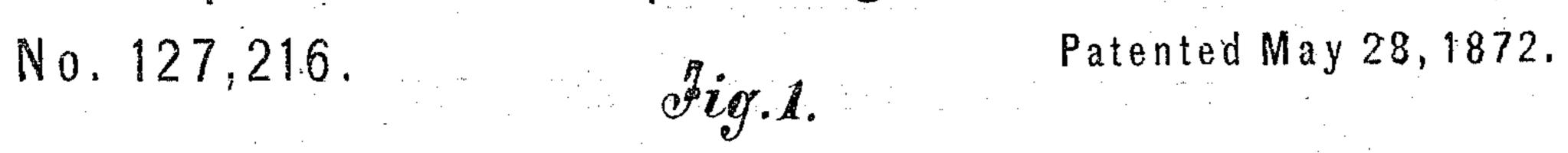
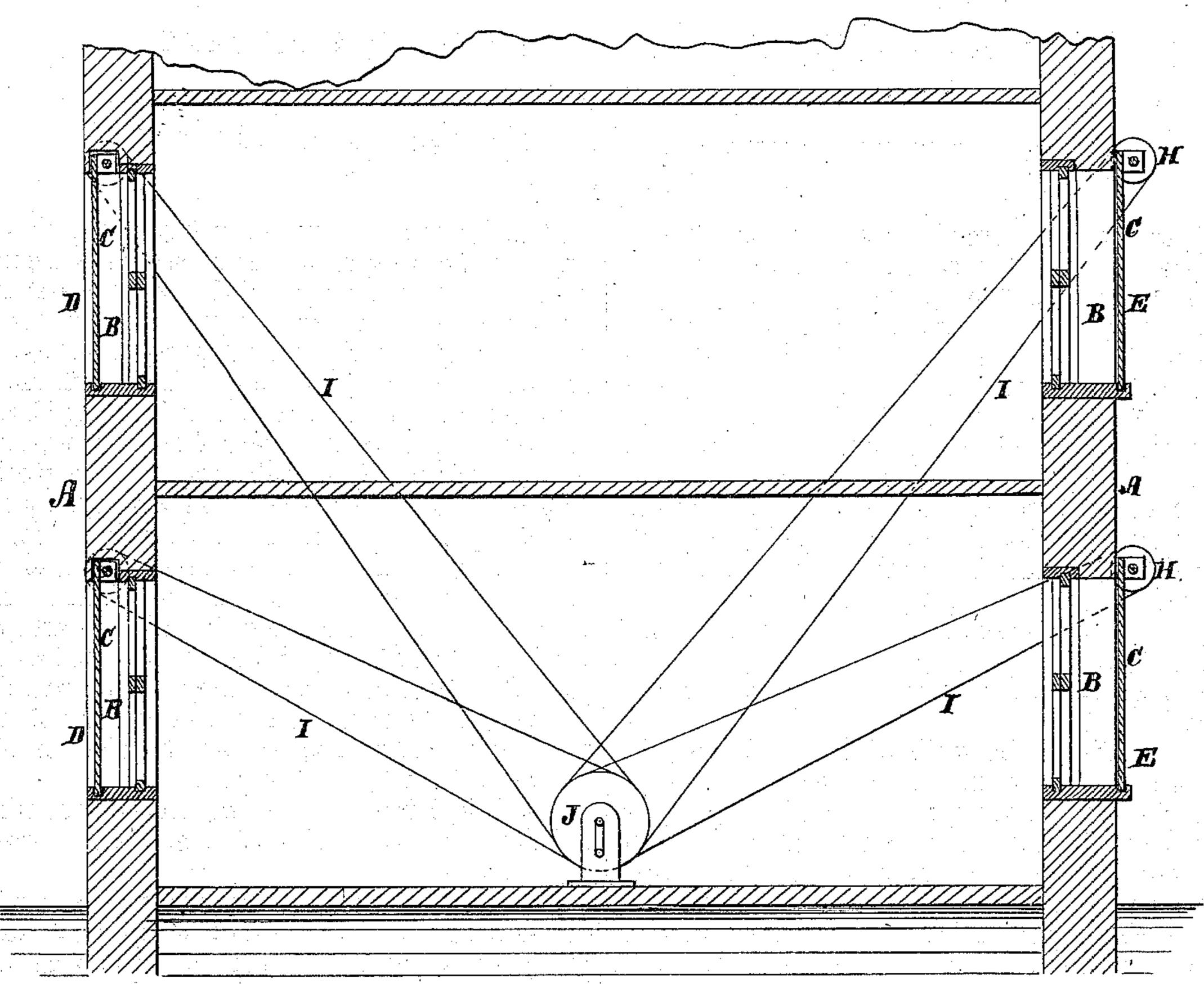
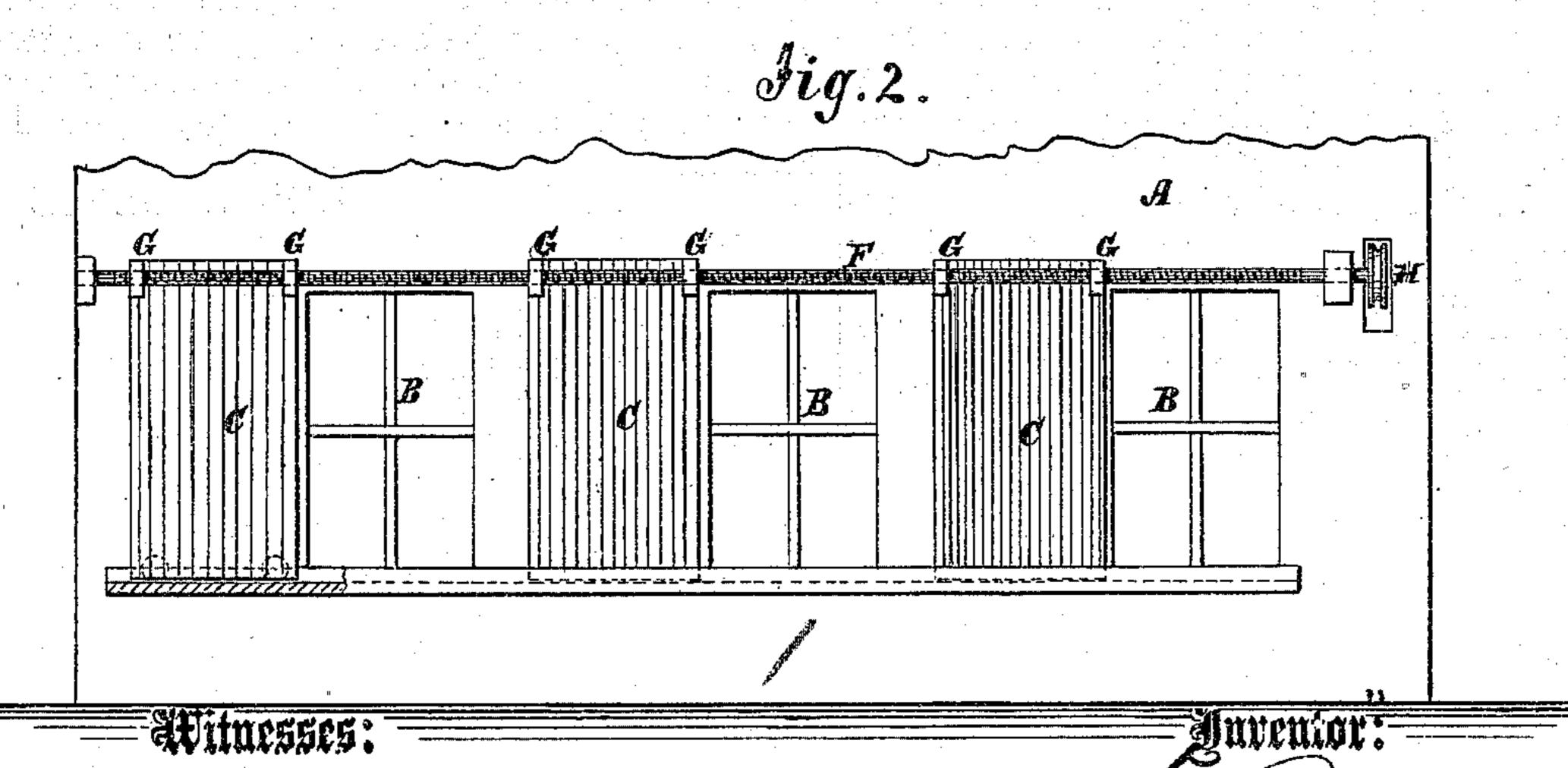
## HENRY BESSE.

