(No Model.) 2 Sheets—Sheet 1.

T. H. SAVERY.

SHAKE FRAME FOR FOURDRINIER PAPER MACHINES.

No. 568,211. Patented Sept. 22, 1896.

Fig 1

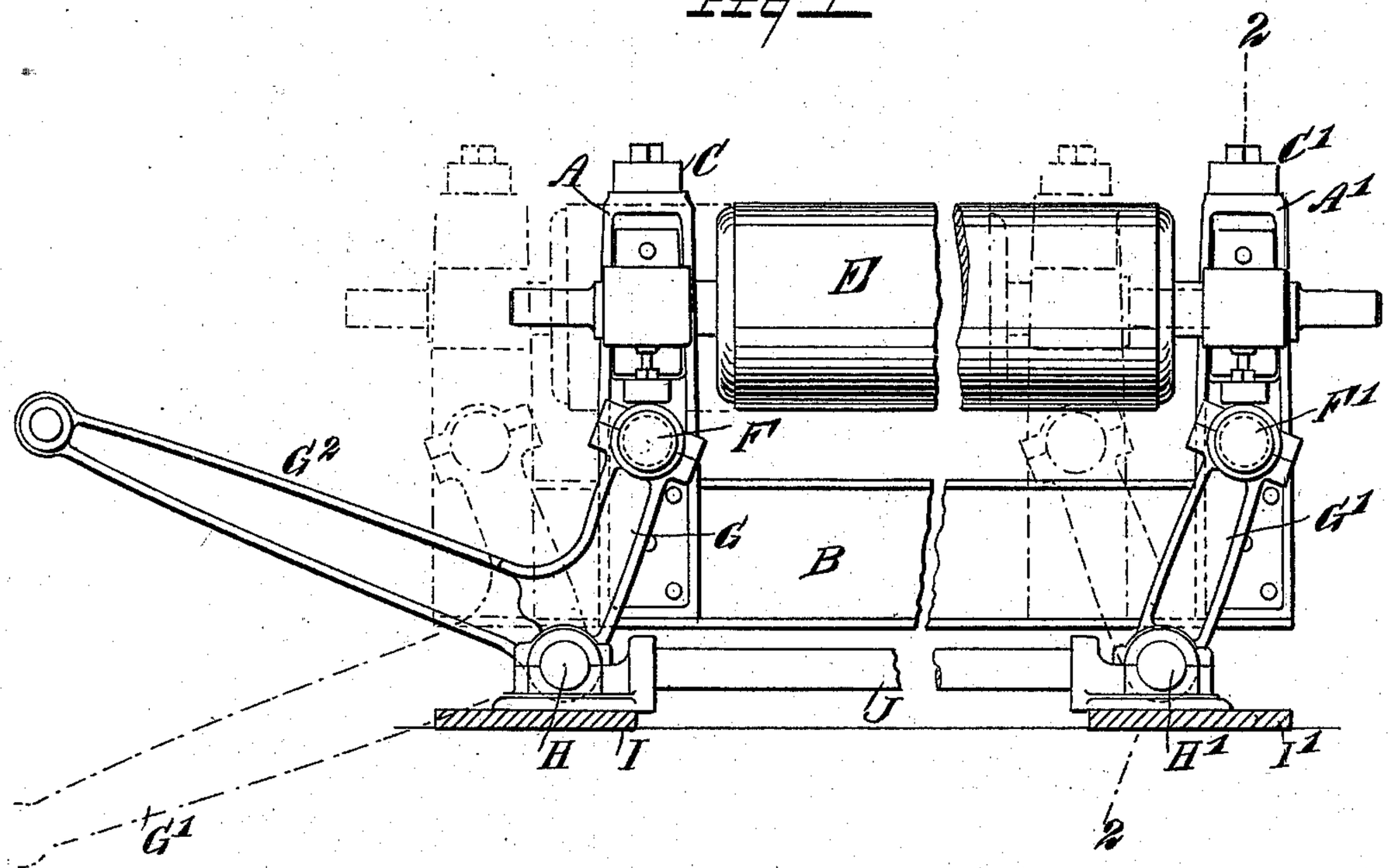
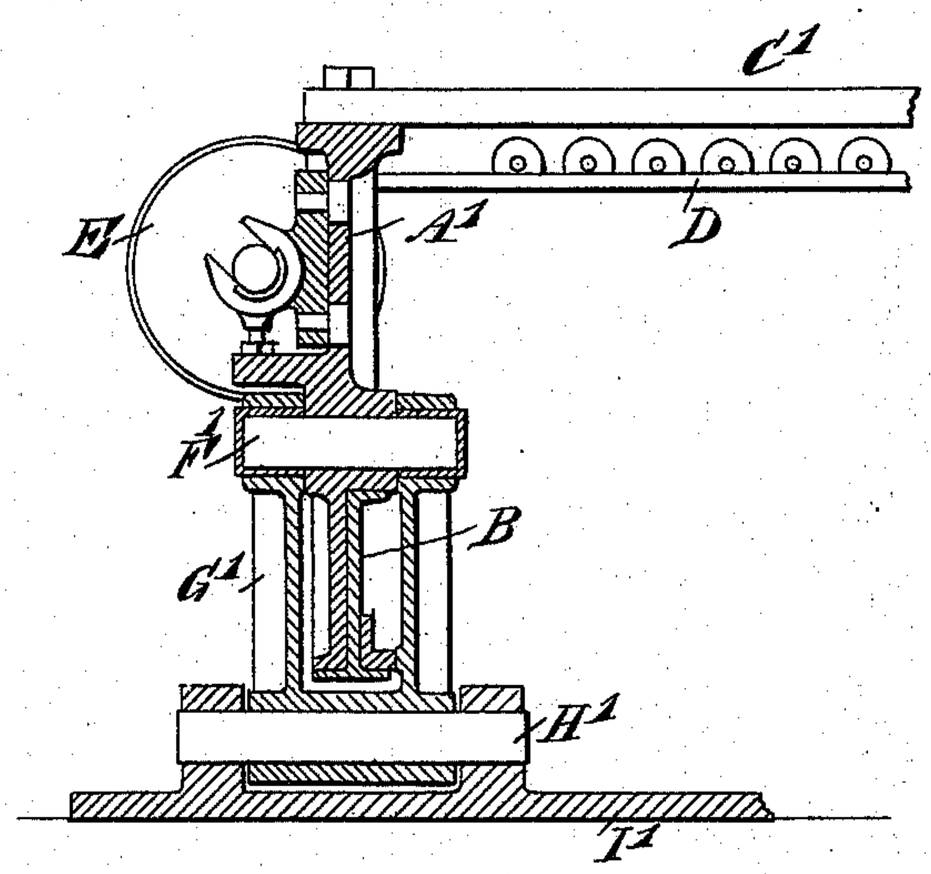


