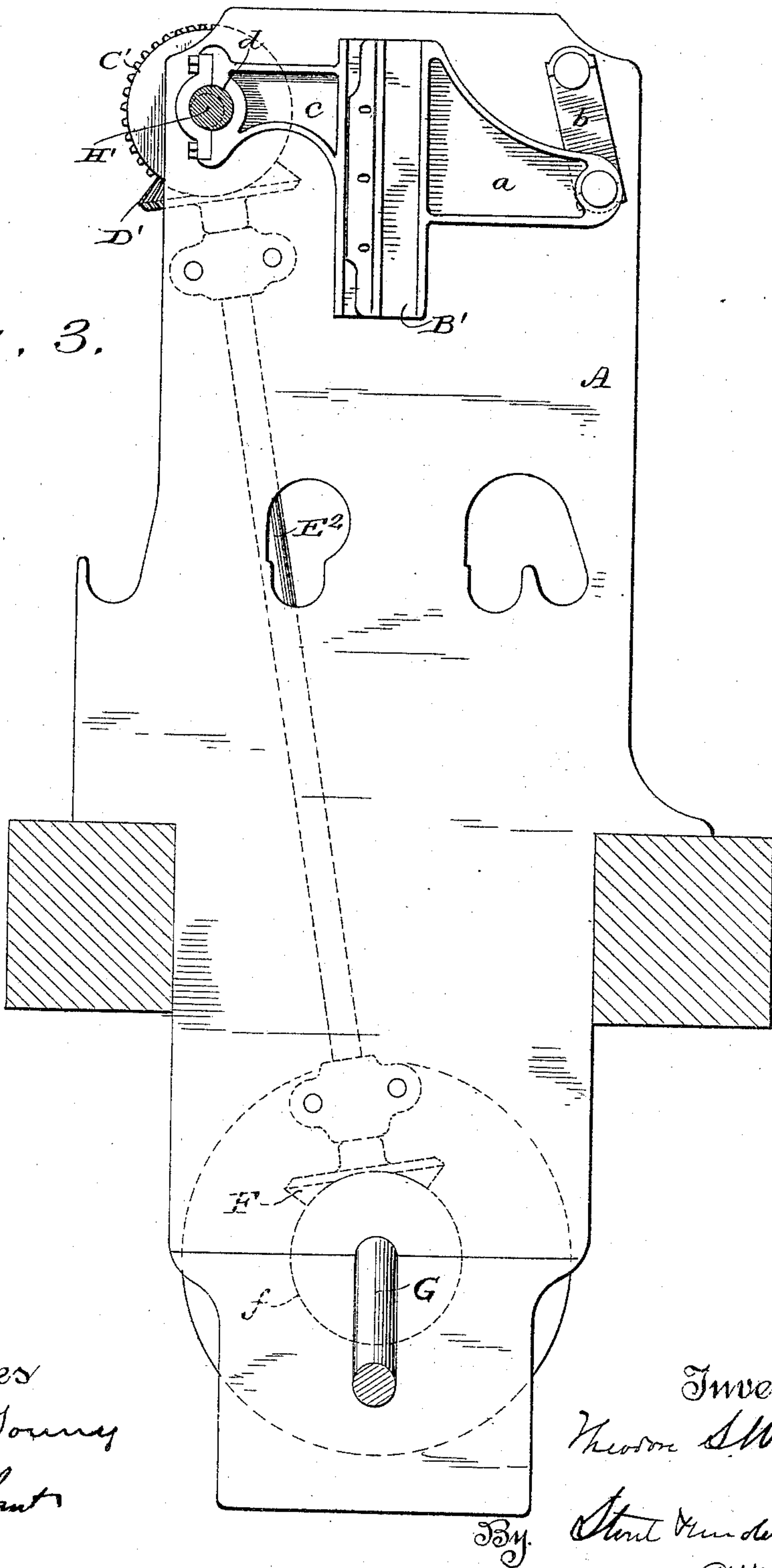
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*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

THEODORE S. WILKIN, OF MILWAUKEE, WISCONSIN.

## GANG-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 444,965, dated January 20, 1891.

Application filed December 11, 1888. Serial No. 293,293. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE S. WILKIN, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Gang-Saw Mills; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to gang-saw mills and will be fully described hereinafter.