Improvement in Operating Window-Shutters.







S Benneikendorf. Leo W. Duaber

PER Municipal

## UNITED STATES PATENT OFFICE,

HENRY BESSE, OF DELAWARE, OHIO.

## IMPROVEMENT IN OPERATING WINDOW-SHUTTERS.

Specification forming part of Letters Patent No. 127,216, dated May 28, 1872.

Specification describing a new and useful Improvement in Operating Window-Shutters, invented by Henry Besse, of Delaware, in the county of Delaware and State of Ohio.

The invention consists in combining instrumentalities on one side of a building so that all the shutters may be simultaneously closed by a single hand-shaft near the ground.

In the accompanying drawing, Figure 1 represents a sectional side elevation of a building, showing a vertical section of the front and rear walls with the windows provided with my improved shutters. Fig. 2 is a front view, showing the arrangement of the screw-shafts, nuts, and shutters.

Similar letters of reference indicate corre-

sponding parts.

A represents the walls of the building; B, the windows therein. C represents the shutters, which are arranged to slide laterally either in recesses in the walls, as seen at D D, or on the outside of the walls, as seen at E E. F is a screw-shaft for each tier of window-shutters. These shafts may have a continuous screwthread from end to end, or a thread for each shutter separately, the screw-nuts G being so constructed that they may be attached to the shutter and be made to engage with any part of the screw-shaft. The screw-shafts are supported on journals at their ends and on intermediate bearings, as may be necessary. The shutters, it will be seen, are suspended on the screws, and supported and guided by grooves at the bottom; but in case heavy shutters are used, they may be provided with trundle-rollers

at the bottom to run on "ways," which will support the weight, while the shutters are free to move in either direction. These screw-shafts are revolved by means of pulleys and cords, seen in Fig. 1, each screw having a pulley, H, on which is a cord or belt, I, from a drum, J. This drum J is so constructed and arranged that it receives the cords or belts from any required number of screws—say for two or more stories or tiers of windows—so that by revolving the drum, by means of a crank or otherwise, all the screw-shafts will be revolved, and all the shutters will be moved simultaneously. These sliding shutters and the screw-shafts are preferably arranged in hollow or recessed walls, so that when drawn back they are not visible; but they may be placed on the outside of the wall, which arrangement is not objectionable on the back sides of buildings.

Having thus described my invention, what I claim as new, and desire to secure by Letters

Patent, is—

The combination, with different rows of window-shutters on one side of a building, each row provided with one swiveled screw having a pulley at the end, of belts and a common drive-pulley near the bottom, by which all said shutters can be simultaneously closed by turning a single shaft, as and for the purpose described.

HENRY BESSE.

Witnesses:

GEO. C. EATON, F. C. GERHARD.