Fig 2



WITNESSES:

H. C. Walker

Wm. G. Hoosteny

INVENTOR

T. H. Savery

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

T. H. SAVERY.

SHAKE FRAME FOR FOURDRINIER PAPER MACHINES.

No. 568,211. Patented Sept. 22, 1896.

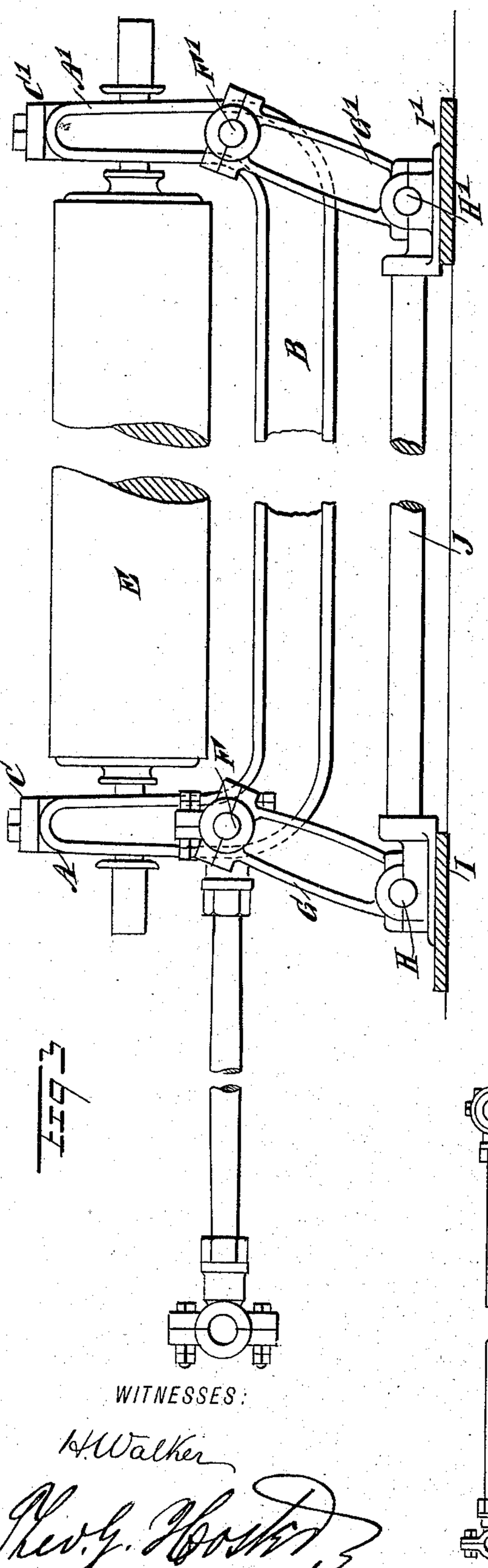


Fig. 1.

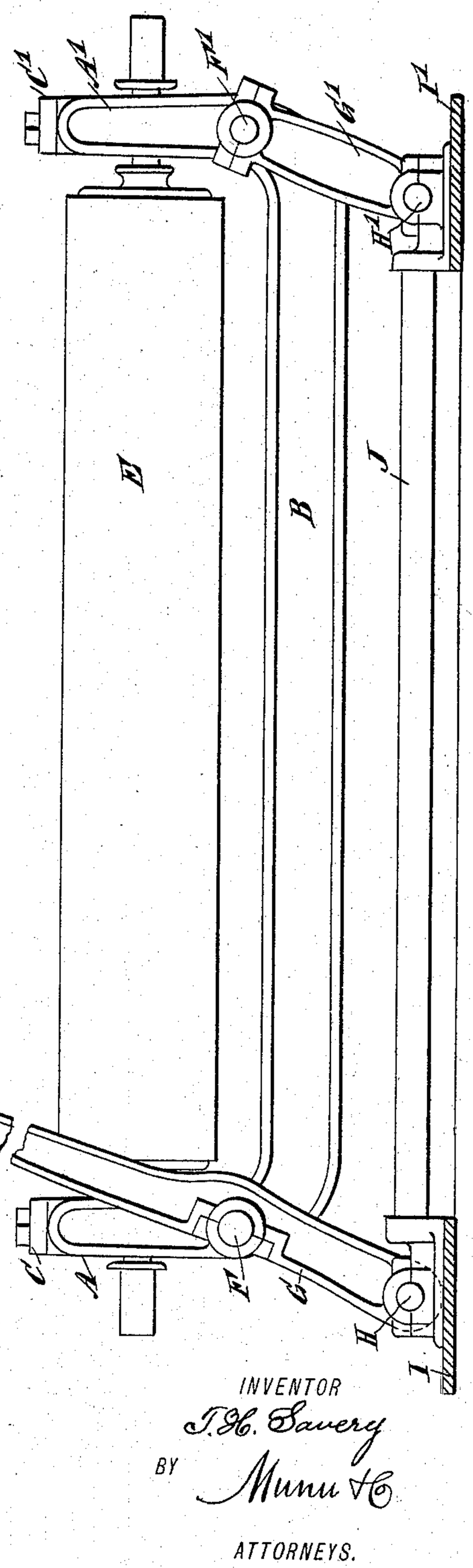


Fig. 2.

WITNESSES:

H. Walker

Thos. J. Hooker Jr.

INVENTOR

T. H. Savery

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS H. SAVERY, OF WILMINGTON, DELAWARE.

SHAKE-FRAME FOR FOURDRINIER PAPER-MACHINES.

SPECIFICATION forming part of Letters Patent No. 568,211, dated September 22, 1896.

Application filed October 11, 1895. Serial No. 565,373. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. SAVERY, of Wilmington, in the county of New Castle and State of Delaware, have invented a new and Improved Shake-Frame for Fourdrinier Paper-Machines, of which the following is a full, clear, and exact description.

The invention relates to what is technically termed the "wire part" of Fourdrinier paper-machines, and its object is to provide a new and improved shake-frame arranged to swing at all times in such a manner that the upper and lower surfaces of the shake-rails or side bars are held in level positions, and consequently all the table-roll journal-bearings and all other fixtures attached to said shake-rails are also held in a level position.