In the drawings, Figure 1 is a side elevation of a gang-frame which is partly broken away to expose one member of the sash-guide within the frame. Fig. 2 is an inside elevation of one member of the gang-frame and of the sash-guide of a modified construction, and Fig. 3 is a like view of another modification. Fig. 4 is a detail of a modification.

A is one member of a gang-frame—such, for instance, as shown in Letters Patent No. 291,258, granted to me on the 1st day of January, 1884, and A' is the other member of the gang-frame.

B is a member of the sash-guide. The other member of the sash-guide (not shown) is an exact counterpart of that shown.

Each member of the sash-guide is provided with two arms, one of which *a* is hung from the upper portion of the adjacent member of the frame by a link *b*, while the other *c* is boxed on an eccentric portion *d* of a shaft H, which shaft has bearings in both members A A' of the frame and connects the arms *c* of both members of the sash-guide. A bevel-wheel C is keyed to one end of shaft H, and this wheel C meshes with a like bevel-wheel D on the upper end of a shaft E, that has its bearings at *e e* on the frame and carries on its lower end a bevel-wheel F, that meshes with another bevel-wheel *f* on the crank-shaft G, that drives the sash, and hence when the crank-shaft G is at work the shaft E will be revolved, and through it the eccentric shaft H will also be revolved and at a rate of speed corresponding to that of the crank-shaft, and the eccentric portion of shaft H will oscillate the sash-guide accordingly.

In the modification shown in Fig. 2 I have two short sash-guides B B' instead of one; but each of these is hung just as the guide B is hung in Fig. 1—that is, each member of

each sash-guide has two arms *a c*, one of which, *a*, is hung from the adjacent member of the frame by a link *b* and the other *c* by an eccentric shaft H or H', to which it is boxed. The lower eccentric shaft H, like the shaft bearing the same reference-letter in Fig. 1, carries on one end a bevel-wheel C, which meshes with a like bevel-wheel D on the upper end of a shaft E, which carries on its lower end a bevel-wheel F, that meshes with a bevel-wheel *f* on the driving crank-shaft G. The upper eccentric shaft H' carries a bevel-wheel C', that meshes with a like bevel-wheel D' on a shaft E', and the lower end of this shaft carries a bevel-wheel F', that meshes with the bevel-wheel C on the eccentric shaft H, so that both of the eccentric shafts H H' will be operated in unison by the crank-shaft G through shafts E E' and their bevel-gear connections.

In the modification shown in Fig. 3 the lower sash-guide is dispensed with and a shaft E<sup>2</sup> and bevel-wheels D' and F make the connection between the bevel-wheel of eccentric shaft H' and that of crank-shaft G.

Instead of hanging the arms *a* by links *b*, I may hang them or either of them as shown in Fig. 4, wherein the arm *a* is wristed to a stud *m* of a block *m'*, that slides in a guide *n*, that is either set into each member A A' or secured to the inner face of each member.

To facilitate the erection of my gang-frames, I make each member in two parts, the dividing-line being coincident with the axis of the crank-shaft and the sections secured together by flanges *g* and bolts *g'*, and that the crank-shaft may be set in after the frame is erected I form an arched opening *h* in one of the members of sufficient height to allow of the insertion of the crank-arms.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the frame of a gang-saw mill, of a sash-guide, each member of which has two arms, one of which arms is swung to the frame, an eccentric shaft, to which the other arm of each member is boxed, and means for communicating motion from the driving-shaft to said eccentric shaft.

2. The combination, in a gang-saw mill, of

two eccentric shafts arranged in suitable bearings, one above the other, and connected with each other and with a driving-power, two sash-guides, each member of each of said  
5 sash-guides having two arms, one of which is boxed to the eccentric shaft and the other hung loosely to the frame, substantially as described.

3. The combination, in a gang-saw mill, of  
10 two sash-guides, each of which has a laterally-yielding support on one side, with a pair of eccentric shafts, to one of which each mem-

ber of each sash-guide is boxed on the other side, and mechanism connecting the two eccentric shafts with each other and with a suitable driving-power, substantially as described. 15

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

THEODORE S. WILKIN.

Witnesses:

S. S. STOUT,

H. G. UNDERWOOD.