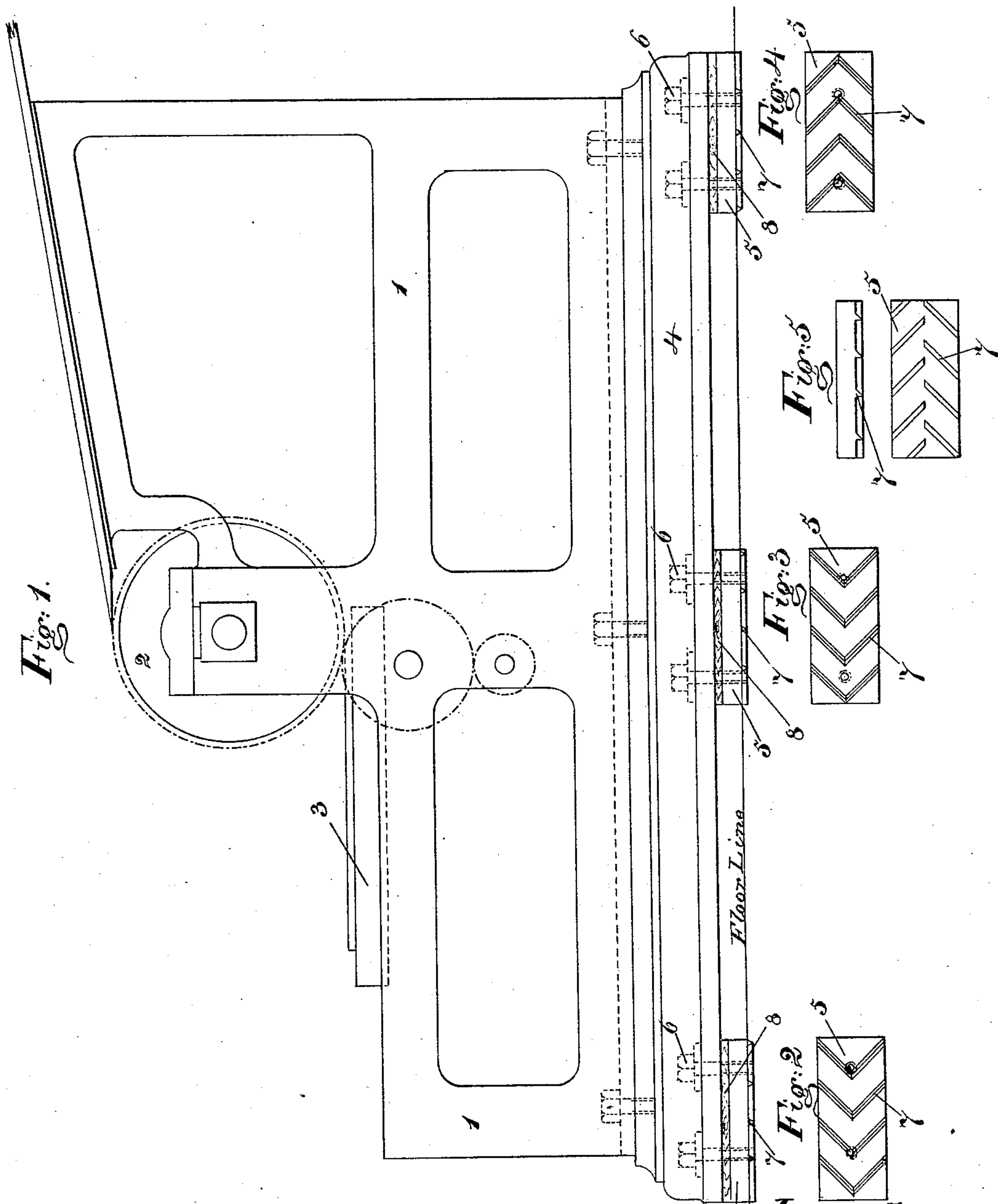


(No Model.)

J. T. HAWKINS.
MEANS FOR HOLDING IN PLACE MACHINES HAVING RECIPROCATING
MEMBERS.

No. 429,907.

Patented June 10, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

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MEANS FOR HOLDING IN PLACE MACHINES HAVING RECIPROCATING MEMBERS.

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To all whom it may concern:

Be it known that I, JOHN THOMAS HAWKINS, of Taunton, in the county of Bristol and State of Massachusetts, have invented new and useful Means for Holding in Place Machines Having Reciprocating Members, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention can best be understood by a short preliminary explanation.

In some kinds of machinery it is not unusual to incorporate a heavy reciprocating member whose momentum is transmitted into the machine as a whole, and when the weight or velocity, or both, of such reciprocating member bears too great a proportion to the total weight of the machine the frictional resistance of said machine upon the floor or upon its support becomes insufficient to hold it in place, and often necessitates the bolting down of the machine to prevent its moving out of place. It is often difficult to get a secure bolting for machines to floors, particularly in modern fire-proof buildings, and as the preservation of level of the machine is involved in any such bolting down it often makes the matter still more difficult.

