2 Sheets--Sheet 1.

J. B. ALLEN & R. P. MILLER.

Pulley-Shields.

No. 153,798. Patented Aug. 4, 1874.

FIG. 1.

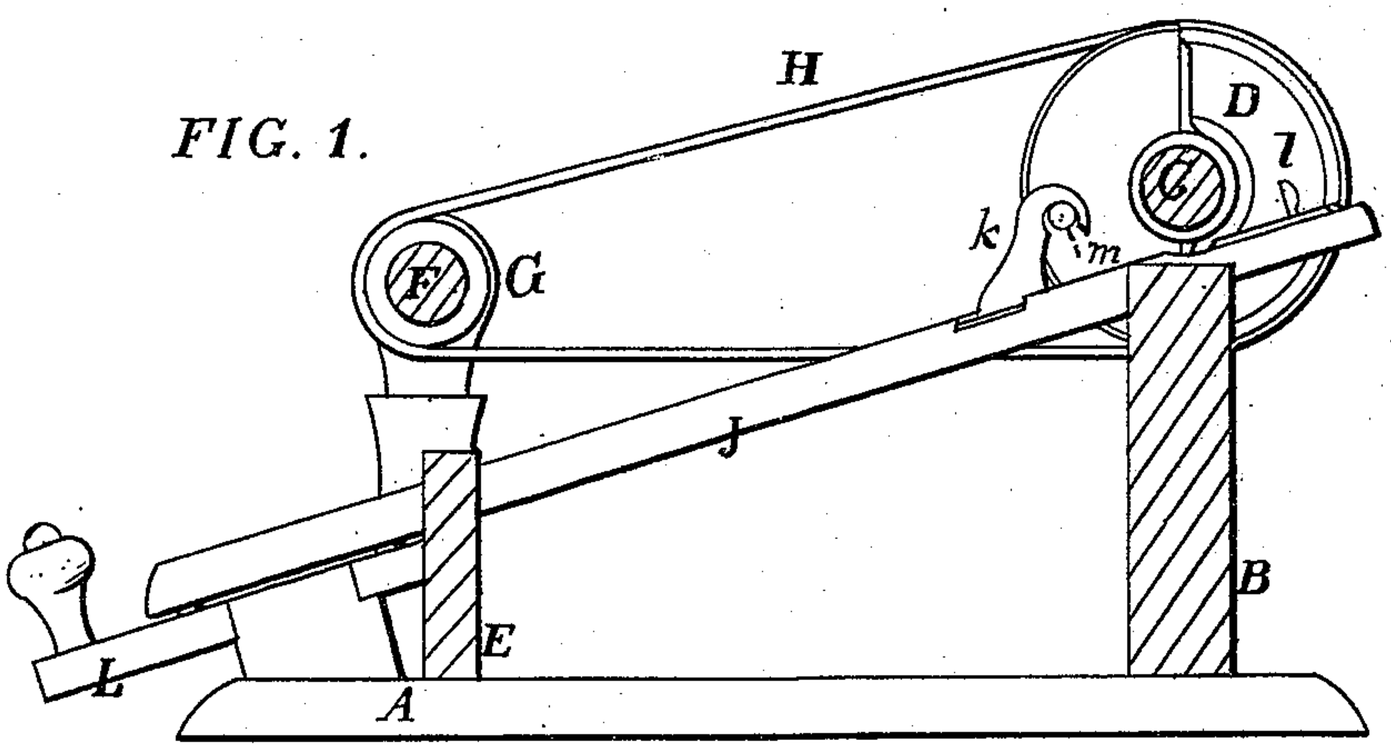


FIG. 2

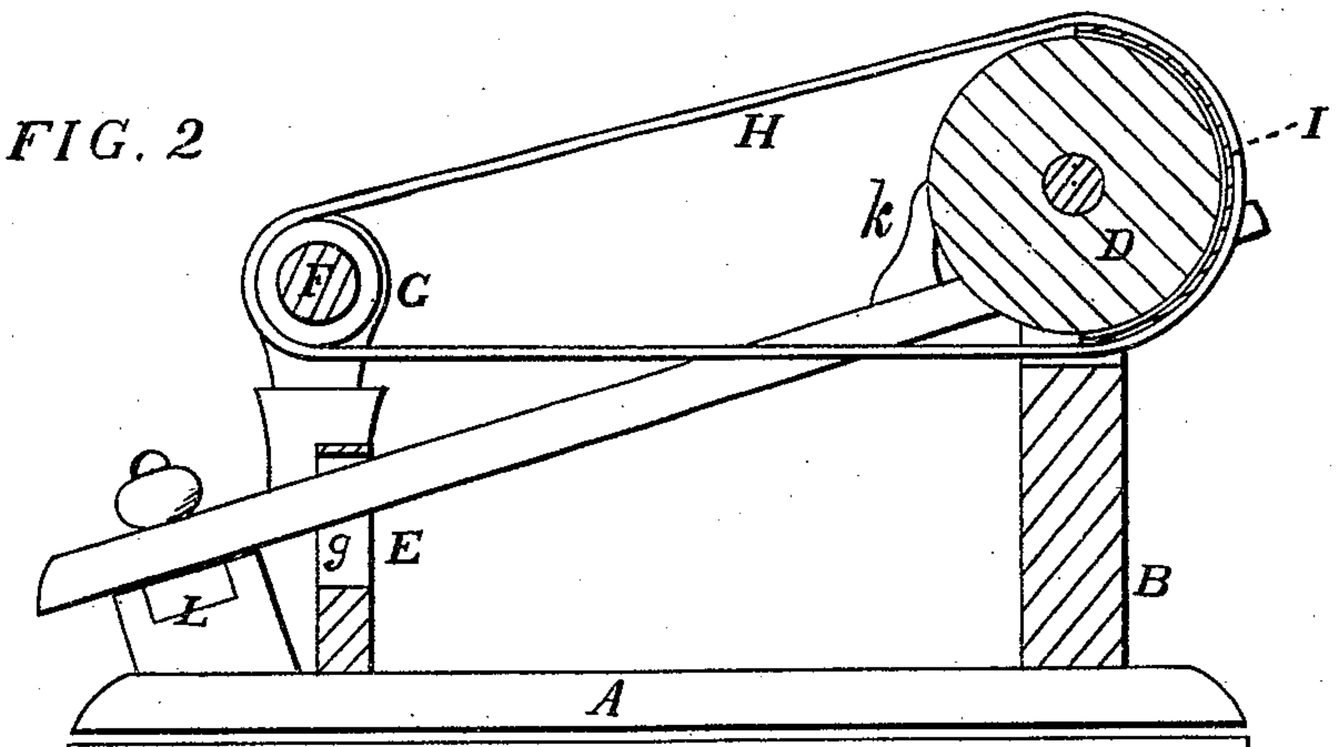
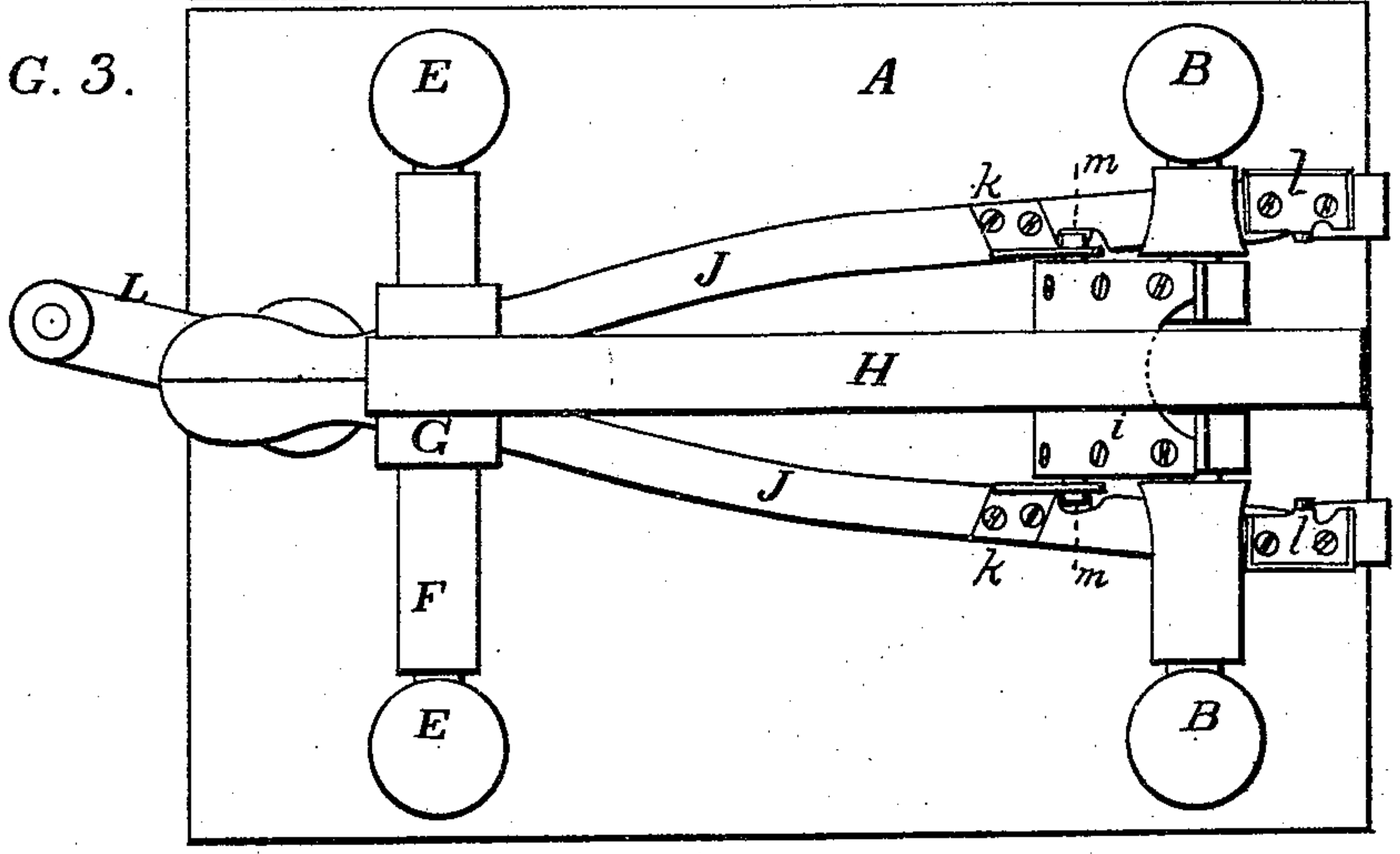


