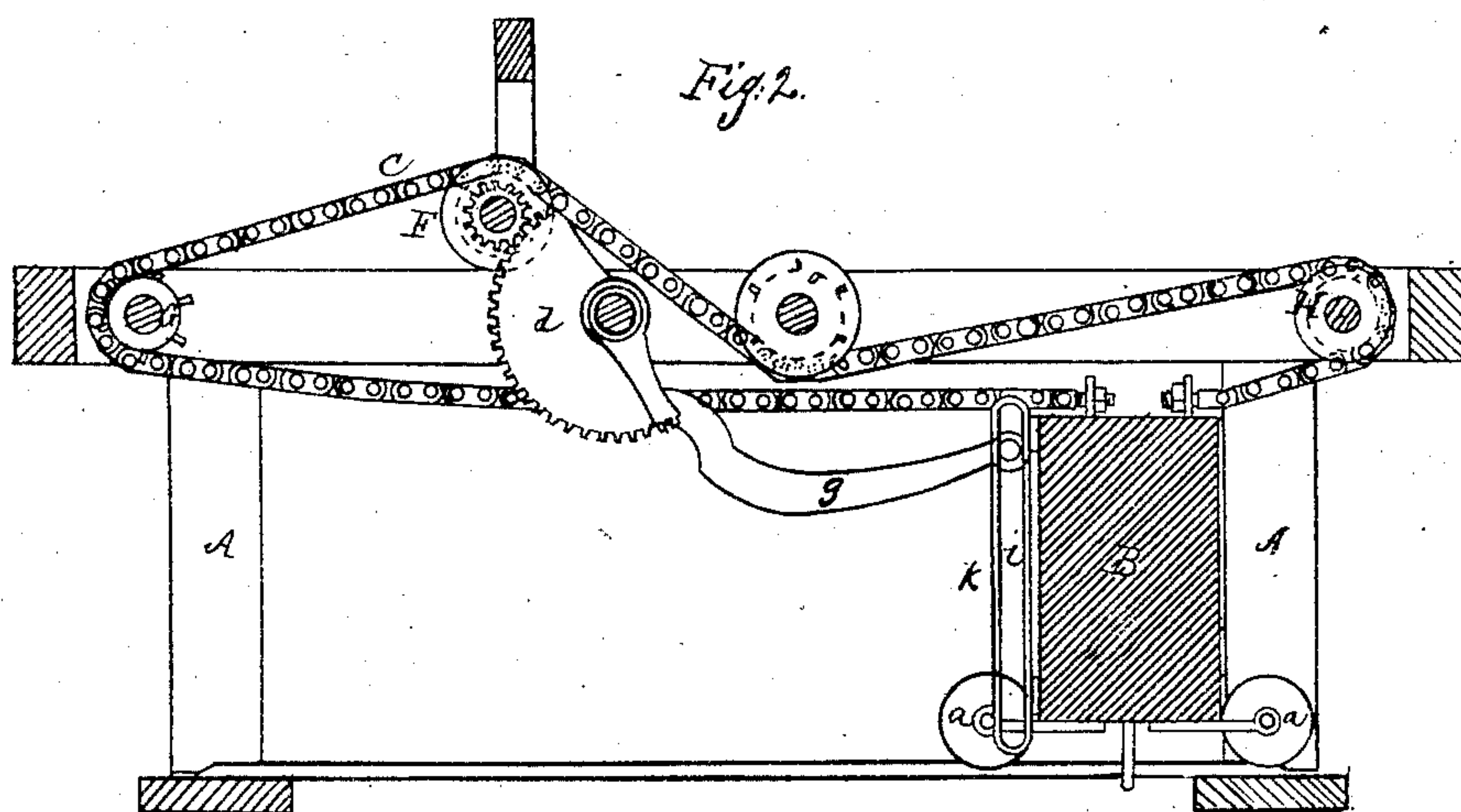
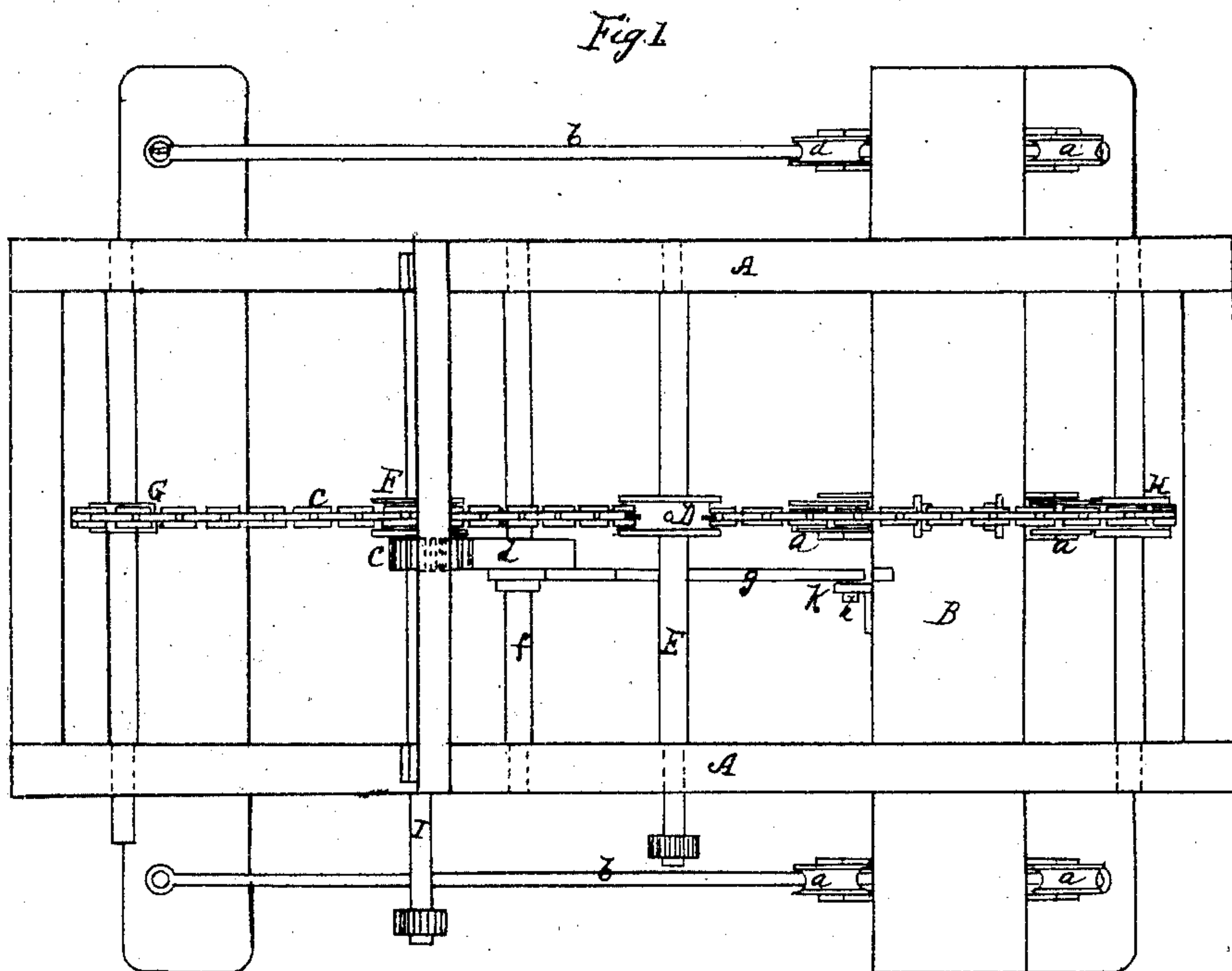


