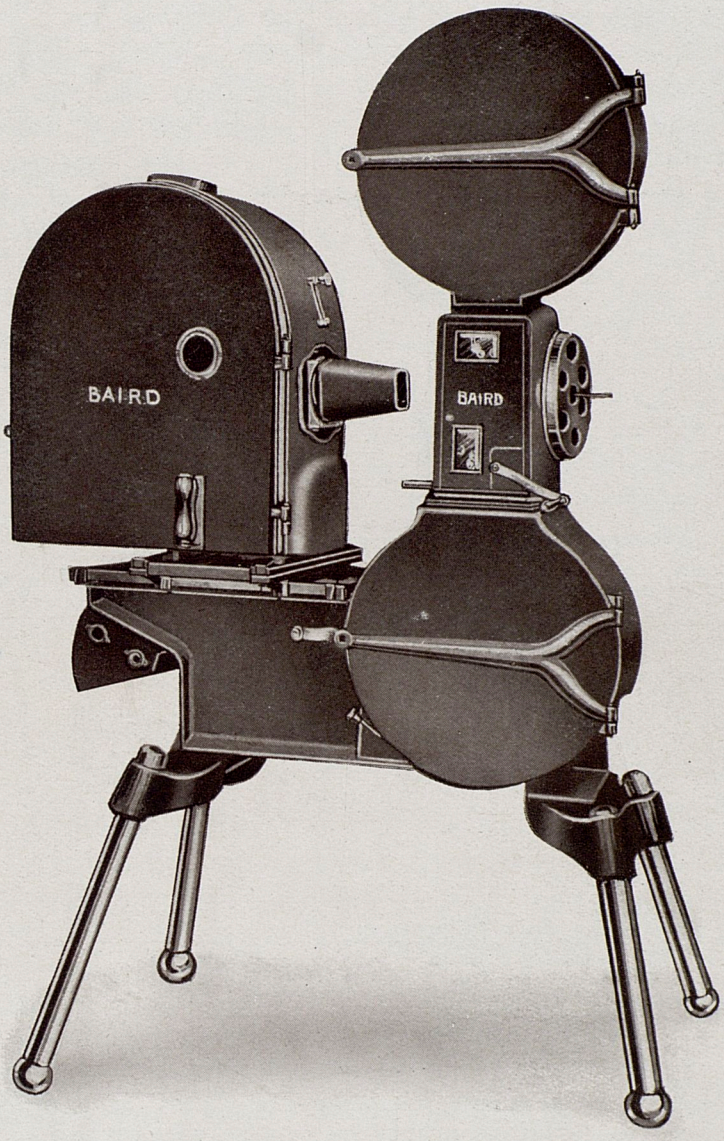
BAIRD
FLICKERLESS PROJECTOR.



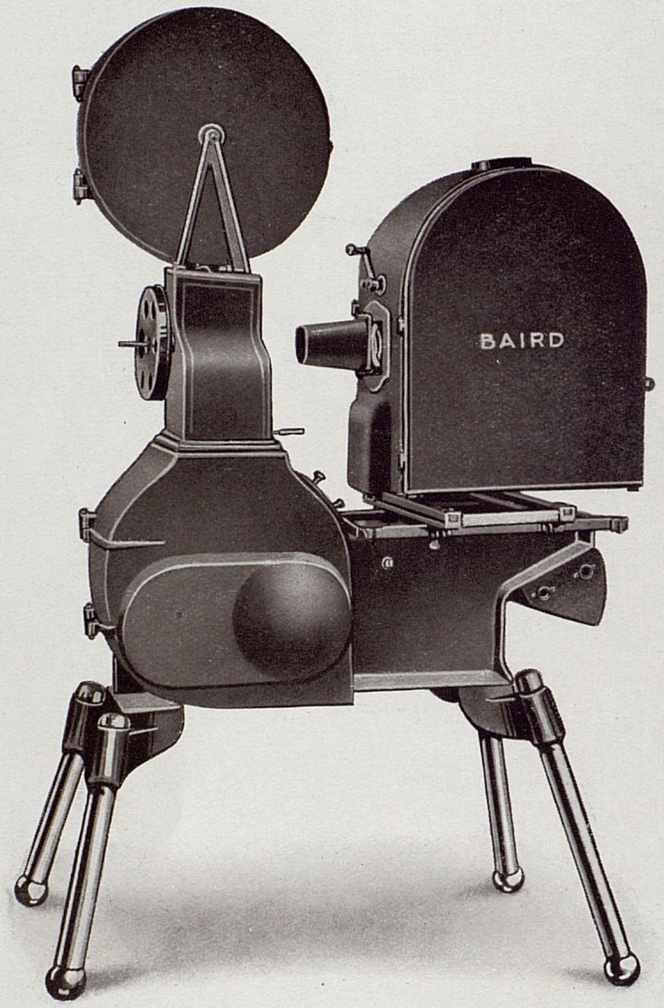
Sole Concessionaires:

Ruffell's Imperial Bioscope Syndicate, Ltd.,

Phone: Gerrard, 4865.
Telegrams: Ruffellscope Rand, London.