FIG. 3.



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2 Sheets--Sheet 2.

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Pulley-Shields.

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FIG. 4.

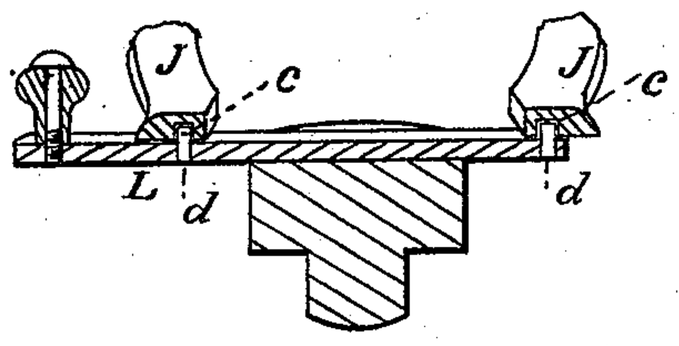
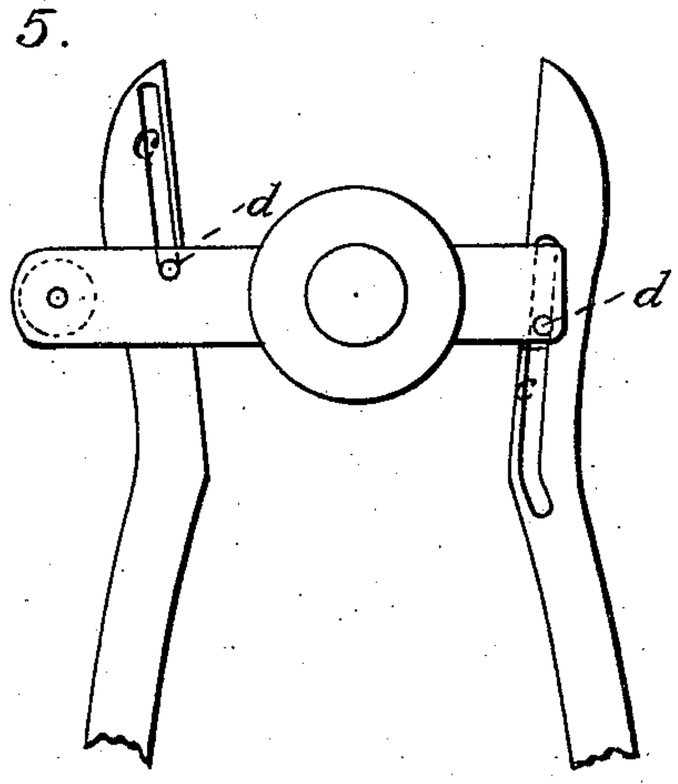


FIG. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH B. ALLEN AND ROBERT P. MILLER, OF LINEVILLE STATION, PA.

IMPROVEMENT IN PULLEY-SHIELDS.

Specification forming part of Letters Patent No. **153,798**, dated August 4, 1874; application filed June 20, 1874.

To all whom it may concern:

Be it known that we, JOSEPH BRADFORD ALLEN and ROBERT PATTERSON MILLER, of Lineville Station, in the county of Crawford and State of Pennsylvania, have invented a new and valuable Improvement in Pulley-Shield; 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, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of sectional views of our pulley-shield. Fig. 3 is a plan view of the same. Figs. 4 and 5 are detail views of the same.

