ATKINS & AITKEN.

Registering Machine.

No. 26,391. Patented Dec. 6, 1859.

Fig. 1,

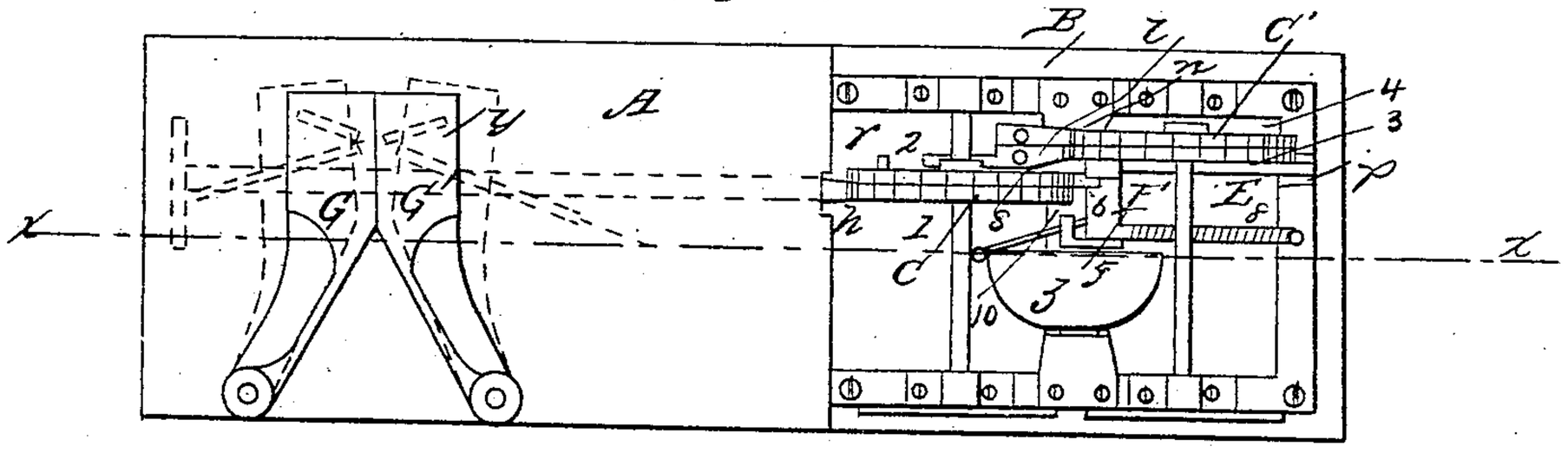


Fig. 2,

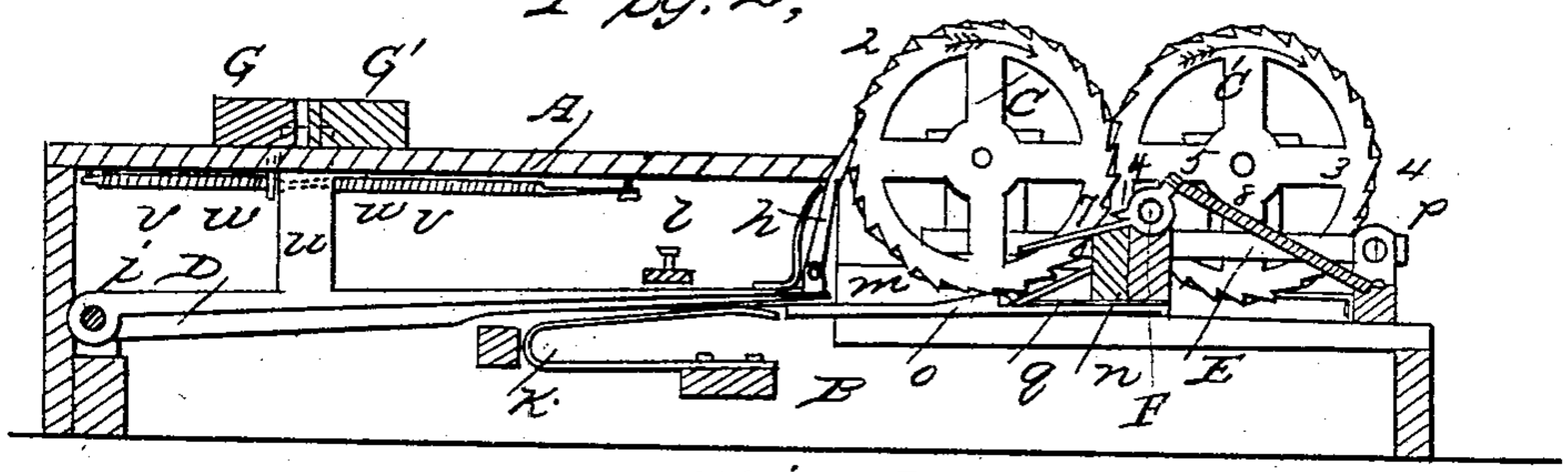
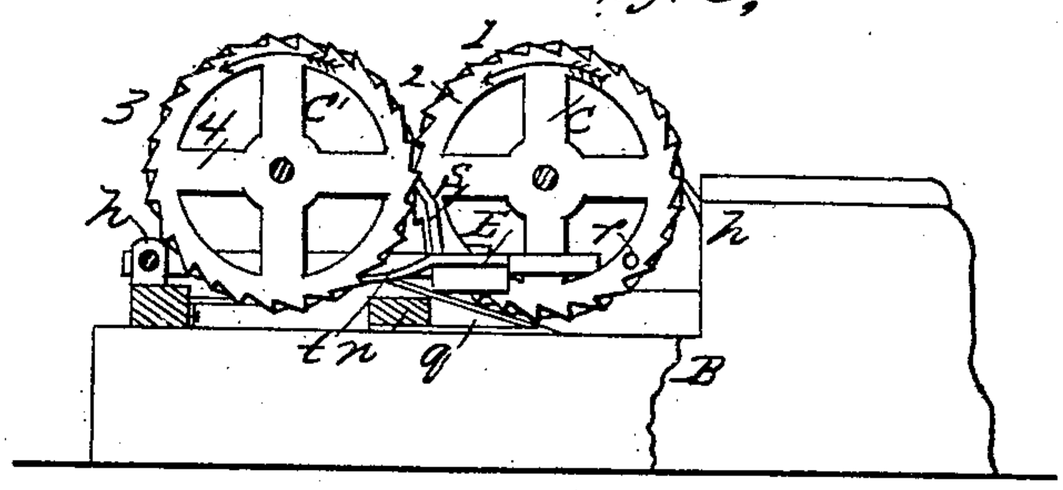