A further object of the invention is to provide a shake-frame of the character indicated which is adapted to support the breast-roll in such a manner that it can be readily put in place or removed without disturbing any of the other parts.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an end view of the improvement. Fig. 2 is a sectional side elevation of part of the same on the line 2 2 of Fig. 1; and Figs. 3 and 4 are end views of the improvement, showing different methods of producing a sidewise motion in same.

The frame is provided with uprights A and A′, which are connected with each other by a transverse beam B, or the uprights A and A′ and transverse beam B may all be made in one piece or one casting of steel or iron or other suitable material.

The uprights A A′ and transverse beam B constitute a U-shaped transverse support of considerable strength and comparative lightness and affords a convenient means for supporting the breast-roll, as hereinafter described.

The shake-rail C rests upon the top of upright A, and shake-rail C′ rests upon the top of upright A′, and the rails are connected with the uprights in a suitable pivotal manner.

The uprights A and A′ carry the journals for the large roll E, known as a "breast-roll," which is removably journaled in open inclined bearings E′, located exteriorly of the end uprights, and in the end uprights of the frame are held pivot-pins F and F′, respectively, held in links or arms G G′, respectively, pivotally mounted at their lower ends on pins H H′, respectively, held in bearings attached to the longitudinal base or foundation plates I and I′ and connected with each other by brace J. The link G is provided with an extension-arm G^2 to form a bell-crank lever, as plainly shown in Fig. 1, and the outer end of this arm G^2 is connected in the usual manner with the shake-post, so as to impart a swinging motion to the link G.

Figs. 3 and 4 illustrate means of imparting sidewise motion to the links G and G′ other than the bell-crank arm of the link G. In Fig. 3 the means by which motion is imparted to the said frame from the shake-post is connected directly to the frame, and in Fig. 4 the said means is connected to the upper end of an extension of the link G. Now it will be seen that when such a swinging motion is given to the link G a transverse swinging motion is given to the entire shake-frame, and as the latter is hung on the said sets of pivot-pins F and F′ of the links G and G′ a smooth and uniform transverse swinging motion is given to the entire frame in such a manner that the rolls D and E, as well as shake-rails C and C′ and all bearings and fixtures attached thereto, are always perfectly level and will not in the least be thrown out of level by the transverse swinging motion of the shake-frame. It will also be seen that the U-shaped frame serves as a support for the breast-roll and permits of the said roll being mounted on the outer face thereof, so that it can be quickly and readily put in place or removed for repairs or otherwise without disturbing any of the other parts of the shake-frame.

I am aware that a bell-crank arm in connection with the shaking uprights as heretofore constructed has been used and that a patent therefor has been granted to Leighton Lee, No. 476,153, dated May 31, 1892. I do not

therefore claim, broadly, the use of a bell-crank for actuating any or all kinds of shake-frames.

For greater clearness in the illustration the movement of the shake-frame to and fro is shown much exaggerated in amount.

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

1. In a Fourdrinier paper-machine, the combination with a support, and the shake-rails, of an approximately U-shaped frame, to the upper ends of the vertical members of which, the shake-rails are pivoted, a breast-roller mounted on the front face of the frame, links pivoted to a support and to the frame in a plane below the breast-roller, and means for swinging the links on their pivots to oscillate or vibrate the frame, substantially as described.

2. In a Fourdrinier paper-machine, the combination with a support, and the shake-rails, of an approximately U-shaped frame, to the upper ends of the vertical members of which, the shake-rails are pivoted, a breast-roller mounted on the front face of the frame, links pivoted to a support and to the frame in a plane below the breast-roller, and means connected with the frame below the breast-roller for swinging the links on their pivots and thereby vibrate the frame, substantially as described.

3. In a Fourdrinier paper-machine, the combination with a support, and the shake-rails, of an approximately U-shaped frame, to the upper ends of the vertical members of which the shake-rails are pivoted, a breast-roller mounted on the front faces of the vertical members of the frame, and links pivoted to a support and to the frame in a plane below the breast-roller, one of the links being formed with an arm forming with the link a bell-crank lever, by means of which the frame is vibrated, substantially as described.

THOMAS H. SAVERY.

Witnesses:
J. NEWMAN DAVIS,
HOWELL S. ENGLAND.