This invention has relation to means whereby the action of the main driving-belt upon the driving-wheel of a stationary engine may be removed therefrom or restored thereto at pleasure, without unshipping the belt, changing the positions relative to each other of the main driving-wheel and the wheel actuating the mechanism, or causing the main driving-wheel to cease rotating. The novelty consists in a shield applied upon the shaft of a main driving-wheel so that it shall rotate freely thereon, whereby the action of the main driving-belt upon the periphery of the main driving-wheel will be removed when the said shield is caused to be inserted between the said wheel and its driving-belt, and the said action restored when the said shield is removed from between the belt and the said driving-wheel. It also consists in levers having their fulcrums at each side of the said shield, which will cause a projection upon the shield to become engaged with a hook upon the levers, and cause the said shield to be held from between the belt and wheel, when the ends of the said levers are brought inwardly into contact with each other, whereby the pulley-wheel is allowed to act upon its belt and communicate motion to the actuating-wheel of the mechanism, and whereby, when the ends of the said levers are thrust outward, a projection upon the shield will become engaged with a catch upon the other ends of the levers, and cause the said shield to be thrust between the driving-wheel and its belt, thereby causing the action of the former upon the latter to be removed, and the mechanism to cease acting, all as will be hereinafter more fully explained.

In the annexed drawings, A designates the platform of a stationary engine, upon which are erected standards B, which afford bearings for the shaft C of the main driving-wheel D. E designates standards erected upon the platform A, at a suitable distance from the standards B, which afford bearings for the shaft F of an actuating pulley-wheel, G. H designates an endless belt, applied in the usual well-known manner around the peripheries of the pulley-wheels G and the driving-wheel D, whereby motion communicated to the latter will be given to the former wheel. I designates a segmental guard or shield, which is applied upon the shaft C of the main driving-wheel D, so that it will be allowed a free vibratory motion thereon, and so that its peripheral portion *i* shall at all times be over the periphery of the said driving-wheel. J designates two levers, having their fulcrums at each side of the shield I upon a brace, *j*, of the standards B of the main shaft C, and extending upwardly beyond the shield I, as seen in Figs. 1 and 2. These levers extend downwardly under and beyond the shaft F of the pulley-wheel G, and are passed through a horizontal oblong slot, *g*, in a brace, K, of the standards E, whereby they are prevented from upward displacement. The under surfaces of the lower ends of the levers J are provided with longitudinal grooves *c*, which are adapted to receive pins *d*, erected upon a lever, L, by means of which the levers J are spread apart or approximated. The lever L has a fulcrum upon the foundation A of the engine-frame at a point between the levers J, and in line with the driving-wheel D and the actuating-wheel G. *k* designates a hook, which is erected upon and rigidly secured to each of the levers J at a point between the two shafts C and F, and at a distance from the long axis of the former less than the radius of the shield I, so that when the driving-wheel D is caused to rotate a pin, *m*, extending out from the shield, will engage the hook *k*, for a purpose hereinafter to be explained. *l* designates catches, which are rigidly secured to the up-

per ends of the levers J at a point outside of the shaft C, and at a distance from the longitudinal axis thereof less than the radius of the shield I.

The main driving-wheel is actuated by any suitable motor applied to its shaft, and it is communicated to the actuating pulley-wheel of the mechanism by means of an endless belt passing around their peripheries; but I may, by means of my improved shield, cause the actuating-pulley to be brought to a standstill, and again started, without unshipping the belt or causing the main driving-wheel to cease rotating, as follows: When the levers J are thrust apart by actuating the lever L, the pulley-wheel C being rotated in the mean while, the shield I will be carried over the said pulley-wheel, between it and the belt, by the friction of the belt upon its periphery, and the pin *m*, becoming engaged with the catch *l* upon the levers J, will arrest the said shield in the position shown in Fig. 2, while the main driving-wheel will be still rotated, but the actuating-wheel will be brought to a rest, owing to the interposition of the shield I between the said driving-wheel and its belt, whereby the friction of the wheel upon its belt is removed.

When it is desired to actuate the mechanism, I cause the lower ends of the levers to be brought in contact, when the upper ends will be separated, disengaging the pin *m* on the shield from the catches *l* upon the levers J, and permitting the said shield to be rotated downward to assume the position shown in Fig. 1, when the shield will be withdrawn from between the belt and driving-wheel, and the latter will renew its action upon the former, whereby motion will be given to the actuating-wheel of the mechanism.

What we claim as new, and desire to secure by Letters Patent, is—

1. The levers J, having hooks *k*, catches *b*, and grooves *c*, in combination with the pulley-shield I, having pin *m*, substantially as set forth.

2. The combination, with the lever L, having pins *d*, arranged as described, for actuating the levers J, of the levers J and pulley-shield I, as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JOSEPH BRADFORD ALLEN.
ROBERT PATTERSON MILLER.

Witnesses:
JOHN MCEWAN,
GEO. HUGHES.