Fig. 3,



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REGISTERING-MACHINE.

Specification of Letters Patent No. 26,391, dated December 6, 1859.

To all whom it may concern:

Be it known that we, GEORGE W. ATKINS, of Milton, in the county of Sussex, in the State of Delaware, and WILLIAM B. AITKEN, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Registering-Machines; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, represents a plan view of the improved machine, and Figs. 2 and 3, vertical longitudinal sections of the same, like letters in the different figures indicating the same parts.

The nature of our invention consists in making the usual ratchet wheels of registering machines, in pairs secured together with their respective notches inclining in opposite directions, so as to operate in combination with both an actuating and a checking pawl adapted to move simultaneously, as hereinafter described—whereby the said ratchet wheels are perfectly secured against being rotated more than one notch, at each vibration of their respective actuating levers; in the employment of a self-righting cover for the prime actuating lever of the machine, in combination with the usual platform, or the platform of a weighing scale when the same is applied thereto, as hereinafter described—whereby in passing wheelbarrows (loaded with coal, for instance) over the machine, the wheel of each barrow, in rolling over the said platform, uncovers and operates the actuating lever so as to register the passage of the barrow—the said cover, immediately afterward, righting itself or again covering the said actuating lever and preventing its being trodden upon or actuated by the foot of the barrow man; and in the peculiar manner of constructing and operating the bell striker which gives audible notice of each register; the said machine being provided with dial plates and indexes, for indicating the register, in the usual manner.

In the drawings, A, represents the platform of a frame or case B, to which the machinery is applied; C and C′, the first and second pair, respectively, of the double ratchet wheels; D, the prime or actuating lever of the first pair of ratchet wheels (C); E, the actuating lever of the second pair (C′); F, the bell striker; and G and G′, two levers which constitute the self righting cover upon the platform (A).

The ratchet wheels (C and C′) each consist of two wheels, notched alike, but secured together with their respective notches inclined in opposite directions—as shown in the drawings.

The actuating lever (D) carries on its end a spring pawl *h*, which is adapted to fit the notches of the ratchet wheel, 1, of the pair (C). The lever (D) has its fulcrum at, *i*, and is supported, horizontally, by a spring, *k*, of sufficient strength to cause it to force around the ratchet wheels (C and C′) as it rises after each depression of the lever (D)—it being adjusted and kept in proper position by means of the small screw, *l*.

The checking pawl *m*, of the pair of wheels (C) is made elastic at the end which is fixed to the cross piece *n*, of the case, and bears with its opposite end against the under side of the lever (D), and has, also, a projection *o*, which fits between the notches of the wheel, 2, of the pair of ratchet wheels (C)—the actuating pawl (*h*) working in the wheel (1), and the checking pawl (*m*) in the wheel (2), both of which moving together in the direction of the arrow thereon.

