(No Model.)

M. HARMON.

PITMAN.

No. 261,820. Patented July 25, 1882.

Fig. 2

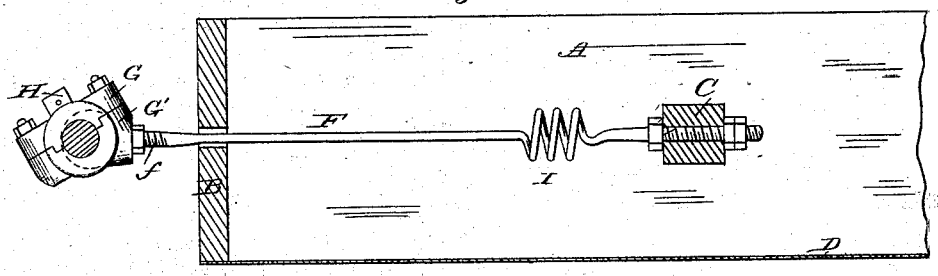
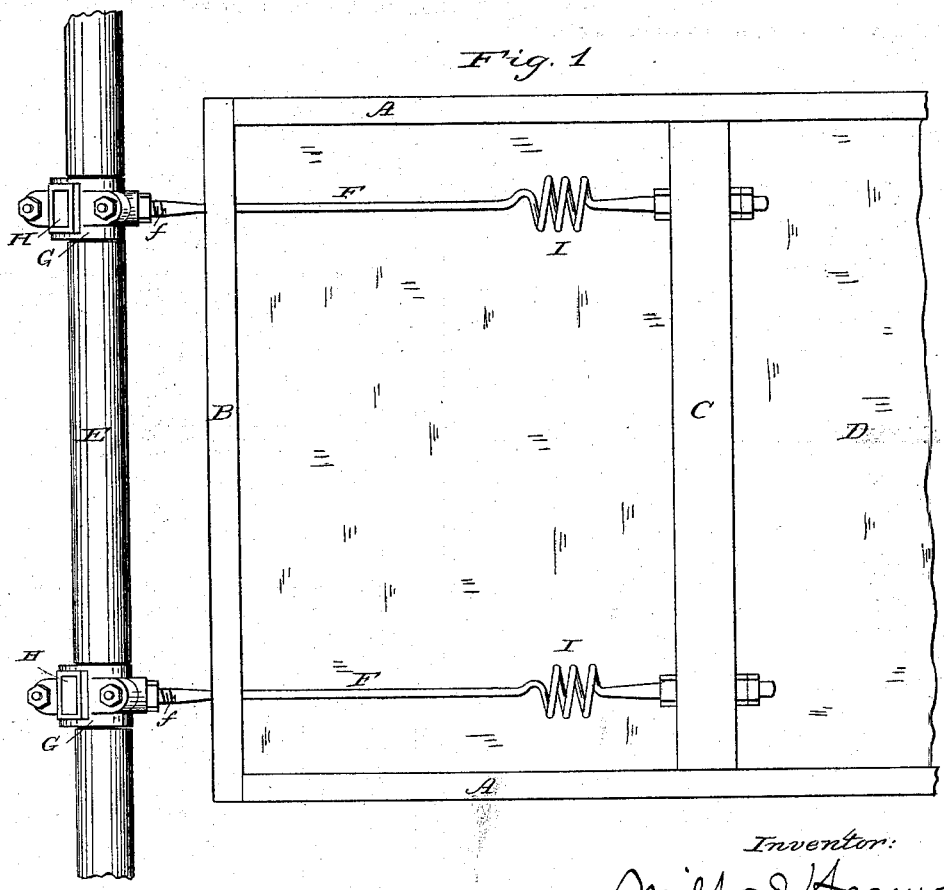


Fig. 1



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UNITED STATES PATENT OFFICE.

MILFORD HARMON, OF JACKSON, MICHIGAN.

PITMAN.

SPECIFICATION forming part of Letters Patent No. 261,820, dated July 25, 1882.

Application filed April 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, MILFORD HARMON, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Pitmen for Middlings-Purifiers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a top plan view of a portion of a shaker-frame and of a portion of a shaft, and of my improved pitman connecting the aforesaid devices. Fig. 2 is a longitudinal section on line *x x*, Fig. 1.