8/9 Long Acre, London, W.C.

BRANCHES ALL OVER THE UNITED KINGDOM.



IN PRESENTING a brief description of the most magnificent motion picture machine ever constructed, we believe the Baird solves the great difficulties of perfect projection. The Baird is six feet six inches in height, of about the same length, and weighs 470 pounds. The machines present an imposing and beautiful appearance, the stand being finished in dark green with nickel-plated legs, and the mechanism, upper magazine and lamp house enamelled in black with nickel fittings.

ELIMINATION OF FLICKER.

The general and most serious objection to motion pictures is the flicker. Many people are not regular patrons because this flicker hurts their eyes, and dozens of front seats in each of thousands of theatres are often vacant for this reason only.

THE BAIRD IS THE ONLY MOTION PICTURE MACHINE IN THE WORLD WHICH ABSOLUTELY ELIMINATES FLICKER.

This feature alone is sufficient to place it in a class by itself, but a great many other entirely novel and highly important improvements have also been incorporated in in this one machine. It is impossible to adequately describe all of these in this advance catalogue, so only brief mention is made of the most important ones, but the conveniences and simplicity will be thoroughly appreciated by all operators. These various improvements, combined with extreme accuracy and great care in details of manufacture, explain why this machine projects the most perfect motion pictures ever seen.

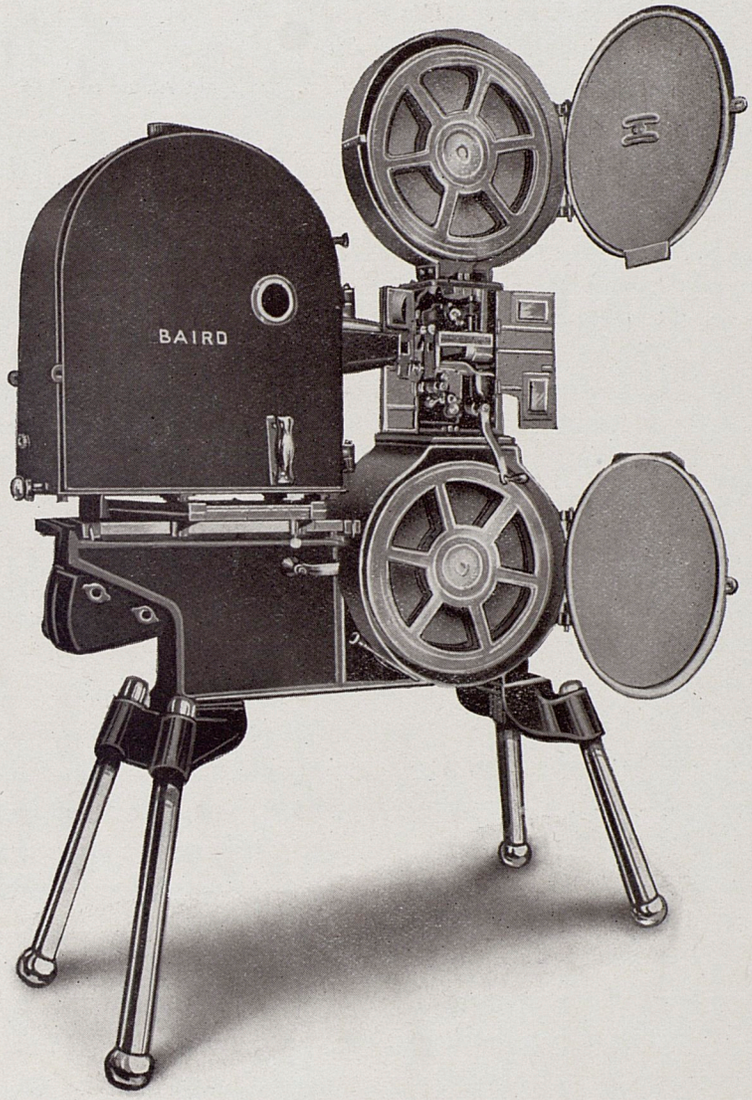
The Baird employs a two-blade shutter only—the proportions of which, in combination with the speed, when used with direct current entirely eliminate flicker, thereby producing a clearer, brighter picture.