The object, therefore, of this invention is to provide for holding such a machine in place upon a floor or other support without bolting it to such support, and at the same time to compensate for the unevenness of the supporting-surface upon which the machine may stand in leveling up the machine.

A specific and familiar example of such a machine is the cylinder printing-machine with a reciprocating flat type-bed. In such a machine, although buffer-springs of various forms are used to absorb the momentum of the reciprocating bed into the machine as a whole and cause it to reverse its motion without shock, said momentum must necessarily be transmitted to the machine in a more or less gradual manner, depending upon the efficiency of the buffer apparatus used and the time within which the reversal is accomplished, the result being that where heavy type-beds are reciprocated at comparatively high velocities at a uniform velocity through a large part of their stroke and reversed during a comparatively short period at each end

there are very few machines possessing sufficient weight, as a whole, to keep them in place without being bolted down. No buffer-spring apparatus of any kind is shown in the accompanying drawings, as the construction and design of said apparatus vary so much in different machines that it is unnecessary to the illustration of this invention to delineate such apparatus.

In the accompanying drawings, Figure 1 is a side elevation of so much of a cylinder printing-machine as is necessary to illustrate this invention. Figs. 2, 3, 4, and part of Fig. 5 are views in plan of the under side of certain base-blocks hereinafter described, and which principally constitute this invention.

In said figures the several parts are indicated by reference-numbers, as follows: 1 indicates one of the main frames; 2, the impression-cylinder, and 3 the reciprocating bed and form of a "cylinder printing-machine." To the bed-plate 4 the frames 1 are secured. Metallic base-blocks 5 are secured to the bottom of the bed-plate 4 by bolts 6. (Shown in dotted lines as passing through an inner projecting lower member of said bed-plate.) The bolts 6 are threaded in the base-blocks 5. On the lower face of each base-block 5 are formed V-shaped projections 7, preferably placed diagonally of the blocks. The object of placing the V-shaped projections diagonally is that they may always cross the grain of the flooring at about the same angle whether the flooring runs at a right angle to or parallel with the machine. The projections are made of such an acute angle and of such depth and their number and distribution are such that the weight of the machine shall with any tendency of the machine to move cause said projections to sink into the floor, and each of them form a small inclined plane, up which the machine must climb in order to move or else disintegrate the flooring. When properly sunk into the floor, they amount in the aggregate to a single inclined plane of the given angle of sufficient surface to withstand the effort exerted by the reciprocating member of the machine without disintegration of the flooring, and their proportion, angle, number, and extent are to be made such as to successfully resist the effort of the machine to move. In some machines

the reciprocating member may operate to move the machine as a whole in but one direction, and in such cases it may be found desirable to have one vertical side to the V-shaped projections, as shown in side elevation in the upper part of Fig. 5. I do not therefore confine myself to any specific angle or position of the said V-shaped projections.

Generally it is sufficient to allow the machine to force the projections into the floor by its own weight when properly proportioned as above, but in some cases, as where the floor is of very hard material, the floor or other support may be prepared for the reception of these projections by cutting V-shaped grooves therein to receive the said projections. Packing-pieces 8, of wood or other suitable material, are interposed between the upper faces of such of the base-blocks 5 and the bottom of the frames 1 in such number as may be necessary to bring the machine to the proper level. Generally no packing-piece 8 need be placed between that base-block and the bottom of the frame which may occupy the highest point of an unlevel floor.

Having thus fully described my invention, I claim—

1. Means for preventing machines containing an unbalanced reciprocating member from being moved upon their supports by the momentum of said reciprocating member, consisting of base-blocks, as 5, secured to the bases of such machines, having formed upon their under side V-shaped projections sunk into the floor or support of the machines and of the necessary proportion, number, and extent to form in the aggregate a surface of resistance sufficient to prevent such machines from moving out of place and to avoid disintegration of the floor or support, substantially as set forth.

2. Means for preventing a machine containing an unbalanced reciprocating member from being moved upon its supports by the momentum of said reciprocating member, consisting of base-blocks, as 5, secured to the base of said machine, having formed upon their under side V-shaped projections, placed thereon in a diagonal direction, sunk into the floor or support of the machine and of the necessary proportion, number, and extent to form in the aggregate a surface of resistance sufficient to prevent such machine from moving out of place and to avoid disintegration of the floor or support, substantially as set forth.

3. Means for leveling and preventing a machine having an unbalanced reciprocating member from being moved on its supports by the momentum of said reciprocating member, consisting of base-blocks, as 5, and packing-pieces, as 8, of the thickness required to level up the machine, interposed between the base of said machine and the upper faces of said base-blocks, said base-blocks being bolted securely to the base of said machine and having formed upon their under sides V-shaped projections of the necessary proportion, number, and extent to form in the aggregate a surface of resistance sufficient to prevent such machine moving out of place and to avoid disintegration of the floor, and said V-shaped projections being sunk into said floor or support by the weight of the machine or by other suitable means, substantially as set forth.

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Witnesses:

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