The actuating lever (E) of the second pair of ratchet wheels (C′), has its fulcrum at, *p*, and is supported, horizontally, by means of a spring, *q*, in such a manner that at each complete rotation of the wheels (C) a stud *r*, thereon, depresses and lets go the said lever (E); which, being provided with an actuating pawl *s*, for the notches of the wheel, 3, and a checking pawl, *t*, for the notches of the wheel (4), of the pair (C′)—at every complete rotation of the wheel (C) the wheel (C′) is moved one notch only—the said checking pawls (*m*, and *t*,) effectually preventing the said ratchet wheels (C and C′) from moving more than one notch at each return-motion of their respective actuating levers (D and E).

The lever (D) has an upright arm, *u*, which projects up through a roomy hole in the platform, so that it may be forced downward, by the weight of the article to be registered, when the latter is placed thereon, or when the wheel of a loaded barrow is passed or rolled over the same—and so actuate the

said lever (D) as required to make the register. And, in order to prevent the said lever from being actuated by the foot of the barrow man in passing over the same, the self-righting cover is employed. It consists of two levers (G and G′) which are secured to the platform (A) so as to turn upon their fulcra *j*, *j*, and expose and cover alternately the upper end of the upright (*u*) as the wheel of a loaded barrow is passed between them. The closing, or self-righting action of the levers (G and G′) is produced by means of the spiral springs *v*, *v*,—one end of each of which being secured to the under side of the platform (A) and the other ends to the studs *w*, *w*, which are fixed to the under sides of the said levers (G and G′) and project down through curved slots made through the platform for the purpose—as shown in the dotted lines *y*, *y*, of Fig. 1,—the under sides of the levers (G and G′) being, of course, cut away sufficiently to clear the upright (*u*).

The bell striker (F) consists of a rock-shaft provided with the arms 5, 6, and 7, which are so arranged that the arm (6) is in contact with any one of the notches of the ratchet wheel (2) of the pair (C), the arm (5) with the spiral spring, 8, while the arm 7, carries the hammer 9—in such a manner that the hammer is caused thereby to strike the bell, *z*, by the movement of the notch which is in contact with the arm (6)—a small stop 10, projecting from one of the supports of the rock-shaft (F) upon which the hammer arm strikes in such a manner as to keep the hammer from resting on the bell—after striking it.

The machine may be used alongside of a platform scale to register the wheelbarrow loads passed over it, or it may be constructed so as to be mainly within the scale, with the arm (*u*) projecting up through its platform or floor, in the same manner—as may be preferred.

Operation: Supposing the machine is used for keeping a register of the number of wheelbarrow loads of coal passed over it; and suppose the platform (A) is the platform also of a weighing scale; the load of coal is wheeled upon the platform (A) and weighed in the usual manner. In running it off, the wheel of the barrow enters between the covering levers (G and G′), separates them (as is indicated by the red lines in Fig. 1,) and rolls over the projecting end of the upright (*u*) forcing it down and thus actuating the registering apparatus; but as soon as the wheel passes from the said levers (G and G′), they close together again, from the action of the springs (*v*, *v*), over the upright and thus prevent the possibility of a second or false register being produced by the foot of the barrow man; while the double or actuating and checking pawls, acting in combination with their respective double ratchet wheels (C and C′) as described, prevent the possibility of more than one notch's space passing at each vibration of the respective actuating levers (D and E), and of course, prevent a false register from such a cause; and the bell striker (F) being dependent solely upon the notches so moved (on the wheel 1,) for its action upon the bell (*z*), audible notice of the register cannot fail to be given.

Having thus fully described our improved registering machine, and pointed out its superior utility, what we claim as our invention and desire to secure by Letters Patent, is confined to the following, viz:

1. Making the ratchet wheels (C and C′) in pairs secured together with their notches inclined in opposite directions, as described, in combination with both an actuating and a checking pawl operating together simultaneously, as described: the same being constructed and arranged together substantially in the manner and for the purpose set forth and described.

2. We claim the employment of a self-righting cover (G, G′) operating in combination with a platform (A) or its equivalent, substantially in the manner and for the purpose set forth and described; and this we claim whether the said cover (G, G′) be applied either to a fixed platform or floor (A), or to the moving platform of a weighing scale connected with a registering machine as specified.

3. We also claim the bell striker (F), when the same is constructed with the arms 5, 6, 7, and operated by the notches of the ratchet wheel (C) as and for the purpose set forth and described.

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