RIGIDITY.

The massive frame, embracing the motor compartment and lower magazine, is made of one very heavy iron casting and including four steel legs, $2\frac{1}{4}$ inches in diameter, weighs about 270 pounds. The weight of the other parts, including the mechanism, upper magazine, lamp-house and lamp, aggregating over 200 pounds, is well distributed and this heavy construction assures absolute rigidity. It also absorbs vibrations and consequently all moving parts will last longer and give better results, as constant vibrations cause more wear than the actual turning of a shaft in its bearings.

TAKE-UP DEVICE.

The Baird take-up, which is amply protected by patents, is so remarkably simple and efficient and the principle involved so entirely novel, that experts pronounce it the only perfect take-up ever invented. When the picture starts, the lower reel should revolve rapidly, but should be driven in such a manner as to give a minimum of tension on the film. To maintain this minimum tension, as the diameter of the roll of film on the lower reel increases, it becomes necessary to increase the friction which drives this lower reel. This we have accomplished



automatically as follows: Our take-up consists of a floating arm, one end of which is supported by a flat belt, this arm carries the reel shaft and is so arranged that the constantly increasing weight of the film itself gradually and automatically increases the pulling power of the belt. Each magazine holds three thousand five hundred feet of film and our take-up handles this quantity beautifully, there is an absolutely uniform tension on the film from beginning to end. There are no springs or adjustments or anything whatever to get out of order and this take-up need never be touched by an operator.

SIMPLICITY.

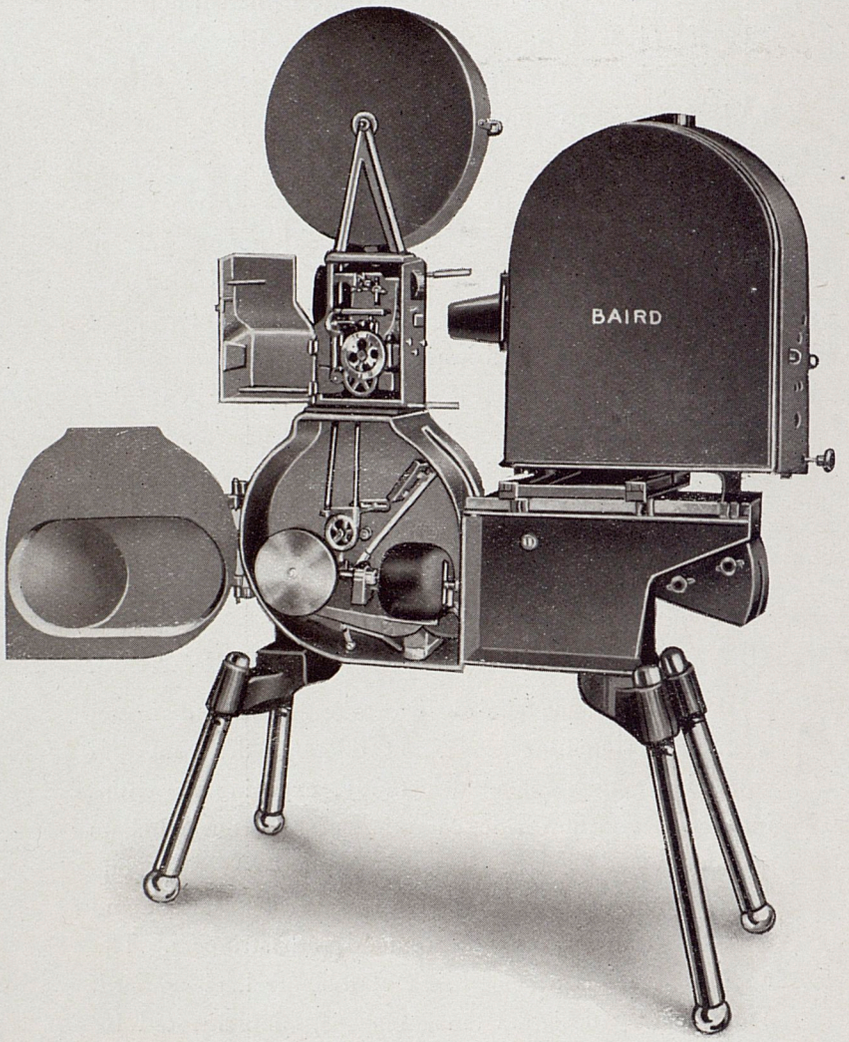
We have paid special attention to this point and the Baird mechanism, which is composed of separate units, can be taken entirely apart in a very few minutes. These units—known as intermittent unit, cam shaft unit, governor unit, len unit, etc.—are easily accessible, are made to close specifications with specially designed fixtures, and are interchangeable. Should any part become worn it can be taken out and a new unit substituted, so for ordinary repairs it will never be necessary to send the mechanism to our factory. Any operator will thoroughly understand our whole machine almost on sight, and no book of instructions or map will be required for him to run it intelligently, or to take out and replace any portion. Our machine has very few gears and parts, so cost of maintenance is exceedingly small. We give a guarantee of one year on all machines.

