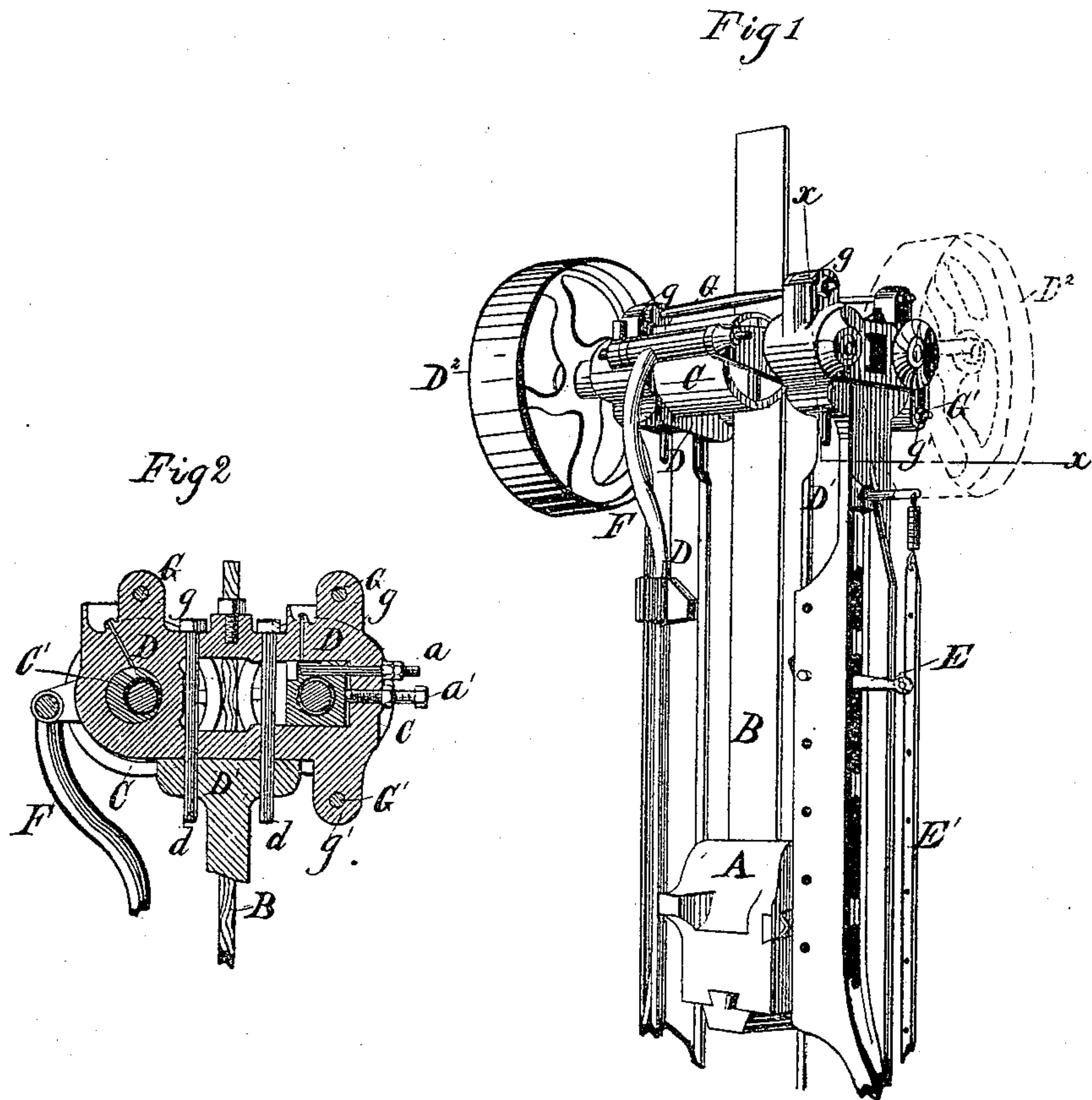


(No Model.)

R. L. BARCLAY.
DROP HAMMER.

No. 459,607.

Patented Sept. 15, 1891.



