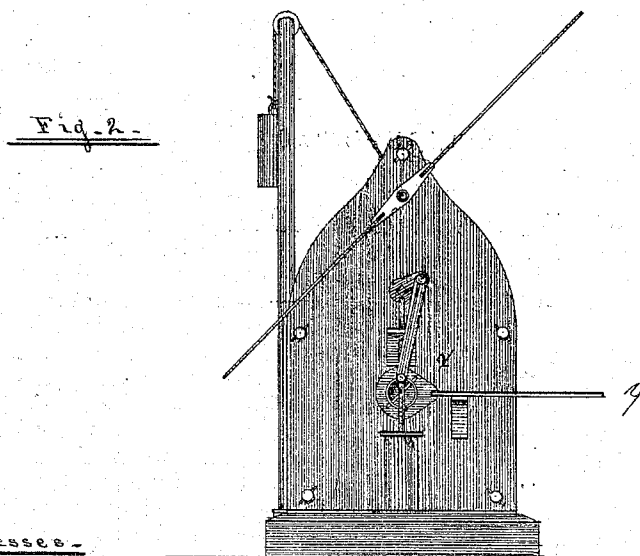
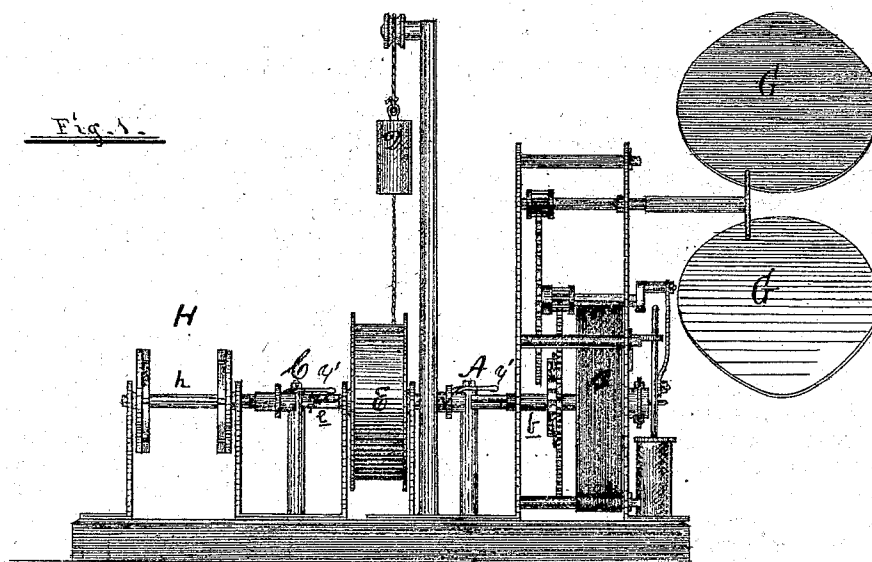


B. J. SAGE.
Improvement in Motive-Power.
No. 127,189. Patented May 28, 1872.



Witnesses.

Rufus R. Rhoads.
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UNITED STATES PATENT OFFICE.

BERNARD J. SAGE, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN MOTIVE POWERS.

Specification forming part of Letters Patent No. 127,189, dated May 28, 1872; antedated May 17, 1872.

SPECIFICATION.

I, BERNARD J. SAGE, of New Orleans, Louisiana, have invented a certain Improved Mechanical Arrangement and Combination, of which the following is a specification, for applying different and distinct motors, either separately or conjointly with each other, to the accomplishment of a great variety of useful ends or objects.

My improvement consists of the union of the tensile force of a spring or of several springs, the power of a weight and pulley, and a dog-power, in such manner that all, or two only, or one of the same may be used for any one given object, accordingly as the motive power requisite to the accomplishment of that object may be more or less, or for the simultaneous accomplishment of several objects; and also in such wise that these forces, or, more accurately, the mechanisms which produce them, may be detachable from each other, and hence susceptible of easy independent or separate application. It is not my design to create an organism which is capable of indefinite amplification or extension of power, even when the three forces combined by me are jointly applied to the attainment of one purpose; but one which will be sufficient only to operate the thousand and one small machines that are used in the mechanic and useful arts, and for household and domestic purposes requiring a limited measure of power to work them—a sort of motor, in a word, which will be of universal application to every machine that is used by man, whatever may be the special nature and function of the same, which does not need, to operate it, more power than can be developed by the three forces, so to call them, which I have specified and propose to combine; but