INTERMITTENT MOVEMENT.

We have made many models of various intermittent movements and after exhaustive tests, demonstrated that the old Geneva movement, consisting of a star wheel and pin wheel, when made of right proportions, hardened and ground and running in oil, is the very best for projecting pictures. Our specially designed star is adjusted to the cam by an eccentric sleeve, two inches long, which carries two bushings held permanently in position, insuring perfect alignment. In addition, we have a third bearing on the sprocket end of the intermittent shaft, which is tightened in place after the sleeve is set—and these three bearings give the best possible results. The star wheel and pin wheel, which are hardened and ground, run in an oil-tight compartment with a glass front so they can be seen in operation, and when properly lubricated should last for many years.

GENERAL CONSTRUCTION OF MECHANISM.

The whole mechanism is entirely enclosed in an enamelled aluminium case, but doors at the front and each side may be opened instantly, exposing the entire interior. The film side comprises three compartments so constructed that fire cannot communicate from one compartment to any other. The feed, intermittent and take-up sprockets are all provided with strippers. The aperture plate is a solid block of tool steel, glass hard. The specially designed tension shoes, supplemented by auxiliary tension shoes, may be adjusted by one knurled thumb screw from the outside of the door while the machine is running. In framing, the aperture plate, lens



and shutter remain stationary and consequently the width of the shutter blade where it cuts the light does not vary. The movement of the handle is horizontal, giving the operator more accurate control in framing the picture, In focusing, the shutter, which is protected by a casing, moves with the lens, thus always cutting the light at the same distance from the lens. The governor, outside shutter shaft and vertical shaft are mounted on four sets of hardened ball bearings. Being more simple in design with only a small number of parts and having the important ones running either on ball bearings or in an oil bath, the Baird is by far the easiest running machine ever made. The motor and its mechanism is housed in a compartment separated by a cast iron partition from the film and is out of the way and out of sight.

To operate our **Motor-driven Machine** by hand, it is not necessary to disconnect any part ; simply stop the motor, and turn the handle.

LAMP HOUSE AND LAMP.

The lamp house, made of aluminium castings, is very large and rigid, and is mounted on roller bearings. The condenser unit is hinged like a door, and the condensers, mounted on the inside, are easily accessible when the door is open. The dowser comes between the light and the rear condenser, thereby protecting the latter. The lamp, which is very heavy and of mammoth proportions, will carry any amperage and with one trim burn upper carbons twelve inches long and bottom carbons eight inches long, of any diameter. Racks are mounted on steel bars three-fourths of an inch square and each may be independently adjusted for any trim desired.

We have the necessary six adjustments very simply and substantially arranged and without the usual lost motion.

ECONOMY.

No machine in the world can compete with us in the perfection of pictures produced, and we do not compete with any in price, the first cost of the Baird being higher. Owing, however, to its heavy construction, high quality of material used, simplicity and long life, the ultimate cost will be very much lower than that of any other machine. In the mechanism, provision has been made to replace any worn parts without affecting the alignment—so that after many years of hard service the machine can be made good as new—and this idea has been carried to extreme limits. The stand, made of heavy iron castings, and the lamp house and upper magazine of aluminium castings, are practically indestructible and with reasonable care the machine should give efficient service for 15 or 20 years. The price of the Baird complete with motor is 135 guineas nett cash, free on rail, London. This figure includes the largest and finest outfit in the world, with lenses, motor and starter, slide carrier, in fact complete and ready to project a positively flickerless picture.