J. Cumnock.
Mule for Spinning.
N^o 76056 Patented Mar. 31, 1868.



Witnesses.

E. S. Piper

J. R. Snow

Inventor.

J. Cumnock

by his attorney.

R. H. Eddy

United States Patent Office.

JOHN CUMNOCK, OF SALMON FALLS, NEW HAMPSHIRE.

Letters Patent No. 76,056, dated March 31, 1868.

IMPROVEMENT IN MULE FOR SPINNING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, JOHN CUMNOCK, of Salmon Falls, in the county of Strafford, and State of New Hampshire, have invented a new and useful Mechanism for Operating the Carriage of a Spinning-Mule; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, and

Figure 2 a longitudinal section of a portion of the frame and carriage of a mule, with my invention applied thereto.

The carriage may be said to be "running in," while going toward the "draw-rollers," and "running out" when going from them. In running out, a regular speed or movement of equal distances in equal times is desirable, because the draught and spinning of the yarns then take place. When the carriage is running in, however, it is desirable to have a quick motion, attended with a gradual coming to rest, in order to prevent the carriage from rebounding, so as to break or injure the yarns. My invention is intended to produce such motions of the carriage.

In the drawings, A denotes the mule-frame, and B the carriage, the spindles and draught-rollers not being shown. The carriage is supported by several wheels, *a a*, resting on rails *b b b*. A chain, C, connected at its two ends to the carriage, passes under and against a toothed driving or sprocket-wheel, D, fixed on a shaft, E, thence around three guide-wheels F G H arranged as represented in the drawings. The guide-wheel F is fixed on a driving-shaft, I, which carries a pinion, *c*, that engages with a toothed sector, *d*, fixed on a horizontal shaft, *f*. From the sector *d* an arm, *g*, is extended in manner as represented in fig. 2. A pin, *h*, projecting laterally from the said arm, enters a slot, *i*, made in a plate, *k*, which is fastened vertically to the side of the carriage B.

When the two shafts E and I are alternately put in revolution in the right directions, the carriage will be moved out by the endless chain, with a regular motion, and afterward, by means of the slotted plate *k*, the arm *g*, pin *h*, sector *d*, and pinion *c*, will be moved at a quick velocity, and gradually arrested and held, so that it cannot rebound on the rails.

I claim the combination, for operating the carriage, of a mule in manner as set forth, such consisting of the chain C, and its impelling and guide-wheels, the pinion *c*, toothed sector *d*, arm *g*, the pin *h*, and the slotted plate *k*, the whole being arranged substantially as specified.

JOHN CUMNOCK.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.