My invention will be better understood by reference to the drawing, on which—

Figure 1 is a side elevation, and Fig. 2 an end view of the same—

That is to say, these figures on the drawing illustrate my design with sufficient clearness to make it understood, while they by no means exhibit its full scope, as will readily be perceived when it is remembered that it is intended to subserve manifold uses, whereas on the drawing only a revolving fan and an ordinary churn are connected with it. The different modes and means designed by me for con-

necting my invention in part or in whole with the multifarious machines to be operated by it need not herein be described or specified, since they are well-known mechanical devices to which I lay no claim to an exclusive use. At Fig. 1, that portion of the arrangement on the right-hand side of the letter A represents a mechanism through which the tensile force of the volute-spring B, secured on an independent, *b*, is applied to practice, whether employed to rotate, or to vibrate one or more fans, G G, to operate a sewing-machine or any other machine among the many to which it may be applied. This mechanism may be, as shown, substantially the same as that of an ordinary clock or very considerably modified, the only two conditions with respect to its construction that are absolutely or imperatively necessary being that it shall in all cases be provided with means for connecting it with whatever machine it is to operate, and be so made as readily to be coupled to and uncoupled from another organism in which a weight and pulley, D E, the latter being secured on an independent axle, *e*, are the motive instrumentalities, either as co-operative with the tensile power of the spring B, or as a separate and distinct power to be alone employed for any special purpose, as, for example, such a one as is shown on the drawing on the left-hand side of the letter A, and between that letter and the letter C. The tensile force of the spring B being thus susceptible of a positive connection with the power of a weight and pulley, and being, moreover, so adjusted with reference to the mechanism through which that power is developed and utilized, that when either is exhausted the other will continue in active exercise, is no longer dependent solely on itself, but whenever necessary, becomes an element of a combination which may readily be brought to develop a power far beyond a mere duplication of its own, and will therefore put in motion a machine beyond the power of either to operate singly, and to keep said machine in motion some time after the force of the spring or the power of the weight and pulley, as the case may be, has been quite spent or exhausted, especially if the machine in question be assisted, after it has been started, by the momentum of a fly-wheel or other equivalent appliance.

As in the case of the mechanism for applying the force of the spring B, I reserve the right of making any modification of that through which the power of the weight is utilized and applied, and of using the best means for connecting the same with any machine I may desire to work with it, either with or without the conjunction of the other forces employed by me. This organism for applying the power of the weight and pulley is provided with means for connecting it with a third power whenever the exigencies of the case may require it, so that I may under such circumstances increase my power beyond what is possible with the spring and the weight, even when combined. This power is what is popularly known as "dog-power," in consequence of the weight of a dog being the impelling force. This power is shown at H, Fig. 1, and, like the spring and pulley, is secured on an independent axle, *h*. Thus it will be seen that in their normal condition, owing to the fact that each power is secured to its own distinct axle, and these axles each working in independent bearings, that no connection exists between them. Consequently either of these may be used at pleasure, without its movement being affected by the others. These axles, *b e h*, are circular, except at their ends, where their faces are squared so as to permit of the connecting or coupling sleeves *x x'* being so brought in contact with their faces that either two of the powers can readily be so attached as to act together, or when desired all three. These sleeves *x x'* are moved to and fro by levers *y y'*, and are so formed as to permit of their being operated with the least possible delay or trouble. Thus I am enabled with the greatest facility to either complete or interrupt the connection between the axles *b e h* and their respective powers B E H simply by shifting the positions of the sleeves *x x'*.

Each of the three organisms, as I have already stated, must be provided with means for establishing connections with whatever is to be driven by one, two, or all three of them, so that whether the same be a fan, a grindstone, a coffee-mill, a sewing-machine, a washing-machine, a churn, a small lathe, or any other among the innumerable labor-saving machines

that are known in the arts, there may be no waste power, but an instant adaptation of the power employed to the special needs and conditions of the occasion. When the three powers are used in conjunction quite sufficient force is developed to drive almost every machine employed for domestic or family use in the house and yard, as well as in most workshops.

On the drawing the platform on which the three mechanisms are placed and supported is of unbroken continuity, but it will readily be understood that in actual practice this platform must be made in sections, so as to allow of a detachment whenever only one or two of the forces are needed for the work in hand. If, for example, it be desired to drive a fan, the spring power is amply sufficient for that purpose, and hence I detach that power from the rest, and am enabled thereby not only to avoid an unnecessary expenditure of power, but far more conveniently to attach the same to a table, desk, or bed, either so as to place the axis of the fan in a horizontal or vertical position than would be possible if it were still connected with the two other organisms.

From this description of my invention it will be at once apparent that my invention presents a cheap, convenient, and effective mechanical agent for doing all kinds of work without manual labor or further expense than is involved in the first cost of the machines, and the inevitable wear and tear to which all machinery is subject.

Whatever the test, my machine, within the scope of the conjoint power of the three forces that are combined in it, is always ready to adapt itself thereto and to fulfill the same.

What I claim is—

The spring power B, pulley and weight C D, and dog-power H, when secured on axles *b e h* and sleeves *x x'*, when the same are so combined and arranged as to permit of their independent use or of their being used together, substantially as described, as and for the purposes specified.

B. J. SAGE.

Witnesses:

RUFUS R. RHODES,
EMILE H. LEVY.