My improved pitman is intended to be used with the shaker-frames employed in middlings-purifiers, grain-cleaners, and other mechanisms having rapidly-vibrating parts, especially those in which a rapid reciprocating sieve action is used.

In the drawings I have shown as much of a frame as is necessary to illustrate the method of applying my improved pitman. This frame is shown as having side pieces, A A, an end piece, B, and a cross-bar, C, though I do not wish to be restricted to a frame-work of this special construction. The frame is shown as being provided with a cloth or sieve, D, upon which is delivered the material that is to be sieved.

E represents a shaft, shown as being mounted in proximity to the head of the screen or sieve frame. The shaft has an eccentric or eccentrics, formed either by cutting away a portion of the shaft, as shown at *e*, or attaching to the shaft an eccentric of larger radius in any of the well-known ways. The relation of the eccentric shown in the drawings to the main portion of the shaft is illustrated in Fig. 2, the section in full lines being that part of the shaft which operates the eccentric, and the circle in dotted lines showing the position of the main part of the shaft.

F represents the pitman or connecting-rod. It is shown in the drawings as being connected to the reciprocating shaker-frame by means of the cross-bar C, though it may be attached in other ways, if desired. It is connected with the shaft E by means of a boxing, G G′, there being a threaded socket in the lower part, G′, of the box to receive the threaded end *f* of the pitman. The box is so arranged that the plane of contact between the parts G G′ shall be inclined, so that the bolts or other fastening devices can be readily manipulated. At H there is an oil-box adapted to receive and distribute a suitable lubricant to the eccentric and throughout the interior of the box. Between the point of attachment to the shaker-frame and the point of attachment to the shaft the pitman is provided with a flexible and extensible device which is so rigid as not to prevent the imparting of the reciprocating motion to the shaker, but is at the same time so flexible as to allow a greater freedom in the motions of the shaker-frames than has been permitted by the connecting devices heretofore employed. This flexible and extensible connecting device is of the form of a metallic coil, I, secured to or formed in the connecting-rod F. Preferably it is situated nearer the point of attachment to the shaker-frame than it is to the connection with the shaft. This permits changes of position, either laterally or vertically, of the shaker-frame without cramping or binding the box or boxes on the eccentric-shaft.

Much trouble has been heretofore experienced in mechanisms of the kind to which my invention appertains, from the fact that the boxes or their connecting devices for joining the pitman to the shaft have been heated from the binding or cramping and the rapid movements of the parts. This is entirely obviated by the use of devices of the sort described. Another advantage arising from the use of a flexible and extensible connecting device of this sort is that it acts as an elastic buffer for the eccentric to strike and pull against, so that it takes off the blow of the eccentric when it is reversing the direction in which the shaker travels. When it is in use the shaker-frame moves much more easily and smoothly and without the jarring and jerking incident to the constructions heretofore employed.

I am aware that Patent No. 110,175 shows a compound pitman, one end of which consists of two members, one of which is mounted at one end on the crank-pin, and is made in one and the same inflexible piece with its opposite end, which is attached directly to the reciprocating cross-head, the second member being connected

with the first-named member by an extensible spring, and is also free at its outer end to swing toward and from said first-named member. It is also mounted at its free end upon a supplemental arm which projects at a right angle from the crank, and is employed to assist in carrying the crank past its dead-center.

Whenever in this case the words "single member" are employed they are intended to indicate that part of the pitman which is mounted directly upon the crank-pin, there being in my construction no provision for a supplemental member, nor for an arm projecting at a right angle from the crank, as is absolutely necessary in the device shown in said Patent No. 110,175, in order to carry out the invention therein shown. It will be seen by an examination of said prior patent that the connection on a straight line between the crank-pin and the reciprocating cross-head is a perfectly non-extensible one, and hence cannot be made to subserve the same purpose as is done by my invention. Hence I do not claim anything shown in Patent No. 110,175.

What I claim is—

1. A pitman which consists of a single member, attached at one end directly to the crank-pin, another portion of which is attached directly to the part to be reciprocated, said parts being connected by means of an elastic longitudinally-extensible device, substantially as set forth.

2. A pitman for imparting a reciprocating motion, having the portion F and the coil I formed integrally, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MILFORD HARMON.

Witnesses:
GEO. S. BENNETT,
WM. A. KING.