Witnesses:
John Kieck
O. Sundgren

Inventor:
Robert L. Barclay
by his Attorneys
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UNITED STATES PATENT OFFICE.

ROBERT L. BARCLAY, OF BROOKLYN, NEW YORK, ASSIGNOR TO MANNING
MERRILL AND EDWARD W. MERRILL, OF SAME PLACE.

DROP-HAMMER.

SPECIFICATION forming part of Letters Patent No. 459,607, dated September 15, 1891.

Application filed November 28, 1890. Serial No. 372,983. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. BARCLAY, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and
5 useful Improvement in Drop-Hammers, of which the following is a specification.

I will describe in detail a drop-hammer embodying my improvement and then point out the novel features in the claim.

10 In the accompanying drawings, Figure 1 is an elevation in perspective of a portion of a drop-hammer embodying my improvement. Fig. 2 is a vertical section taken on the line *x x*, Fig. 1.

15 Similar letters of reference designate corresponding parts in all the figures.

My improvement relates to that class of drop-hammers in which the hammer is raised by means of a board passing between frictional rollers. The friction of the rollers on
20 each side of the board raises the hammer, and when the rollers are separated the hammer is free to fall.

In the drawings, A designates the hammer, and B designates the board by which the hammer is raised.

C designates the rollers between which the board passes and by which it is elevated. These rollers are journaled in suitable boxes
30 in heads D, secured to uprights D', constituting the side frames of the machine, and also acting as guides for the hammer. Each roller is driven from a separate driving-pulley D², operated in any suitable manner.

35 E designates a trip by which the hammer may be maintained in an elevated position after it has been raised, and E' designates a rod by which the trip may be released to allow the hammer to fall. The shaft of one
40 roller is eccentrically journaled, as at C', Fig. 2. When the eccentric-journal is rotated in one direction it operates to move its co-operating roller away from the board, so that the board and hammer may drop after
45 having been raised.

F designates a rod by which the rocking of the said eccentric-journal may be effected. One of the rollers C may be adjusted toward

and from the other by means of adjusting-screws and bolts *a a'*. As the parts just de- 50
scribed do not constitute my invention, broadly considered, I have referred to them thus briefly. It will be observed that the heads D are secured to the uprights D' by means of bolts *d*, and also that the journals 55
for the rollers C are arranged in the heads D. The operation of the drop occasions great strain upon the heads D, so much so that heretofore no means has been devised which, while allowing a free action of the parts, 60
would still obviate breakage of said heads. All attempts to connect said heads together from their upper sides—as, for instance, by solid casting or by bolts—have proven abortive, as the strain transverse to the length of 65
said casting or bolts, due to the rocking motion of the heads, would quickly snap the connecting castings or bolts or else break off the lugs or other projections by which the bolts might be secured. I have discovered 70
that by connecting the heads together by a single connection, arranged so as to connect them from their under sides and at one side of the machine, when used in conjunction with other connections extending from the upper 75
sides of the heads, all the difficulty heretofore experienced is obviated. The connections which I have found most expedient consist of tie bolts or rods G, extending between the heads D and over the rollers C, 80
said tie bolts or rods being connected to lugs or projections *g*, extending upwardly from the heads and which are cast integral therewith. The other connection consists of a tie bolt or rod G', extending between the heads 85
and below the roller C, arranged at the rear of the machine. This tie bolt or rod is connected to lugs *g'*, extending downwardly from the heads D and made integral therewith.

What I claim as my invention, and desire 90
to secure by Letters Patent, is—

In a drop-hammer, the combination, with uprights, of heads bolted to the upper ends of said uprights, rollers journaled in said heads and adapted when rotated to raise a 95
board and hammer, said heads being pro-

vided upon their upper sides with lugs or
projections made integral therewith, tie bolts
or rods secured to said projections and ex-
tending over said rollers, other lugs or pro-
5 jections made integral with said heads and
extending downwardly therefrom, and a tie
bolt or rod connected to the last-named lugs

or projections and extending beneath one of
said rollers, substantially as specified.

ROBERT L. BARCLAY.

Witnesses:

FREDK. HAYNES,
JOHN BICKET.